



The University of Akron  
2016 - 2017  
**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

Higher Learning Commission  
Dr. Barbara Gellman-Danley, President  
230 S. LaSalle Street, Suite 7-500  
Chicago, IL 60604  
800-621-7440

[www.ncahigherlearningcommission.org](http://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/disability 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

Belinda Parker, EEO/AA Specialist

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

<http://www.uakron.edu/title-ix/>

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

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

**Title IX - Issues for Students**

Michael Strong, Deputy Title IX Coordinator for Students, Student Union, Room 152, (330) 972-6048

Mary Lu Gribschaw, Deputy Title IX Coordinator for Athletics, JAR 183, (330) 972-7080

Dale Adams, Director, Student Conduct and Community Standards, Simmons Hall 302, (330) 972-2580

**Title IX - Issues for Employees**

Bethany Prusky, Deputy Title IX Coordinator for Employees, ASB 125L, (330) 972-6195

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 125C  
Phone: (330) 972-5146

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

# Important Policies

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

## Intent to Enroll

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

Phone – 330-972-2622

Email – [orientation@uakron.edu](mailto: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 \$145 University Confirmation fee. When the Intent to Enroll form and Confirmation fee are received, students are emailed their advising and registration information. This email includes their assigned dates to attend New Student Orientation: Advising & Registration, a full-day program where they meet with their academic advisors and register for classes. They also receive full student access to UA’s online services, where they can view their class schedules, financial information, grades, and more.

## New Student Orientation

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

Phone – 330-972-2622

Email – [orientation@uakron.edu](mailto:orientation@uakron.edu)

All new freshmen, transfer students and students enrolled in the College Credit Plus program 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, and campus involvement. The weekend before classes begin, all incoming freshmen are also encouraged to attend New Roo Weekend for a chance to meet the rest of the incoming class, find out about campus involvement opportunities, and kick off their Akron Experience.

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 must register online via [My Akron](#).

## Student Enrollment Status

Status	Undergraduate Credit Hours
Full-time	12 or more hours
Three Quarter-time	9-11.99 hours
Half-time*	6-8.99 hours
Less than half-time	0.5-5.99 hours

\*For undergraduate aid award determination purposes, a three-quarter time student is registered for 9 - 11.99 credit hours.

Courses from which a student withdraws and receives a grade of ‘WD’ will not count in enrolled hours when determining a student’s enrollment status.



Students are strongly encouraged to contact their lenders to determine continued eligibility for loan deferments before taking an action that will impact their enrollment status.

## 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/dotAsset/bb5231f6-186f-4777-ae6f-73c834d21dde.pdf>

Phone – 330-972-8300

Email – [registrar@uakron.edu](mailto:registrar@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.

## Transfer Module

The Ohio Board of Regents' Transfer and Articulation Policy established the Transfer Module, which is a subset or entire set of a college or university's general education curriculum in A.A., A.S. and baccalaureate degree programs. Students in applied associate degree programs may complete some individual transfer module courses within their degree program or continue beyond the degree program to complete the entire transfer module. The Transfer Module contains 54-60 quarter hours or 36-40 semester hours of course credit in English composition, mathematics, statistics and formal/symbolic logic, arts/humanities, social and behavioral sciences, and natural sciences. Oral communication and interdisciplinary areas may be included as additional options. Additional elective hours from among these areas make up the total hours for a completed Transfer Module. Courses for the Transfer Module should be 100- and 200-level general education courses commonly completed in the first two years of a student's course of study. Each state-assisted university, technical and community college is required to establish and maintain an approved Transfer Module. Transfer Module course(s) or the full module completed at one college or university will automatically meet the requirements of individual Transfer Module course(s) or the full Transfer Module at another college or university once the student is admitted. Students may be required, however, to meet additional general education requirements at the institution to which they transfer.

## Transfer Module Course Requirements

The University of Akron Transfer Module requires a minimum of **38** semester credits in the following areas:  
Additional elective hours from among these five areas make up the total hours for a completed transfer module.

### I. English/Oral Communications – 3 credits

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

### English/Composition – 7 credits

2020:121 English  
32020:222 Technical Report Writing **OR**

3300:110 English Composition I + Workshop

3300:111 English Composition I

3300:112 English Composition II **OR**

3300:113 African-American Language & Culture I: College Composition

3300:114 African-American Language & Culture II: College Composition

### II. Mathematics– 3 credits

2030:152 Technical Mathematics II **AND**

2030:153 Technical Mathematics III

2030:161 Math for Modern Technology

3450:145 College Algebra

3450:149 Pre-calculus Math

3450:210 Calculus with Business Applications

3450:215 Concepts of Calculus

3450:221 Analytic Geometry-Calculus

3450:260 Mathematics for Elementary School Teachers II

3470:260 Basic Statistics

3470:261 Introductory Statistics I

3470:262 Introductory Statistics II

### III. Arts/Humanities – 10 credits

The following is required of all students:

3400:210 Humanities in the Western Tradition I and **Two** courses from different sets are required from the following:

#### Set 1

7100:210 Visual Arts Awareness

7500:201 Exploring Music: Bach to Rock

7800:301 Introduction to Theatre and Film

7900:200 Viewing Dance

#### Set 2

3200:220 Introduction to the Ancient World

3200:230 Sports and Society in Ancient Greece and Rome

3200:289 Mythology of Ancient Greece

3600:101 Introduction to Philosophy

3600:120 Introduction to Ethics

3600:170 Introduction to Logic

#### Set 3

3200:361 The Literature of Greece

3300:250 Classic and Contemporary Literature

3300:252 Shakespeare and His World

3580:350 Literature of Spanish America in Translation

#### Set 4

3400:211 Humanities in the World since 1300

### IV. Social Science – 6 credits Select two courses from two different sets:

#### Set 1

2040:247 Survey of Basic Economics

3250:100 Introduction to Economics

3250:200 Principles of Microeconomics

3250:244 Introduction to Economic Analysis

#### Set 2

2040:244 Death and Dying

3750:100 Introduction to Psychology

#### Set 5

2040:256 Diversity in American Society

3230:150 Human Cultures

3850:100 Introduction to Sociology



3350:100 Introduction to Geography

**Set 3**

2040:242 American Urban Society

2040:243 Contemporary Global Issues

3700:100 Government and Politics in the U.S.

3700:150 World Politics and Government

**Set 4**

2040:240 Human Relations

**Set 6**

3400:250 U.S. History to 1877

3400:251 U.S. History since 1877

**Set 7**

2040:241 Technology and Human Values

3240:100 Introduction to Archaeology

3600:125 Theory and Evidence

**V. Natural Science – 8 credits**

Select at least two different sciences, one of which must include a laboratory component:

2780:106 Anatomy and Physiology for Allied Health I

2780:107 Anatomy and Physiology for Allied Health II

2820:105 Basic Chemistry

2820:111 Introductory Chemistry

2820:112 Introductory and Analytical Chemistry

2820:161 Technical Physics: Mechanics I

2820:162 Technical Physics: Mechanics II

2820:163 Technical Physics: Electricity and Magnetism

2820:164 Technical Physics: Heat and Light

3010:201 Introduction to Environmental Science

3100:100 Introduction to Botany

3100:101 Introduction to Zoology

3100:103 Natural Science: Biology

3100:111 Principles of Biology I

3100:112 Principles of Biology II

3100:130 Principles of Microbiology

3100:200 Human Anatomy and Physiology I

3100:202 Human Anatomy and Physiology II

3150:100 Chemistry and Society

3150:101 Chemistry for Everyone

3150:110,11 Introduction to General, Organic and Biochemistry I, Lab

3150:112,13 Introduction to General, Organic and Biochemistry II, Lab

3150:151 Principles of Chemistry I

3150:152 Principles of Chemistry Laboratory

3150:153 Principles of Chemistry II

3230:151 Human Evolution

3370:100 Earth Science

3370:101 Introductory Physical Geology

3370:103 Natural Science: Geology

3370:171 Introduction to the Oceans

3370:200 Environmental Geology

3370:201 Exercises in Environmental Geology I

3370:203 Exercises in Environmental Geology II

3650:130 Descriptive Astronomy

3650:133 Music, Sound and Physics

3650:137 Light

<b>AP Exam</b>	<b>AP Score</b>	<b>Course(s) Awarded</b>	<b>Credits Awarded</b>	
<b>Art History</b>	3	• 7100:210, Visual Arts Awareness	3	
	4 or 5	• 7100: 100, Survey of History of Art I • 7100: 101, Survey of History of Art II	3 3	
<b>Biology</b>	3	• 3100:103, Natural Science: Biology	4	
	4	• 3100:100, Introduction of Botany • 3100:103, Natural Science: Biology	4 4	
	5	• 3100:111, Principles of Biology I • 3100:112, Principles of Biology II	4 4	
<b>Calculus AB</b>	3, 4, or 5	• 3450:221, Analytic Geometry-Calculus I	4	
<b>Calculus BC*</b>	3, 4 or 5	• 3450:221, Analytic Geometry-Calculus I	4	
		• 3450:222, Analytic Geometry-Calculus II	4	
<b>Capstone Research</b>	3, 4, or 5	• General Elective	3	
<b>Capstone Seminar</b>	3, 4, or 5	• General Elective	3	
<b>Chemistry</b>	3	• 3150:100, Chemistry and Society • 3150:152, Principles of Chemistry I lab	3 1	
	4 or 5	• 3150:151, Principles of Chemistry I • 3150:152, Principles of Chemistry I lab	3 1	
<b>Chinese Language and Culture</b>	3	• 3500:101, Beginning Chinese I	4	
		• 3500:102, Beginning Chinese II	4	
	4	• 3500:101, Beginning Chinese I • 3500:102, Beginning Chinese II • 3500:201, Intermediate Chinese I	4 4 3	
<b>Comparative Government &amp; Politics</b>	3	• General Education Social Science, Set 3	3	
	4 or 5	• 3700:300, Comparative Politics	4	
	<b>Computer Science A</b>	3	• 3460:209, Computer Science I	4
		4 or 5	• 3460:209, Computer Science I • 3460:210, Computer Science II	4 4
<b>Computer Science AB</b>	3	• 3460:209, Computer Science I	4	
	4 or 5	• 3460:209, Computer Science I • 3460:210, Computer Science II	4 4	
<b>Computer Science Principles</b>	3, 4, or 5	• 3460:101, Essentials of Computer Science	3	
<b>English Language</b>	3, 4, or 5	• 3300:111, English Composition I	3	
<b>English Literature</b>	3, 4, or 5	• 3300:111, English Composition I	3	
<b>English Language &amp; English Literature</b>	3, 4, or 5	• 3300:111, English Composition I <b>and</b>	3	
		• 3300:112, English Composition II	3	
<b>Environmental Science</b>	3, 4, or 5	• 3370:211, Introduction to Environmental Science	3	

<b>AP Exam</b>	<b>AP Score</b>	<b>Course(s) Awarded</b>	<b>Credits Awarded</b>
<b>European History</b>	3	<ul style="list-style-type: none"> <li>• General Education Social Sciences Set 7</li> </ul>	3
	4 or 5	<ul style="list-style-type: none"> <li>• General Education Social Sciences Set 7</li> <li>• General Education Humanities Set 4</li> </ul>	3 3
<b>French Language</b>	3	<ul style="list-style-type: none"> <li>• 3520:101, Beginning French I</li> <li>• 3520:102, Beginning French II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3520:101, Beginning French I</li> <li>• 3520:102, Beginning French II</li> <li>• 3520:201, Intermediate French I</li> </ul>	4 4 3
	5	<ul style="list-style-type: none"> <li>• 3520:101, Beginning French I</li> <li>• 3520:102, Beginning French II</li> <li>• 3520:201, Intermediate French I</li> <li>• 3520:202, Intermediate French II</li> </ul>	4 4 3 3
<b>French Literature</b>	3	<ul style="list-style-type: none"> <li>• 3520:101, Beginning French I</li> <li>• 3520:102, Beginning French II</li> <li>• 3520:201, Intermediate French I</li> </ul>	4 4 3
	4 or 5	<ul style="list-style-type: none"> <li>• 3520:101, Beginning French I</li> <li>• 3520:102, Beginning French II</li> <li>• 3520:201, Intermediate French I</li> <li>• 3520:202, Intermediate French II</li> </ul>	4 4 3 3
<b>German Language</b>	3	<ul style="list-style-type: none"> <li>• 3530:101, Beginning German I</li> <li>• 3530:102, Beginning German II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3530:101, Beginning German I</li> <li>• 3530:102, Beginning German II</li> <li>• 3530:201, Intermediate German I</li> </ul>	4 4 3
	5	<ul style="list-style-type: none"> <li>• 3530:101, Beginning German I</li> <li>• 3530:102, Beginning German II</li> <li>• 3530:201, Intermediate German I</li> <li>• 3530:202, Intermediate German II</li> </ul>	4 4 3 3
<b>Human Geography</b>	3, 4, or 5	<ul style="list-style-type: none"> <li>• 3350:275, Geography of Cultural Diversity</li> </ul>	2
<b>Italian Language and Culture</b>	3	<ul style="list-style-type: none"> <li>• 3550:101, Beginning Italian I</li> <li>• 3550:102, Beginning Italian II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3550:101, Beginning Italian I</li> <li>• 3550:102, Beginning Italian II</li> <li>• 3550:201, Intermediate Italian I</li> </ul>	4 4 3
	5	<ul style="list-style-type: none"> <li>• 3550:101, Beginning Italian I</li> <li>• 3550:102, Beginning Italian II</li> <li>• 3550:201, Intermediate Italian I</li> <li>• 3550:202, Intermediate Italian II</li> </ul>	4 4 3 3
<b>Japanese Language and Culture</b>	3	<ul style="list-style-type: none"> <li>• 3560:101, Beginning Japanese I</li> <li>• 3560:102, Beginning Japanese II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3560:101, Beginning Japanese I</li> <li>• 3560:102, Beginning Japanese II</li> <li>• 3560:201, Intermediate Japanese I</li> </ul>	4 4 3
	5	<ul style="list-style-type: none"> <li>• 3560:101, Beginning Japanese I</li> <li>• 3560:102, Beginning Japanese II</li> <li>• 3560:201, Intermediate Japanese I</li> <li>• 3560:202, Intermediate Japanese II</li> </ul>	4 4 3 3

<b>AP Exam</b>	<b>AP Score</b>	<b>Course(s) Awarded</b>	<b>Credits Awarded</b>
<b>Latin Literature</b>	3	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> <li>• 3510:201, Intermediate Latin I</li> </ul>	4 4 3
	5	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> <li>• 3510:201, Intermediate Latin I</li> <li>• 3510:202, Intermediate Latin II</li> </ul>	4 4 3 3
<b>Latin: Vergil</b>	3	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> <li>• 3510:201, Intermediate Latin I</li> </ul>	4 4 3
	4 or 5	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> <li>• 3510:201, Intermediate Latin I</li> <li>• 3510:202, Intermediate Latin II</li> </ul>	4 4 3 3
<b>Latin</b>	3	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> <li>• 3510:201, Intermediate Latin I</li> </ul>	4 4 3
	5	<ul style="list-style-type: none"> <li>• 3510:101, Beginning Latin I</li> <li>• 3510:102, Beginning Latin II</li> <li>• 3510:201, Intermediate Latin I</li> <li>• 3510:202, Intermediate Latin II</li> </ul>	4 4 3 3
<b>Macroeconomics</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 3250:201, Principles of Macroeconomics</li> </ul>	3
<b>Microeconomics</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 3250:200, Principles of Microeconomics</li> </ul>	3
<b>Music Theory</b>	3	<ul style="list-style-type: none"> <li>• General Education Humanities Fine Arts</li> </ul>	3
	4 or 5	<ul style="list-style-type: none"> <li>• 7500:121, Theory and Musicianship I</li> </ul>	4
<b>Physics 1</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 2820: 161, Technical Physics: Mechanics I</li> </ul>	2
		<ul style="list-style-type: none"> <li>• 2820: 162, Technical Physics: Mechanics II</li> </ul>	2
<b>Physics 2</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 2820: 163, Technical Physics: Electricity and Magnetism</li> </ul>	2
		<ul style="list-style-type: none"> <li>• 2820: 164, Technical Physics: Heat and Light</li> </ul>	2
<b>Physics B</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 2820:161, Tech Physics: Mech I/lab</li> </ul>	2
		<ul style="list-style-type: none"> <li>• 2820:162, Tech Physics: Mech II/lab</li> </ul>	2
		<ul style="list-style-type: none"> <li>• 2820:163, Tech Physics: Electricity &amp; Magnetism/lab</li> </ul>	2
		<ul style="list-style-type: none"> <li>• 2820:164, Tech Physics: Heat and Light/lab</li> </ul>	2
<b>Physics C: Electricity &amp; Magnetism</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 3650:292, Elem. Classical Physics II</li> </ul>	4
<b>Physics C: Mechanics</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 3650:291, Elem. Classical Physics I</li> </ul>	4
<b>Psychology</b>	3, 4 or 5	<ul style="list-style-type: none"> <li>• 3750:100, Introduction to Psychology</li> </ul>	3
<b>Spanish Language</b>	3	<ul style="list-style-type: none"> <li>• 3580:101, Beginning Spanish I</li> <li>• 3580:102, Beginning Spanish II</li> </ul>	4 4
	4	<ul style="list-style-type: none"> <li>• 3580:101, Beginning Spanish I</li> <li>• 3580:102, Beginning Spanish II</li> <li>• 3580:201, Intermediate Spanish I</li> </ul>	4 4 3

<b>AP Exam</b>	<b>AP Score</b>	<b>Course(s) Awarded</b>	<b>Credits Awarded</b>
	5	• 3580:101, Beginning Spanish I	4
		• 3580:102, Beginning Spanish II	4
		• 3580:201, Intermediate Spanish I	3
		• 3580:202, Intermediate Spanish II	3
<b>Spanish Literature</b>	3	• 3580:101, Beginning Spanish I	4
		• 3580:102, Beginning Spanish II	4
		• 3580:201, Intermediate Spanish I	3
	4 or 5	• 3580:101, Beginning Spanish I	4
		• 3580:102, Beginning Spanish II	4
		• 3580:201, Intermediate Spanish I	3
		• 3580:202, Intermediate Spanish II	3
<b>Statistics</b>	3, 4 or 5	• 3470:261, Introductory Statistics I	2
		• 3470:262, Introductory Statistics II	2
<b>Studio Art: 2-D Design</b>	3, 4 or 5	• 7100:xxx, Studio Elective	3
<b>Studio Art: 3-D Design</b>	3, 4 or 5	• 7100:xxx, Studio Elective	3
<b>Studio Art: Drawing</b>	3, 4 or 5	• 7100:xxx, Studio Elective	3
<b>U.S. Government &amp; Politics</b>	3, 4, or 5	• 3700:100, Government & Politics in the US	4
<b>U.S. History</b>	3, 4, or 5	• 3400:250, United States History to 1877	4
		• 3400:251, United States History Since 1877	4
<b>World History</b>	3	• General Education Humanities Set 4	4
	4 or 5	• General Education Humanities Set 4	6

\* Students who intend to major in a STEM discipline and earn a 3 on the Calculus BC exam should consult with an advisor prior to accepting the credits.

# Alternative Credit Options

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

## 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

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 academic department enable a student to earn "bypassed" credit. A student who completes such a course with a grade of "C" or better is entitled to credit for designated prerequisite courses which carry the same departmental code number. Credit for such bypassed prerequisite shall be included in the total credits earned, but shall not count in the quality point ratio, or class standing, or hours required for graduation with honors. Bypassed credit is not awarded on the basis of completing a course either by credit-by-examination of credit/noncredit.

Discipline	Course	Prerequisite	Approved for Bypass Credit
College of Applied Science and Technology	Computer Information Systems 2440:202	2440:201	2440:201
	2440:203	2440:201	2440:201
	2440:204	2440:202-203	2440:201-203
	2440:400	2440:201-204	2440:201-204
English	2020:222	2020:121	2020:121

<b>Discipline</b>	<b>Course</b>	<b>Prerequisite</b>	<b>Approved for Bypass Credit</b>
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
<b>Buchtel College of Arts and Sciences</b>			
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
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
		3501:201	3501:101,2,201
	3501:202		
		3501: 202	3501: 101-202
	3501:301, 302, 303, 304	3502:101	3502:101
	3502:102	3502:102	3502:101,2
		3502:201	3502:101,2,201
	3502:201		
	3502:202	3502:202	3502:101-202
		3510:101	3510:101
	3502: 301,302,303,304	3510:102	3510:101,102
	3510:102	3510:201	3510:101,102,201
	3510:201	3510:202	3510:101,2,201,2
	3510:202	3510:202	3510:101,2,201,2
	3510:303	3520:101	3520:101
	3510:304	3520:102	3520:101,2
	3520:102	3520:201	3520:101,2,201
	3520:201	3520:202	3520:101,2,201,2
	3520:202	3520:202	3520:101,2,201,2
	3520:301,2,5,6	3520:202	3520:101,2,201,2
	3520:303,10,11	3520:351	3520:101,2,201,2
	3520:312,351	3520:302	3520:101,2,201,2
	3520:352	3520:302	3520:101,2,201,2
	3520:402	3520:302	3520:101,2,201,2
3520:403,4			



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
	3580:102	3580:101 or 111	3580:101
	3580:112	3580:101 or 111	3580:101
	3580:201	3580:102 or 112	3580:101,2
	3580:202	3580:201 or 211	3580:101,2,201
	3580:211	3580:102 or 112	3580:101,2
	3580:212	3580:201 or 211	3580:101,2,201
	3580:301,2,3	3580:202	3580:101,2,201,2
		3580:202	
	3580:307	3580:202	3580:101,2,201,2
	3580:308		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
<b>College of Health Professions RN-BSN Sequence (Limited to Licensed Registered Nurses)</b>	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. Credit by CLEP may not be used to repeat for change of grade. CLEP tests are administered Monday through Friday. Contact the Counseling Center at 330-972-7084 to make a reservation and/or obtain more information.

The following guidelines outline the terms under which The University of Akron will accept the results of specified CLEP tests for college credit. Students may also refer to their academic advisor to determine whether CLEP and other prior learning exams (ie. DSST) apply toward University of Akron transcripts.

>

CLEP Test	Qualifying Score	Course(s) Awarded	Credit Awarded
<b>Business</b>			
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	

<b>CLEP Test</b>	<b>Qualifying Score</b>	<b>Course(s) Awarded</b>	<b>Credit Awarded</b>
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	6600:205 Marketing Principles	3
<b>Composition and Literature</b>			
American Literature	50 and above	General Education Humanities	3
Analyzing and Interpreting Literature	50 and above	General Elective Credit	3
College Composition/College Composition Modular	50 and above	3300: 111 English Composition I AND 3300: 112 English Composition II	3 3
English Composition	50 and above	3300:111 English Composition I	3
English Literature	50 and above	General Education Humanities	3
Freshman College Composition plus essay	60 and above	3300:111 English Composition I	3
<b>History and Social Sciences</b>			
American Government	50 and above	3700:100 Government and Politics in the United States	4
History of the United States I	50 and above	3400:250, U.S. History to 1877	4
History of the United States II	50 and above	3400:251 U.S. History since 1877	4
Human Growth and Development	50 and above	3750:230 Developmental Psychology	4
Introduction 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	50 and above	3250:200 Principles of Microeconomics	3
Social Sciences and History	50 and above	General Education Social Science	3
Western Civilizations I	50 and above	3400:210 Humanities in Western Traditions I	4
Western Civilizations II	50 and above	General Education Social Science	3
<b>Modern Languages</b>			
French Language	55 to 65	3520:101 Beginning French I	4
		3520:102 Beginning French II	4
	66 and above	3520:101 Beginning French I	4
		3520:102 Beginning French II	4
		and 3520:201 Intermediate French I	3
		3520:202 Intermediate French II	3
German Language	55 to 65	3530:101 Beginning German I	4
		3530:102 Beginning German II	4
	66 and above	3530:101 Beginning German I	4
		3530:102 Beginning German II	4
		and 3530:201 Intermediate German I	3
		3530:202 Intermediate German II	3
Spanish Language	55 to 65	3580:101 Beginning Spanish I	4
		3580:102 Beginning Spanish II	4
	66 and above	3580:101 Beginning Spanish I	4
		3580:102 Beginning Spanish II	4
		and 3580:201 Intermediate Spanish I	3
		3580:202 Intermediate Spanish II	3
<b>Science and Mathematics</b>			
Biology	50 and above	3100:103 Natural Science: Biology	4
Calculus	50 and above	3450:221 Analytic Geometry-Calculus	4
Chemistry	50 and above	3150:101 Chemistry for Everyone	4
		or 3150:151 Principles of Chemistry I	3
		3150:152 Principles of Chemistry I Lab	1
		or 3150:110 Intro to General, Organic and Biochemistry I	3
College Algebra	50 and above	3450:145 College Algebra	4
College Mathematics	50 and above	3450:145 College Algebra	4

CLEP Test	Qualifying Score	Course(s) Awarded	Credit Awarded
Natural Sciences		Course equivalency not determined at time of publication	
Precalculus	50 and above	3450:149 Pre-calculus	4

## 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

[http://www.uakron.edu/academics\\_majors/ub/important-policies/alternative-credit-options.dot#International\\_Baccalaureate](http://www.uakron.edu/academics_majors/ub/important-policies/alternative-credit-options.dot#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.

## The College Credit Plus Program (CCP)

The College Credit Plus Program was created by the Ohio Legislature to allow secondary school (7-12) students in Ohio to enroll in a college or university. The program is available to qualified students in grades 7-12 who are enrolled in any public, private, parochial, or home school.

Through the College Credit Plus Program, students are eligible to enroll in The University of Akron classes for fall and spring semesters. It is recommended that prospective students work with their school counselors to discuss specific school policies.

College Credit Plus is not intended to be a substitute for the academic programs, social growth or maturing experience provided by Ohio's schools. It is not intended to interfere with or replace advanced placement courses nor the school's college preparatory curriculum available to students within their school system.

### About the program

Advantages for college-level learning during 7th through 12th grade:

- Strengthening the middle and high school curriculum and raising expectations for high school students.
- Reducing the total number of credits needed to be earned in college.
- Potentially reducing the time required for the baccalaureate and costs to parents, students and taxpayers.
- Enriching the undergraduate college curriculum by lessening the need to take introductory courses, consequently allowing earlier entry into advanced courses, facilitation of double majors, or permitting additional electives.

CCP pays the following for students receiving dual credit:

- All tuition and fees applied to the bill at the time of registration
- Registration fees including changes in a UA course schedule if changes are due to secondary school schedule conflicts initiated by a UA administrator.
- All required textbooks and non-consumable items. Please note: All required textbooks and non-consumable items must be returned at the end of the term.

### Admission Requirements

## Eligibility

### Preferred Requirements for 7th through 12th grade applicants:

- 3.0 cumulative GPA and a 21 ACT composite or 990 SAT math and critical reading combined score.
- The Office of Admissions will evaluate the cumulative GPA and ACT or SAT scores to determine college readiness for applicants not meeting the preferred requirements.
- A minimum ACT English score of 18 or SAT Critical Reading score of 430 is required for all applicants.

### Steps to apply for admission

Application deadlines for the fall and spring semesters are **May 15** and **October 15**, respectively.

1. Complete the Undergraduate Admission Application; check the box marked College Credit Plus Program.
2. Complete the Signature Page. Signatures are required by the student, parent or guardian, and the school counselor.
3. Submit an official school transcript. For applicants in the 7th grade, the transcript should include 6th and 5th grades. For applicants in the 8th grade, transcripts should include 7th and 6th grades.
4. Submit ACT or SAT test score results (testing must be completed prior to the application deadline).

## 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 is 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 students with a lower GPA and/or ACT on a case-by-case basis.

A 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 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](http://www.acenet.edu)
- [www.collegeboard.com](http://www.collegeboard.com)
- [www.collegeboard.org/clep](http://www.collegeboard.org/clep)
- [www.getcollegecredit.com](http://www.getcollegecredit.com)

## Credit Appeals

**Appeals Regarding Transfer Credit:** Following the evaluation of the student's transcript from another higher education institution or from ACE, the student will meet with an adviser or the Assistant Director of the Transfer & Adult Students Enrollment Center, to discuss how the credits apply. Should the student not be satisfied with the way the credits articulate to UA graduation requirements, the student may submit an appeal in writing to the Director of the Transfer and Adult Student Enrollment Center. The appeal should include a statement of why the appeal is being made, and should provide a syllabus of the course that the student completed, or the material that was covered in the course, including the amount of time devoted to various topics. The learning objectives of the course of study should also be provided.

If the appeal concerns transfer credit related to discipline requirements, the written appeal will be reviewed by the Chair/Director of the relevant department/school, or dean, as appropriate. If the appeal concerns transfer credit related to General Education requirements, the appeal will be directed to the appropriate individual at the University responsible for the General Education program.

**Appeals Regarding UA Credit:** In the event that a student seeks redress for the way in which a UA course is applied to General Education or degree requirements, students should first speak with their adviser. Any subsequent appeal would then be directed to the appropriate individual at the University (e.g. the person responsible for the General Education program, or the relevant Chair/Director/Dean).

Final appeals in all cases will be handled by the Office of Academic Affairs

# Graduation Requirements

- [Requirements for Baccalaureate and Associate Degrees](#)
- [Requirements for Additional Baccalaureate and Associate Degrees](#)
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## 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

## Requirements for Minor Areas of Study

The University of Akron has approved minor fields of study that may be placed on a student's record when all requirements have been completed.

The following rules apply to all minors:

- The student must complete at least 18 credits. (Note: some minors may require additional credits).
- At least six of the 18 credits must be at the 300/400 level, except where the department does not offer 300/400 level courses.
- A minimum grade-point average of 2.0 in each minor is required.
- A minor may be designated at any time during the student's career up to and including the time the degree clearance is processed.
- A minor will be placed on the student's record only at the time the student receives a baccalaureate degree and only if an application was processed.
- Courses to be applied toward the granting of a minor may not be taken credit/non-credit. A maximum of 6 bypassed credits may be used, but all other credits must be earned.
- The student must earn at least nine credits at The University of Akron in courses approved by the faculty granting the minor. Written permission of the dean and the head of the department which grants the minor is required for an exception.
- Courses required for a minor may carry prerequisites, which must be honored before the student may enroll.

## 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 including 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.
- The grade point average will be rounded to the nearest hundredth for the purposes of determining graduation 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

<b>Will be Designated</b>	<b>If the Overall Grade Point Average Is</b>
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

<b>Will be Designated</b>	<b>If the Overall Grade Point Average Is</b>
with distinction	between 3.4 and 3.59



<b>Will be Designated</b>	<b>If the Overall Grade Point Average Is</b>
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](#)
- [President's List](#)
- [Probation-Dismissal](#)
- [Repeating Courses](#)
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## 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
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	No Credit
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 via the grade roster, 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 3.5 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.

## President'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 4.0 are eligible for inclusion on the President's List. 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 President'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-Dismissal

An undergraduate student who fails to maintain a total quality point ratio of 2.0 is on academic probation and is subject to such academic discipline as may be imposed by the dean of the student's college.

Probation is a warning to the student whose academic record is unsatisfactory and who is in danger of being dismissed from the university. A student may, however, be dismissed without having previously been placed on probation.

Students dismissed from the university are not eligible to register for any credit courses. They may, however, enroll for noncredit work. Readmission may be granted by the office responsible for readmission after consultation with the dean of the college from which the student was dismissed. If the student wishes to re-enter a college other than the one from which the student was dismissed, the office responsible for readmission must also consult with the dean of that college before a readmission decision is reached.

## 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

It is each student's responsibility to know what constitutes academic misconduct. The University of Akron's [Code of Student Conduct](#) defines academic misconduct as any activity that compromises the academic integrity of the student and university, and undermines the educational process. Academic misconduct includes but is not limited to:

Cheating, including but not limited to:

- Use of unauthorized assistance in taking quizzes, tests, or examinations.
- Submitting substantially the same work to satisfy requirements for one course or academic requirement that has been submitted in satisfaction of requirements for another course or academic requirement, without permission of the faculty member of the course for which the work is being submitted or supervising authority for the academic requirement.
- Use of sources prohibited by the faculty member in writing papers, preparing reports, solving problems, or carrying out other assignments.
- Inappropriate acquisition and/or improper distribution of tests or other academic materials without the permission of the faculty member.
- Engaging in any behavior specifically prohibited by a faculty member in the course syllabus or during class discussion.

Plagiarism, including but not limited to:

- Intentional or unintentional representation of ideas or works of another author or creator in whole or in part as the student's own without properly citing the original source for those ideas or works.
- The use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

An incident of academic misconduct may be resolved and a sanction assessed in a meeting between the faculty member and student. The faculty member should confer with the Department of Student Conduct and Community Standards to determine whether any prior academic misconduct has occurred. If there is no history of prior academic misconduct and the student and faculty member agree on the facts of the incident and the proposed sanction, the matter can be resolved informally through the use of the Academic Misconduct Notification Form located on the Department of Student Conduct and Community Standards webpage. If agreement has been reached and the Academic Misconduct Notification Form has been signed by both the student and faculty member a copy should be retained by the faculty member and student, and the original should be sent to the Department of Student Conduct and Community Standards.

If the student and faculty member disagree about the facts of the incident or the proposed sanction, or the student chooses not to sign the form, or the faculty member chooses not to resolve the matter informally, then the matter should be referred to the Department of Student Conduct and Community Standards for adjudication as provided in the [Code of Student Conduct](#).

For additional information or resources concerning academic misconduct or the Code of Student Conduct, please contact the Department of Student Conduct and Community Standards.

Department of Student Conduct and Community Standards  
Simmons Hall, Room 302  
(330)972-6380  
[studentconduct@uakron.edu](mailto:studentconduct@uakron.edu)  
[www.uakron.edu/studentconduct](http://www.uakron.edu/studentconduct)

## **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 English, Modern Languages, and Philosophy. The Natural Sciences Division includes the Departments of Biology, Chemistry, Computer Science, Geosciences, Physics, Mathematics; and Statistics. The Social Sciences Division includes the Departments of Anthropology and Classical Studies, 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 in Multidisciplinary 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 Economics, Department of Finance, Department of Management and Department of Marketing.

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

## [LeBron James Family Foundation College of Education](#)

The LeBron James Family Foundation 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 Curricular and Instructional Studies and Educational Foundations and Leadership, 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 Aerospace Systems Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Corrosion Engineering, Electrical Engineering, Computer Engineering, Mechanical 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**

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](#)

## **Williams Honors College**

The Williams 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. Williams Honors College students who complete the requirements of their academic majors and of the Williams 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](#)

## **College of Applied Science and Technology**

The College of Applied Science and Technology 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 the High-Tech Forensics Lab.

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; 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](http://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](http://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](http://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. JD candidates typically begin studies in the fall semester, but they may begin in January. They may obtain Certificates in Litigation, Intellectual Property, and Health Law. JD candidates may also pursue the following joint degrees with other colleges: JD/MBA, JD/MTax, or JD/MSA in Financial Forensics (with the College of Business Administration), JD/MPA (Master of Public Administration, with the Department of Public Administration and Urban Studies), JD/MAP (Master of Applied Politics, with the Bliss Institute). The School of Law also offers an advanced degree, the LL.M. in Intellectual Property. JD students may enroll in the Joint JD/LL.M. Program, in which they can earn both degrees in three years. Otherwise, an applicant for the LL.M. program must have a JD degree from an American law school or an equivalent degree from a foreign law school. An applicant to the JD program must take the Law School Admission Test and have a baccalaureate degree from an accredited college or university for JD admission. No particular course of undergraduate study is required for admission. Also, an applicant with a foreign law degree may apply for an accelerated program to receive the JD in two years. 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](mailto:lawadmissions@uakron.edu).

### **College of Polymer Science and Polymer Engineering**

[www.uakron.edu/cpspe](http://www.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.

**For a full listing of Baccalaureate, Associate, and Certificate Programs:** [www.uakron.edu/academics\\_majors/curriculum-guides](http://www.uakron.edu/academics_majors/curriculum-guides)

# Buchtel College of Arts and Sciences

## College Requirements

### Admission

The Buchtel College of Arts and Sciences admits current University students who have satisfied the following criteria:

- Completed a minimum of 30 semester credit hours
- Completed at least 6 credits of English Composition for the general education requirement
- Completed at least 3 credits of mathematics or statistics earned in the Department of Mathematics or the Department of Statistics (excluding 3450:100 Intermediate Algebra) for the general education requirement
- Have a minimum grade-point average of 2.00 in all work attempted in the major field, including transfer work until 30 UA credits are earned (excluding Political Science which requires 2.2 and Family and Consumer Science which requires 2.3)
- Have a minimum grade-point average of 2.00 in all University work, including transfer work until 30 UA credits are earned (excluding Political Science, English, and Sociology which require 2.2; excluding Family and Consumer Sciences which requires 2.3; and excluding Communication which requires 2.5)
- Computer Science students must successfully complete 3450:208 and 221 and 3460:209 and 210. Family and Consumer Science Child Development students must complete 7400:201 and 266 with a C or better.
- Music students must test into at least Theory I Placement and audition into at least 100 Applied Instruction; Dance students must successfully audition
- Received approval of the Dean of the College

### Transfer Students

Students transferring into the Buchtel College of Arts and Sciences from universities other than The University of Akron must satisfy the same Buchtel College of Arts and Sciences admission requirements as University of Akron students.

A student transferring to the School of Art from another institution must submit a portfolio of work for approval before admission. A student transferring from another college or institution into the music program must complete a placement examination and perform an audition. A student transferring from another college or institution into the Dance program must perform an audition.

### Other Admission

Students accepted into the Honors College as arts and sciences majors are automatically admitted into the Buchtel College of Arts and Sciences. Incoming freshmen with appropriate credentials may receive direct admission to the Buchtel College of Arts and Sciences upon application.

### Baccalaureate Degrees

Requirements for the bachelor's degree include:

- Completion of the General Education requirement
- Three credits of mathematics or statistics (excluding 3450:100 Intermediate Algebra) earned in the Department of Mathematics or the Department of Statistics
- Completion of requirements in a major field of study in the college. A major consists of a specified number of credits in addition to the required General Education and, in the case of most Bachelor of Arts and Bachelor of Science degrees, foreign language courses/proficiency. The exact requirements for each major are found in the respective curriculum guide
- All degrees require a minimum of 40 credits consisting of:
  - 300/400-level courses in the student's major department
  - 300/400-level courses outside the student's major department, except workshops
  - Courses outside the major department as specified and approved by the student's major advisor and the department chair or school director (permission should be obtained prior to enrollment), except workshops
  - For programs with restrictive external accreditation requirements, 200 level courses within the major may be identified as constituting advanced work by the student's advisor and department chair or school director (permission should be obtained prior to enrollment)
- Demonstration of ability to use English and, in the case of most Bachelor of Arts and Bachelor of Science degrees, another language:
  - For English, this ability will be shown by the completion of the General Education sequence for English Composition
  - For the other language, this ability will be shown by completion of the second year (202 at UA) of a foreign language at the University level. Demonstration of equivalent competence gained through non-academic "life experience" may be allowed through a test approved by the Department of Modern Languages contingent upon the availability of an appropriate test. The Department of Modern Languages does not offer credit by examination. Native speakers of a language other than English may be exempted from the foreign language requirement upon providing evidence of competence in the four basic language skills (speaking, reading, writing and listening comprehension) at a level equivalent to or higher than successful completion of the second year of instruction in the language at the University level. No credit is granted for exemption from the foreign language requirement. Sign Language is

acceptable toward the foreign language requirement. You must complete the five courses listed below (totaling 14 credits) in the sign language sequence to satisfy the requirement:

1. 7700:101, 2 American Sign Language I, II 6
2. 7700:201, 2 American Sign Language III, IV 6
3. 7700:222 Survey of the Deaf Culture in America 2

- Students in the Schools of Art and Music may apply not more than two credits of physical education activities to their degree; students in the School of Communication and in Theatre programs may apply not more than two credits of physical education activities, eight credits of applied music or four credits of music organizations to their degree; students in Dance programs may apply not more than two credits of physical education activities and 12 credits of dance organizations to their degree
- Attaining a minimum grade-point average of 2.00 for all courses in the major Department/School at The University of Akron, unless otherwise required by the major Department/School
- Fulfilling the University requirements for a baccalaureate degree

Any student who wishes to receive a second baccalaureate degree must complete 30 credits of coursework in addition to the credits necessary for the first degree; 15 of the 30 credits must be in 300/400-level courses or other approved courses.

## **Degrees Awarded**

- *Fine Arts Division*: Bachelor of Arts, Bachelor of Arts Fashion Merchandising, Bachelor of Fine Arts (Ceramics, Dance, Graphic Design, Jewelry & Metalsmithing, Photography, Painting/Drawing, Printmaking, Sculpture), Bachelor of Music
- *Humanities Division*: Bachelor of Arts
- *Natural Sciences Division*: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Computer Science
- *Social Sciences Division*: Bachelor of Arts, Bachelor of Science in Geographic Information Sciences, Bachelor of Science in Political Science/Criminal Justice, Associate of Applied Science
- *Interdisciplinary Studies*: Bachelor of Arts, Bachelor of Science, Bachelor of Arts in Multidisciplinary Studies

## ► **[Programs of Instruction](#)**

# Buchtel College of Arts and Sciences Programs of Instruction

Learn more about the undergraduate degree programs of instruction offered by the Buchtel College of Arts and Sciences. For specific curriculum guides for bachelor's degrees, minors and certificates offered through the College, see the [Undergraduate Curriculum Guides](#) section of the Undergraduate Bulletin.

## Interdisciplinary and Divisional Programs

### **Bachelor of Arts in Multidisciplinary Studies**

This degree meets the needs of students who have a multidisciplinary academic goal. It expands opportunities for non-traditional students to complete their degrees at The University of Akron by allowing them to combine courses in a structured manner from various colleges to design a program suited to their needs.

### **Divisional Majors**

#### **Humanities**

This divisional major is appropriate for those desiring a Liberal Arts degree with a general emphasis in the humanities. The humanities division consists of the Departments of English, Modern Languages and Philosophy. These disciplines and the disciplines of anthropology, classical studies, history and the creative and dramatic arts (art, music, theatre arts) are included in a prescribed manner in this divisional degree.

#### **Natural Sciences**

This divisional major provides for a broad background in science with planned concentration in selected areas. It is an appropriate major for those preparing for admission to professional programs in medicine, dentistry or veterinary science or for those desiring a Liberal Arts degree with a general emphasis in science. Additional coursework is often necessary for those planning graduate studies in a particular science discipline. The natural sciences division consists of the Departments of Biology, Chemistry, Geosciences, Mathematics, Computer Science, Statistics and Physics.

#### **Social Sciences**

This divisional major is appropriate for those desiring a Liberal Arts degree with a general emphasis in the social sciences. The social sciences division consists of the Departments of History, Political Science, Psychology, Sociology, Public Administration and Urban Studies (graduate program only) and the School of Communication. Students may select a general divisional major that includes these units or one of two specialized tracks:

- **Social Sciences — PPE Track:** The Social Sciences division PPE track consists of courses from the departments of Philosophy and Political Science.
- **Social Sciences - PSP Track:** The Social Sciences division PSP track (Understanding Ourselves and Others) consists of courses from the departments of Philosophy, Sociology, and Psychology.

### **Bachelor of Science/Doctor of Medicine Degree (B.S./M.D. Program)**

#### **Introduction**

The University of Akron, Kent State University, Youngstown State University, and Northeast Ohio Medical University (NEOMED) offer, as a consortium, a six or seven-year B.S./M.D. program. Each year The University of Akron admits a limited number of carefully selected students into its B.S./M.D. degree option. Only students with no college credit after graduation from high school are eligible. Students with college credit taken as high school students are eligible.

Students selected for the program enter Phase 1, the B.S. degree phase, where they may obtain the baccalaureate degree in two or three years on the Akron campus (summers included). Phase 1 students who successfully complete coursework requirements, maintain required grade point averages, achieve required scores on the Medical College Admission Test, and meet all other standards of readiness for medical education are then promoted directly to NEOMED for Phase 2 of the B.S./M.D. program.

Phase 2 consists of a four-year medical school course of study, at the NEOMED campus and at selected clinical campuses, leading to the M.D. degree. During Phase 1, B.S./M.D. students pursue a natural sciences division major in the Buchtel College of Arts and Sciences. B.S./M.D. students are eligible for participation in the Williams Honors College. B.S./M.D. students pursuing either the regular or honors track may also complete a certificate in Gerontology by fulfilling requirements from courses available from the Institute for Life-Span Development and Gerontology and the Office of Geriatric Medicine, NEOMED. Application is made through the Institute for Life-Span Development and Gerontology.

## **B.S./M.D. Honors Track**

Students accepted into the NEOMED B.S./M.D. program are also eligible to enroll in the Williams Honors College. The B.S./M.D. Program Academic Coordinator will serve as the Honors Preceptor for the B.S./M.D. students. Other faculty will become involved as each student plans the honors project. Requirements for retention in the Honors College are determined by the Honors Council. B.S./M.D. students enrolled in the Williams Honors College are required to complete their degree in three years; students in the B.S./M.D. program and Williams Honors College are not permitted to complete the B.S./M.D. program in two years.

## **Fine Arts Division**

### **7100: Art**

#### **Degrees:**

- Bachelor of Arts: Studio Art Option
  - The Bachelor of Arts Studio is an interdisciplinary, liberal arts degree, in which students are permitted to self-design the required suite of 42 studio electives around their interests in varying media within the School of Art. BA Studio Art Majors must complete a Minor Area Course of Study, two years of a foreign language, or five courses in American Sign Language.
- Bachelor of Arts: Art Education with P-12 Visual Arts Licensure
  - The Art Education program in the Mary Schiller Myers School of Art consists of a core curriculum of theory and practice that prepares students to work in a variety of organizational settings, from museums to recreational centers.
- Bachelor of Arts: History of Art
  - The Art History program in the Myers School of Art is for those fascinated by the potential of the visual arts to open windows onto other cultures, times, and places – and to offer a critical perspective on the world in which we live today. Our approach to art history is interdisciplinary. We weave together political, intellectual, religious, and cultural contexts with close analysis of form in order to create nuanced understandings of historically important art objects. Art History students here work closely with faculty, often one-on-one, to develop strong verbal and written skills, to master the analysis and synthesis of evidence, and to become adept at presenting their work with clarity and precision.
- Bachelor of Fine Arts: Emphasis in Ceramics
  - The Ceramics curriculum is structured to assure that students learn design and problem-solving as well as the importance of ceramic objects of all kinds to those who view them or participate in using them. The understanding of the historical and cultural meaning of ceramic materials and objects is fundamental to students staking a claim to making their own contributions to the field.
- Bachelor of Fine Arts: Emphasis in Graphic Design
  - Graphic Design is the largest program within the Myers School of Art. It is a professional program for students pursuing careers in the expanding multidisciplinary field of visual communication design. Critical thinking and logical problem solving in print, web and interactive media are emphasized.
- Bachelor of Fine Arts: Emphasis in Jewelry & Metalsmithing
  - The Jewelry & Metalsmithing program offers students a foundation in traditional and contemporary jewelry making and metalsmithing practices, while also emphasizing conceptual thinking, innovation in design, and refined craftsmanship. Students acquire an understanding of new technologies, investigate alternative materials, and gain insight into the history of the field. The program may be pursued from a fine artist, designer, or craftsman's perspective, and prepares students for a variety of careers in fine art, industrial or entrepreneurial settings.
- Bachelor of Fine Arts: Emphasis in Painting/Drawing
  - The Painting and Drawing program emphasizes that we are a community of people and ideas. Faculty and students are united in fostering curiosity and shared work ethic. Students explore studio work that demonstrates individual expression, critical thinking, and an awareness of art's historical and contemporary issues.
- Bachelor of Fine Arts: Emphasis in Photography
  - The Photography program provides in-depth experience in black and white and color fine art photography utilizing film and digital technologies as well as commercial photography and alternative approaches to the medium. Technical mastery and advanced conceptual thinking are emphasized, along with a solid grounding in historical and contemporary issues.
- Bachelor of Fine Arts: Emphasis in Printmaking
  - The Printmaking program is centered upon a dynamic investigation into the meaning of printed matter and the production of multiples in our complex world. Students energetically examine the visual and expressive potential of fine art printmaking while developing theoretical grounding in the historic context and contemporary applications of printmaking.
- Bachelor of Fine Arts: Emphasis in Sculpture
  - The Sculpture program provides a solid grounding in a wide variety of conceptual, technical and formal approaches for the creation of sculpture to enable students to explore and communicate their individual artistic concerns. The curriculum is designed to introduce students to the almost limitless possibilities of contemporary sculpture.

### **7400: Family and Consumer Sciences**

The mission of the School of Family and Consumer Sciences is to prepare professionals for leadership positions as generalists and specialists in the areas of Family and Consumer Sciences. The School offers B.A. degrees in child development, in family development, in fashion merchandising, in interior design, and in family and consumer sciences teacher education. At the graduate level, it offers M.A. options in family and child development and in clothing, textiles, and interiors. The School has been accredited by the American Association of Family and Consumer Sciences (AAFCS) since 1983, assuring that its programs meet the highest national standards in the field.

All students enrolled in B.A. programs in the School of Family and Consumer Sciences are required to complete two core courses:

- 7400:447 Senior Seminar: Critical Issues in Professional Development – 1 credit
- 7400:450 Families, Individuals, and Environments – 3 credits

All Family and Consumer undergraduates also complete an internship experience.

Student chapters of professional organizations enrich college life. The University Association for the Education of Young Children is a very active campus organization. Members interact and community professionals and focus on service projects that have served thousands of families and children in the area. The ASID student chapter connects interior design students with professionals in the American Society of Interior Design. The American Association of Family and Consumer Sciences organization provides students from all majors with opportunities to work on service projects, network with professionals in their field, and learn about regional and national conferences. Kappa Omicron Nu is the honor society for Family and Consumer Sciences students.

- **Bachelor of Arts in Family and Child Development:** This degree offers two options: Family Development and Child Development. Students in these programs are prepared to work in a variety of settings:
  - Educational settings, such as child development centers, parent education programs, children’s museums, Head Start programs, preschools, libraries
  - Social service and intervention programs such as homeless shelters, drug/alcohol programs, information and referral agencies, rape crisis programs, retirement homes, child and family advocacy programs, foster care and adoption programs, family financial programs, consumer education programs.
  - Government and legal programs such as community outreach, child care services for military installations, guardian ad litem programs.

Students in the Family Development and Child Development programs complete coursework in early childhood, adolescence, curriculum development, parent-child relations, families living in poverty, consumer education, marriage and family relations, family financial management, and much more. Faculty members personally advise every student and help them maximize their degree by adding possible minors and certificates to their program. Students in both programs complete a 200-hour internship experience which gives them the opportunity to work with professionals and apply their academic knowledge to real-world settings.

- **Bachelor of Arts in Fashion Merchandising:** This degree offers options in three areas of fashion merchandising: apparel and textiles, interiors and home furnishings, and fiber arts. Courses from the College of Business Administration and/or Summit College complement the degree by providing studies in marketing, promotion, sales, and retailing.

Students select the track they wish to complete:

- Apparel Track
- Home Furnishing Track
- Fiber Arts Track

The Fashion Merchandising program has a Bachelor of Arts Step-Up Program in cooperation with Summit College. In the first two years the student will be advised by faculty in Summit College as they earn their Associates Degree in Marketing and Sales, with either a Fashion Option or a Retailing Option. In the last two years, they will transfer to Buchtel College of Arts and Sciences to finish a B.A. degree and be advised by the fashion merchandising faculty in the School of Family and Consumer Sciences.

- **Bachelor of Arts in Interior Design:** The degree in interior design offers a comprehensive program of study which provides a balanced broad general education with specialized content integral to the interior design profession. This studio-centered program seeks to develop students’ understanding of the role of the interior designer in serving individuals and families in the built environments in which they live and work.

The Interior Design program is also CIDA (Council for Interior Design Accreditation) accredited at the professional level. The National Association of Schools of Art and Design (NASAD) also granted institutional accreditation to the Interior Design program. The program has an active Advisory Board with representation from the profession, the industry, and from alumni.

Interior Design students receive faculty advisors as soon as they enter the major, but they do not sign a formal contract until the completion of their sophomore year and a portfolio review. Students who transfer from CIDA-accredited programs must have an overall grade-point average of 2.5 and Program Director approval of a submitted portfolio. All students in this professional program are required to earn a C or better in all Interior Design core courses and electives.

- **Bachelor of Arts in Family and Consumer Sciences Education (with Licensure in Family and Consumer Sciences Education):** Successful completion of this degree qualifies students to obtain an initial Ohio Two-year Provisional License in Vocational Family and Consumer Science (FCS) Education, grades 4-12. The program is designed to assure that students will meet state standards and be ready to start successful careers. They take a wide variety of FCS courses and education courses and also complete an eleven-week student teaching field experience. Graduates are employed in middle schools, high schools, career centers, and adult education programs in Ohio and in numerous other states.

Students must be admitted to Buchtel College of Arts and Sciences and to the School of Family and Consumer Sciences to start their program. They will have an FCS academic advisor throughout the program. Students are required to complete all required FCS content and elective courses and all teacher education courses with a minimum of a C grade. Students must qualify for additional admission to the College of Education at the end of their sophomore year. They must have a 2.5 GPA overall, an ACT 22 or SAT 1050 or grades of B or better in required college-level math and English courses. They must also pass required computer literacy standards, speech and hearing tests, and Bureau of Criminal Investigation Clearance, and provide recommendations.

## 7500: Music

### Degrees:

- **Bachelor of Arts:** The Bachelor of Arts program is intended as a cultural course or as a preparation for graduate study but not as preparation for a performance or teaching career
- **Bachelor of Music:**
  - Performance (emphasis in accompanying)
  - Performance (emphasis in brass)
  - Performance (emphasis in piano)
  - Performance (emphasis in strings)
  - Performance (emphasis in voice)
  - Composition
  - Jazz Studies
  - Music Education
    - Band-Wind and Percussion Instruments
    - Orchestra-String Instruments
    - Choral-General Music

Students wishing to major in music must complete the standard undergraduate application for admission and return it to the Office of Admissions. A student cannot be formally admitted to the School of Music until admitted to the University.

To be accepted as a music major, both freshmen and transfer students must successfully complete an audition on their major applied instrument, complete The Undergraduate Placement Examination in Music Theory, and be evaluated in keyboard skills. Prospective students should contact the School of Music for information on specialized programs, as well as dates and times for The Undergraduate Placement Examination in Music Theory.

A student receiving a grade below “C-” in a required music course must repeat the course. Music Education majors receiving a grade below “C” in a required music course must repeat the course.

### Changing Major Instruments

A student may later change his declared major instrument after being admitted to the School of Music, but must then audition and satisfy all requirements for the new area as an entering student.

### Applied Music Requirements

**Studio Study (Private Lessons)** - Skill in at least one major area of performance must be progressively developed to the highest level appropriate to the student’s major. All students majoring in music are required to enroll in applied music on their declared major instrument every semester. A performance major in the Bachelor of Music program must enroll for four credits in applied music each semester which equates to a one-hour lesson or two half-hour lessons each week. All other students enroll for two credits in applied music on their declared major instrument each semester which equates to a half-hour lesson each week.

Because of the tutorial nature of applied music study, there is an additional fee for applied music registration beyond the normal credit-hour tuition and general service fee.

The offering of applied music instruction is dependent upon the availability of instructors. Although students may request study with a given instructor, the audition does not guarantee study with a particular member of the faculty. The priority for assignment is as follows: 1) collegiate music majors; 2) music minors; 3) non-music majors who are members of University performing ensembles; 4) pre-college students in the high school/college program of the School of Music; and, 5) all others.

Students will not be eligible for applied music study if: 1) they fail to pass the entrance audition; 2) a particular instructor’s studio is full; 3) the quality of work demonstrated is judged unacceptable by the applied instructor; or 4) faculty in the student’s applied area conclude on the basis of a jury that a continuation of applied study is not merited. Students in the studio are expected to exhibit a mature attitude and productive behavior.

### Levels of Applied Music Study

The study of applied music is divided into seven course levels. These conform to levels of proficiency and the requirements of the various degree programs. Entrance to applied music is by audition. Advancement in level is by promotional jury examination only.

7520:000 Level for elective credit in non-music programs, pre-college adults, preparatory program enrollment, and for correcting deficiencies before permission is granted to enroll at the 100 level. Credits in applied music at this level cannot be counted toward any degree requirements in music.

Music majors may apply a maximum of eight credits from any of the following levels to their degree program. A maximum of 32 credits may be counted toward degree requirements.

7520:100 - Freshman level  
7520:200 - Sophomore level



7520:300 - Junior level  
7520:400 - Senior level

### **Minimum Performance Levels Required by Degree Program**

- **Bachelor of Arts** - Eight credits and completion of the 200 level in the primary applied performance area. No recital is required.
- **Bachelor of Music in Performance Major** — Thirty-two credits and completion of the 400 level in the primary applied performance area. A junior recital is required at the 300 level. A full senior recital is also required.
- **Bachelor of Music in Composition Major** — Sixteen credits and completion of the 200 level in the primary applied performance area. A full senior composition recital is required.
- **Bachelor of Music in Music Education** — Sixteen credits and completion of the 300 level in the primary applied performance area. A half senior recital is required.
- **Bachelor of Music in Jazz Studies** — Sixteen credits and completion of the 200 level in the primary applied performance area; additional completion of the 100 level in flute and clarinet for saxophone majors and the 200 level in classical guitar for electric guitar majors. A full senior recital is required.

### **Jury System in Applied Music**

A promotional jury is the only way in which a student may advance from one course level to another. Each music major may take a promotional jury in his/her primary applied performance area once each year, after two semesters of study, and/or after the minimum number of credits is attained. However, a faculty member may require a student to take additional semesters of study prior to a promotional jury.

Each applied area is empowered to terminate applied study, and applied study will be terminated after three attempts at the same promotional jury level. A promotional jury may be used by a student studying applied music at the 000 level as an audition to the 100 level.

### **Applied Repertory of Study**

Each applied music section (brass, composition, guitar, keyboard, percussion, piano, strings, voice, and woodwinds) has a published repertory of study requirements for each of the course levels. These requirements are available from the Applied Area Coordinator, individual applied instructors, and the School of Music office.

### **Studio Classes**

Each music major is required to attend the weekly 50-minute class taught by his applied instructor. Attendance at studio class is part of the requirement for applied music study, and reflects in the student's grade in applied music. Performances in studio class are determined by the student's applied instructor.

### **Sectional Recitals**

Each applied section holds a sectional recital each week. Attendance by students studying in the section is required. Performances in sectionals are determined by the student's applied instructor and area coordinator.

### **Applied Study for Non-music Majors**

Non-music majors may enroll for applied music with the permission of the individual applied instructor or the area coordinator, whichever is appropriate to the area of study. Acceptance for studio study is based upon an audition, usually given the first week of classes. Only students who meet applied studio standards will be accepted for applied instruction.

### **Recital Attendance Requirements**

Bachelor of Music majors are required to enroll and receive credit for eight semesters of 7500:157(Student Recital). Bachelor of Arts music majors are required to enroll and receive credit for four semesters. Student Recital (7500:157) carries no academic credit and has no fee. Further information on the attendance requirement is available in the School of Music office.

### **Ensemble Requirement**

Enrollment in all ensembles requires permission of the instructor.

### **Major Conducted Ensemble Requirement**

Students who are music majors must enroll for eight semesters in a major conducted performance ensemble on their declared major instrument. Guitar and keyboard majors should refer to the Memo of Agreement for specific ensemble requirements. Auditions for membership are held each year and occasionally each semester. All music majors are required to enroll in the major conducted ensemble as assigned by faculty and appropriate to their primary performance area every fall and spring semester.

Students pursuing a Bachelor of Music major in Performance, Theory, Composition, and Music Education must complete a minimum of eight semesters. However, keyboard majors in Music Education may substitute one year of a major choral ensemble in place of a Keyboard Ensemble. Four semesters are required for Jazz Studies majors, music minors, and those pursuing the Bachelor of Arts degree in music. Students who do not complete degree requirements within eight semesters must continue to enroll in a major conducted ensemble each semester until all graduation requirements are met, except during the semester when student teaching.

Major conducted Ensembles include: Concert Choir, Guitar Ensemble, Keyboard Ensemble, Concert Band, Symphonic Band, University Band, and University Symphony Orchestra.

### **Non-major Conducted Ensemble Requirement**

Non-major conducted ensembles may be taken in addition to, but not instead of, major conducted ensembles. Jazz Studies majors are required to complete eight credits in jazz ensembles in addition to four semesters of major conducted ensembles. Non-major conducted Ensembles include: the Akron Symphony Chorus, Brass Choir, Chamber Orchestra, Instrumental Ensembles, Jazz Ensemble, Jazz Lab Band, Madrigal Singers, Marching Band, New Music Ensemble, Steel Drum Band, Blue and Gold Brass (Basketball Band), and Opera/Lyric Theatre.

### **Unconducted Ensembles**

Unconducted ensembles may be taken in addition to, but not instead of, major conducted ensembles. Unconducted ensembles include: Brass Ensembles, Jazz Combos, Mixed Ensembles, Percussion Ensembles, String Ensembles, Vocal Ensembles, and Woodwind Ensembles.

Ensemble credit is repeatable.

### **Minimum Proficiency Requirements in Keyboard and Voice**

All music majors must meet minimum proficiencies in keyboard and voice. Keyboard proficiency is met by successfully completing keyboard Harmony I and II and passing a final keyboard examination. Vocal proficiency is met by successfully completing required Theory and Musicianship courses.

## **7800: Theatre**

### **Degrees:**

- **Bachelor of Arts:** The Theatre Program is currently not accepting majors into the program. All UA students are welcome to take theatre courses as electives and are encouraged to participate in theatre production activities as part of their Akron Experience.

## **7900: Dance**

### **Degrees:**

- **Bachelor of Fine Arts:** The BFA dance major is designed for the student who wishes to pursue professional training in dance through an emphasis in ballet and modern dance techniques. This program offers extensive training in technical, performing and choreographic skills and is supported by a core of coursework in dance history, pedagogy, and physical analysis. The BFA in Dance prepares students for performing, graduate studies in performance and choreography, fields related to dance such as arts administration, dance history, physical therapy, dance therapy, dance education, or dance ethnology, as well as teaching in private studios.

Placement into the dance program for the first year of study as a probationary dance major is by audition only. Promotion in levels of dance techniques is by receipt of a "B+" grade or better for one semester for advancement from Ballet IV to V to VI to VII to VIII respectively, and by receipt of a "B" grade or better for one semester in all other technique classes.

To be admitted to the BFA degree program in Dance in the School of Dance, Theatre, and Arts Administration, students must work for one year of study as a probationary dance major, demonstrate acceptable work habits, pass the Freshman Jury and Interview to gain admittance to the college and status as a BA in Dance major in preparation for auditioning for the BFA program at the end of the sophomore year. BFA students must maintain a 2.875 GPA in all dance classes for a total of two years and may be placed on artistic probation if they demonstrate less acceptable work habits. Full status must be regained to graduate. To graduate with the BFA in Dance, students must complete one full year of Ballet VIII with a minimum of "B" and be enrolled in a ballet technique class each semester until they satisfy their technique requirements and maintain an overall 2.875 GPA in all dance classes.

- **Bachelor of Arts in Dance Studies with a Business Cognate:** This BA degree is designed to offer students a broad learning experience in dance, including ballet, modern, tap, and jazz, supplemented by business studies. Core coursework includes choreography, dance history, pedagogy, and physical analysis. This program prepares students for dance studio management, graduate studies in the fields related to dance such as arts administration, dance history, physical therapy, dance therapy, or dance ethnology, as well as teaching in private studios.

Placement into the dance program for the first year of study as a probationary dance major is by audition only. Promotion in levels of dance techniques is by receipt of a "B+" grade or better for one semester for advancement from Ballet IV to V to VI to VII to VIII respectively, and by receipt of a "B" grade or better for one semester in all other technique classes.

To be admitted to the BA program in Dance in the School of Dance, Theatre and Arts Administration, students must complete one year of study as a probationary dance major, demonstrate acceptable work habits, pass the Freshman Jury and Interview and maintain a 2.785 GPA in all dance classes. All students are required to be enrolled in a dance technique class each semester until they satisfy their technique requirements. Completion of two semesters of Ballet V is required for the BA in Dance Studies with a Business Cognate.

## **Humanities Division**

### **3200: Anthropology and Classical Studies**

3200: Classics; 3230: Anthropology; 3240: Archaeology

#### **Degree:**

- Bachelor of Arts in Interdisciplinary Anthropology
  - Archaeological Concentration
  - Biological Concentration
  - Cultural Concentration
  - Classical Studies Concentration

This interdisciplinary program allows students the flexibility to construct a program of study tailored to their interests in cultural anthropology, biological anthropology or archaeology.

### **3300: English**

#### **Degree:**

- Bachelor of Arts
  - Our course of study of literature, language, rhetoric, and creative writing fosters the development of critical thinking, skilled communication, appreciation of cultural contexts, informed citizenship, and knowledge of the various literary texts representing human thought and inquiry through the centuries. Students majoring in English studies go on to become successful professionals in their chosen fields. Graduates have taken the department's reputation into the world outside the campus gates and hold careers ranging from positions in successful law practices, to jobs as published authors, technical writers, and journalists.

#### **Statement of Policies—Admission and Graduation**

For students enrolled at The University of Akron and for students wishing to transfer directly into Buchtel College of Arts and Sciences from other institutions, the following criteria must be satisfied for admission to the Department of English:

- The student must be admissible to Buchtel College of Arts and Sciences
- The student must have a minimum grade point average of 2.20 in all university coursework

In order to graduate with an English major, the following requirements must be satisfied:

- The student must achieve a grade of C- or higher in all these required courses: 3300:300; 3300:301; 3300: 315 or 316; 3300:341; 3300:371 and 3300:492
- The student must earn a cumulative grade point average of 2.20 in English courses

### **3500: Modern Languages**

3501: Arabic; 3502: Chinese; 3510: Latin; 3520: French; 3530: German; 3550: Italian; 3560: Japanese; 3570: Russian; 3580: Spanish

#### **Degree:**

- Bachelor of Arts
  - The Department of Modern Languages is committed to preparing all University of Akron students to succeed in the global economy and to become productive and engaged global citizens. Our students achieve linguistic competencies and multicultural literacies, develop critical-thinking and problem-solving skills and connect with diverse local, national, and international communities.
    - French Language, Literature and Culture Track
      - More than 220 million people speak French on the five continents and that number is expected to rise to over 700 million by 2050. French is the second most widely learned foreign language after English. French is both a working and an official language of the United Nations and the European Union. Knowledge of French opens the doors of French companies in France and other French-speaking parts of the world (Canada, Switzerland, Belgium, and North and sub-Saharan Africa) as well as of multinational companies all over the world.
    - French and Francophone Studies Track
      - The French and Francophone Studies Track is designed for those students who are interested in developing their skills in the French language and in gaining a broader perspective on and a deeper understanding of French-speaking

countries in Europe, Africa, North America, the Caribbean and Asia. This prepares students to function in a multicultural, global context, and enhances students' career choices and employment potential.

- Spanish
  - The Spanish Major is designed for those students who are interested in developing their skills in the Spanish language and in gaining a broader perspective on and a deeper understanding of Spanish-speaking countries in Europe and Latin America. Spanish is the second-most commonly spoken language after English within the United States, and in today's economy, getting a good job within any customer service-related industry is greatly enhanced by the ability to speak Spanish.

### **3600: Philosophy**

#### **Degree:**

- Bachelor of Arts

Philosophy is the process and practice of thinking—clearly, critically, logically, and rationally. It involves questioning issues and beliefs, identifying and analyzing arguments, examining foundations and motives for determining what is right and wrong, and distinguishing between good and bad reasoning. Philosophy enlarges the mind, enriches the intellectual imagination, and introduces new ways of thinking—a necessary component for any career and an excellent preparation for graduate school and law school.

## **Natural Sciences Division**

### **3100: Biology**

#### **Degree:**

- Bachelor of Science

Biology is the fastest-growing field of science today and its impact is carried to many fronts: medicine and health care; the environment and climate change; and global food sources. A degree in Biology can prepare a student for professional schools, such as medical, dental, veterinary and pharmacy. Alternatively, in collaboration with the College of Education, the degree can prepare a student to teach high school biology. Graduates with Biology degrees from UA become physicians, dentists, pharmacists, veterinarians, and university professors, as well as conducting a variety of biological research in firms such as Enviroscience, Battelle Memorial Institute, Ohio EPA, Ohio Nature Conservancy, and Ohio DNR. UA students gain experience in these areas through research opportunities in academic laboratories, internships with local businesses, and with co-ops.

### **3150: Chemistry**

#### **Degrees:**

- Bachelor of Science
- Bachelor of Science in Chemistry - Polymer Option (degree certified by the American Chemical Society)
- Bachelor of Arts
- Bachelor of Science in Biochemistry

Chemistry is an experimental science that seeks to understand the structure and function of molecules. Chemists synthesize new materials, and study their properties and how they interact with other compounds. The B.S. degrees offered by the department prepare students for independent laboratory work and research. The B.A. degree is less strongly focused on research and prepares students for professional degrees like medicine, dentistry and pharmacy.

#### **Admission, Retention and Graduation**

- The student must maintain a minimum 2.00 grade point average
- The student must obtain a grade of C- or better in all required chemistry courses

#### **Degree:**

- Bachelor of Science Polymer Chemistry/Master of Science Polymer Science (B.S./M.S. Polymer)

#### **Introduction**

In Northeast Ohio, there is a growing demand for professionals trained in polymer chemistry. The polymer industry is one of the major industrial sectors of the economy of Ohio. The BS/MS Polymer Chemistry degree was instituted to prepare students for jobs in this area. The program provides a quality undergraduate science degree coupled with a graduate degree from one of the premier polymer programs in the country.

Students who are admitted to this program can complete the undergraduate phase of the course of study in three years and then immediately begin graduate studies in polymer science. Under rare circumstances, a student can complete the undergraduate phase in four years after approval of the advisers. A student not proceeding to the graduate program in Polymer Science may complete the degree requirements for the BS Natural Sciences - Polymer Chemistry Concentration.

Students earn a Bachelors degree in Natural Science from the Buchtel College of Arts and Sciences that is heavily weighted toward chemistry. They will be assigned an adviser in the Department of Chemistry and a co-adviser in the Department of Polymer Science who will advise them throughout their undergraduate program. Once the undergraduate degree is completed students begin studies to earn a Masters of Science from the College of Polymer Science and Polymer Engineering that will require two years of courses and research.

### **Admission, Retention, and Graduation**

- Honors Students who express interest will be admitted into the 3+2 program after an interview
- Students must have a 3.70 grade point average in all undergraduate science and math classes at the end of the first semester in the third year
- Students who earn a grade less than a C- in any required science or math class will have to repeat the course and earn a grade of C- or better

### **Cooperative Education Program in Chemistry**

#### **Qualifications**

Arrangements for entry into the program are on an individual basis and are initiated by the student during the second year of undergraduate study. Full-time B.S. chemistry majors at The University of Akron must meet the following requirements:

- Satisfactory completion of 60 credits with a quality point average of at least 2.3 in chemistry courses and on schedule in their curriculum.
- Acceptance by a cooperative education coordinator or director following a series of interviews
- Part-time students must have completed 60 credits with a 2.3 average and be on schedule in their curriculum
- Transfer students must have preparation equivalent to the minimum requirements for The University of Akron students and must have completed at least one semester of full-time study at The University of Akron

Placement in an industrial or other position is not guaranteed, and foreign students should recognize that many companies require U.S. citizenship or possession of a permanent visa. In any case, final acceptance of a student for any position is the decision of the employer.

#### **Schedule**

The work-study schedule for students in the co-op program is as follows:

<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
School	School	Vacation/School
School	School	Vacation/Work/School
School	Work	School
Work	School	Work
School	School	

#### **Admission to Program**

Interested students should attend a Cooperative Education orientation session. Students will be expected to remain with their employer for all co-op work periods in order to provide a progression of experience and responsibility. Employment must have approval of the department and the Cooperative Education director, but the University does not guarantee employment.

#### **Registration**

Students register for Cooperative Work Periods in the same manner that a student registers for any other University courses. The course is: 3000:301 Cooperative Education.

A registration fee for each work period is charged to offset the expenses of administering the Co-op Program. Upon completion of a work period, a statement will appear on the student's official transcript listing the course number and title. In place of a grade, "credit" or "no credit" will be given, depending upon the student's satisfactory or unsatisfactory completion of the following:

- Work performance as evaluated by the employer
- Submission of a written Work Report and its approval by the Cooperative Education staff
- Submission of a Cooperative Work Period Summary Form

### **3460: Computer Science**

#### **Degrees:**

- Bachelor of Science in Computer Science (System Track)
- Bachelor of Science in Computer Science (Management Track)

### **Admission to Computer Science Major**

The student must have completed 30 credits and have the approval of the Dean of the College. In addition, the student must have completed 3450:208, 3460:209, 3460:210 and 3450:221.

### **Cooperative Education Program**

The work-study schedule for a student participating in the Cooperative Education Program is as follows:

	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
School	School	School	Vacation/School
School	School	School	Vacation/Work/School
School	Work	School	
Work	School	Work	
School	School		

### **Admission**

Arrangements for student entry into the program are on an individual basis, and must be initiated by the student during the second year of undergraduate study. The Cooperative Education Program is an optional program available only to full-time computer science students at The University of Akron who have satisfactorily met the following requirements:

- Sixty credits with a grade-point average of at least 2.00 out of a possible 4.00 in the program curriculum and be on schedule in the curriculum
- Acceptance by a cooperative education coordinator or director following interviews
- A transfer student must complete 16 credits of academic work at The University of Akron with a grade-point average of at least 2.00 out of a possible 4.00 and be on schedule in the curriculum
- The student is expected to have successfully completed 3460:306 and 3460:316 before the first work period

A student who desires to participate in the program will fill out a Personal Data form and submit it to the department chair. The student will then meet with a member of the cooperative education staff to discuss the availability of prospective employers. During this interview, the student will be asked to sign a Cooperative Educational Agreement and a grade release form which will become effective upon employment. Employment must be coordinated or have approval of the department and the cooperative education director. The University does not guarantee employment for the student. The student will be expected to remain with the employer for all cooperative work periods in order to provide a progression of experience and responsibility.

### **Registration**

While no academic credits are assigned, each student must register for 3000:301 Cooperative Education in the same manner that a student registers for any other University course. See department adviser before enrolling for this course. A cooperative program fee for each work period is charged. Upon completion of a work period, a statement will appear on each student's official transcript listing the course number, title and name of the employer. In the place of a grade,

## **3370: Geosciences (encompassing Geology and Environmental Science)**

### **Degrees:**

- Bachelor of Science
  - Geology
  - Geophysics
- Bachelor of Arts
  - Earth Science Track
  - Environmental Science Track

Geoscientists focus on problems related to how the Earth works, and our students are given opportunities to build the skills necessary for understanding the Earth System. Through a variety of field and laboratory experiences, our curriculum emphasizes hands-on learning. Students may find employment opportunities in the Earth resources field, environmental consulting, the government sector, or a variety of other career paths.

## **3450: Mathematics**

### **Degrees:**

- Bachelor of Science in Mathematics

- BS/MS Program in Mathematics
- Bachelor of Science in Applied Mathematics
- BS/MS Program in Applied Mathematics
- BS/MS Program in Applied Mathematics/Polymer Engineering
- BS/MBA 5-year Program in Applied Mathematics/Business Administration
- BS/MA 5-Year Program in Applied Mathematics/Economics

### **BS/MS Program in Mathematics**

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor's degree in either mathematics or applied mathematics, as well as a master's degree in mathematics. Under the supervision of a faculty adviser, a student in the program will finish the core course requirements and most of the electives for the bachelor's degree in the first three years. During the third year of the baccalaureate degree, a student will formally apply to the program through the Graduate School. Upon acceptance, a student will be cleared to complete the remaining electives of the bachelor's degree and 30 credits of graduate work for the master's degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

### **BS/MS Program in Applied Mathematics**

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor's degree in either mathematics or applied mathematics, as well as a master's degree in applied mathematics. Under the supervision of a faculty adviser, a student in the program will finish the core course requirements and most of the electives for the bachelor's degree in the first three years. During the third year of the baccalaureate degree, a student will formally apply to the program through the Graduate School. Upon acceptance, a student will be cleared to complete the remaining electives of the bachelor's degree and 30 credits of graduate work for the master's degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine credits in each of those semesters.

### **BS/MS Program in Applied Mathematics/Polymer Engineering**

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor's degree in applied mathematics as well as a master's degree in polymer engineering. Under the supervision of faculty advisers in applied mathematics and polymer engineering, a student in the program will finish the core course requirements and most of the electives for the bachelor's degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor's degree and 30 credits of graduate work for the master's degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

### **BS/MBA 5-year Program in Applied Mathematics/Business Administration**

After successful completion of this accelerated five-year BS/MBA program, students will receive a bachelor's degree in applied mathematics and a master's degree in business administration. Students of this program will be supervised by faculty advisors in applied mathematics and the College of Business Administration (CBA), and are expected to finish the core course requirements and most of the electives for the bachelor's degree in the first three years of the program. Students are asked to formally apply to the accelerated program through the Graduate School during the third year of their bachelor's degree. Upon acceptance, students will be expected to complete the remaining electives of the bachelor's degree and 36-39 credits of graduate work for the MBA degree in the last two years of the program, while registering for at least nine graduate credits each semester of the last two years of the program. Students will be eligible to apply for an industrial graduate assistantship in these last two years of the program.

### **BS/MA 5-Year Program in Applied Mathematics/Economic**

After successfully completing this program, a student will receive a bachelor's degree in applied mathematics as well as a master's degree in economics. Under the supervision of faculty advisers in applied mathematics and economics, a student in the program will finish the core course requirements and most of the electives for the bachelor's degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor's degree and 30 credits of graduate work for the master's degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

### **Cooperative Education Program: Mathematics or Applied Mathematics**

The work-study schedule for a student participating in the Cooperative Education Program is as follows:

	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
School	School	Vacation/School	
School	School	Vacation/Work/School	
School	Work	School	
Work	School	Work	
School	School		

### **Admission**

Arrangements for student entry into the program are on an individual basis, and must be initiated by the student during the second year of undergraduate study. The Cooperative Education Program is an optional program available only to all full-time mathematics or applied mathematics students at The University of Akron who have satisfactorily met the following requirements:

- Sixty credits with a grade-point average of at least 2.00 out of a possible 4.00 in the program curriculum and be on schedule in the curriculum
- Acceptance by a cooperative education coordinator or director following interviews
- A transfer student must complete 16 credits of academic work at The University of Akron with a grade-point average of at least 2.00 out of a possible 4.00 and be on schedule in the program curriculum.

A student who desires to participate in the program will fill out a Personal Data form and submit it to the department chair. The student will then meet with a member of the cooperative education staff to discuss the availability of prospective employers. During this interview, the student will be asked to sign a Cooperative Educational Agreement and a grade release form which will become effective upon employment. Employment must be coordinated or have approval of the department and the cooperative education director. The University does not guarantee employment for the student. The student will be expected to remain with the employer for all cooperative work periods in order to provide a progression of experience and responsibility.

### **Registration**

While no academic credits are assigned, each student must register for 3000:301 Cooperative Education in the same manner that a student registers for any other University course. See department adviser before enrolling for this course.

A cooperative program fee for each work period is charged. Upon completion of a work period, a statement will appear on each student's official transcript listing the course number, title and name of the employer. In the place of a grade, "credit" or "no credit" will be given, depending upon the student's satisfactory or unsatisfactory completion of the following:

- Work performance as evaluated by the employer
- Written work report as approved by department chair and cooperative education staff
- Cooperative Work Period Summary form

Usually, work progresses satisfactorily on the job and a grade of "credit" is assigned at the end of the semester. If all the above conditions are not met, a grade of "no credit" will be submitted.

### **3650: Physics**

#### **Degree:**

- Bachelor of Science

This degree is intended for the student seeking the most detailed and quantitative preparation in physics available in an undergraduate curriculum.

Students can enhance their program of study in areas of research in the Department:

- Chemical Physics
- Polymer Physics
- Physics (Pre-Graduate School)

### **3470: Statistics**

#### **Degrees:**

- Bachelor of Science, Statistics
- Bachelor of Science, Statistics/Actuarial Science

The BS Statistics program prepares students to enter the workforce or pursue graduate studies. Students learn how to use numerical information to solve problems in a wide variety of fields, ranging from business and industry to medical research.

In addition to providing students with a solid background in Statistics, the Actuarial Science option prepares students for careers in the actuarial field.

## **Social Sciences Division**

### **2200: Early Childhood Development**

#### **Degree:**

- Associate of Science in Early Childhood Development



This program prepares students for employment in a variety of staff positions in child care centers, nursery schools, and Head Start programs that service infants, toddlers, and pre-Kindergarten children. Graduates can be classroom assistants or head teachers, run their own center or be a center administrator.

## **7600: Communication**

The School of Communication offers students a liberal arts education combined with professional and practical experience to meet the social, professional and personal challenges of the 21st century marketplace. Steeped in the tradition of free, accountable, and effective expression of thoughts and ideas, the broad-based curriculum equips students to think critically, write and speak eloquently, work in groups effectively, develop creatively, act ethically and interface proactively with converged media platforms.

Students choose from three academic concentrations: Strategic and Organizational Communication, Public Relations and Media Studies. Additionally, students are encouraged to participate in internships that lead to careers in media, business, sales and marketing, public relations, journalism and conference planning.

Additional information about the school, its faculty and its programs is available at [www.uakron.edu/schlcomm](http://www.uakron.edu/schlcomm)

Requirements for transferring into the School of Communication:

- Admission to the Buchtel College of Arts and Sciences and a 2.5 GPA or above

### **Degree:**

- Bachelor of Arts in Communication

Concentrations within the School of Communication are listed below:

- Public Relations Concentration
- Strategic and Organizational Communication Concentration
- Media Studies Concentration

### **Exit requirement**

To graduate with a degree from the School of Communication, a student must attain a minimum 2.0 GPA overall, a minimum 2.30 GPA for all courses taken in the School of Communication and have passed 7600:105/106, 3300: 111, 112, 113 or 114 with a “C” or better.

## **3350: Geosciences (encompassing Geography):**

### **Degrees:**

- Bachelor of Science in Geography/Geographic Information Sciences

The coursework in our the BS-Geographic Information Science degree focuses on data handling, analysis, and graphic communication of simple and complex geographic data and information. Students study how to map, model, and query large amounts of information. Students may also learn how to acquire remotely sensed imagery and how to display and analyze images acquired using many different kinds of sensors.

## **3400: History**

### **Degrees:**

- Bachelor of Arts in History
- BA/MA Program in History

In addition to the knowledge conveyed through the study of the past, students of history obtain practical skills that empower them no matter what career direction they take. History students learn to read widely and critically. They develop analytical and writing skills and gain experience with oral communication, all of which can be employed in any career or profession. Tens of thousands of attorneys, teachers, civic and business leaders, military professionals, and others have developed successful careers as a result of their decision to study history. The intellectual skills and cultural sensitivity that history teaches can be applied in all walks of life. People who study history learn to ask questions, think for themselves, and become better citizens.

### **BA/MA Program in History**

This is an accelerated five-year BA/MA program. Students can take this accelerated BA/MA program with the goal of applying for admission into PhD programs in History. In addition, students can take this accelerated program to pursue careers as educators in the public school system or in private schools, careers as researchers in cultural organizations and policy think tanks, and careers in museums, libraries and historical societies.

After successfully completing this program, a student will receive a bachelor's degree as well as a master's degree in history. Under the supervision of faculty advisors in history, a student in the program will finish the core course requirements and most of the electives for the bachelor's degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance, a student will be cleared to complete the remaining electives of the bachelor's degree and 30 credits of graduate work for the master's degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

### **3700: Political Science**

#### **Degrees:**

- Bachelor of Arts
- Bachelor of Science in Political Science/Criminal Justice

Successful graduates of this program go on to graduate or law school, manage campaigns, run for office, work in state and local government or for various federal government agencies, including the U.S. Marshall's Office, U.S. State Department, Federal Bureau of Investigation, Environmental Protection Agency, and Amnesty International.

#### **Statement of Policies – Admission**

For students enrolled at The University of Akron and for students wishing to transfer directly to Buchtel College of Arts and Sciences from other institutions, the following criteria must be satisfied for admission to the Department of Political Science:

- The student must be admissible to Buchtel College of Arts and Sciences
- A minimum grade point average of 2.20 must be met in all university work, including transfer credits
- A minimum grade point average of 2.20 must be met in all work in Political Science, including university and transfer credits. Only credits earned at an accredited institution of post-secondary education, as recognized by The University of Akron, will be considered for transfer credit, and only those grades will be considered in the grade point average.

#### **Retention**

Students in the Political Science programs must maintain a minimum grade point average of 2.20 overall and a minimum of 2.20 grade point average in Political Science courses (including transfer credit) in order to remain in the program. A student who fails to maintain the 2.20 cumulative average (including transfer credit) will be placed on academic probation. Failure to raise the average after one semester will result in dismissal from the program. The student may not apply for readmission for at least one semester.

### **3750: Psychology**

#### **Degree:**

- Bachelor of Arts

Psychology majors learn about human and animal behavior, and are prepared for diverse careers in health, business, industry, and research. The Department of Psychology offers an extensive and varied curriculum coupled with an active faculty and student-driven research program that develops the analytical and problem-solving skills desired by employers and graduate programs. The academic background and applied experiences provided by the major enable students to seek regional postgraduate employment and successfully compete for graduate school opportunities leading to advanced degrees.

### **3800: Criminal Justice Studies**

#### **Degrees:**

- Associate of Science
  - Criminal Justice Technology
  - Criminal Justice Technology - Corrections
  - Criminal Justice Technology - Law Enforcement
  - Criminal Justice Technology - Public Safety and Security Administration Technology

The Criminal Justice program develops critical thinking, problem solving techniques, effective communications and the ability to use technology while examining crime and the methods used to prevent it, as well as investigate and punish those who violate the law. It provides a professional perspective of the Criminal Justice field, including policing, corrections and security administration.

### **3850: Sociology**

#### **Degrees:**

- Bachelor of Arts
  - Sociology
  - Sociology/Criminology & Law Enforcement

Sociology graduates obtain positions in local, state, and federal law enforcement; in non-profit organizations related to health care, community services, victim assistance, and education; and in business corporations. Job titles include police officer, fraud investigator, case worker, hospital administrator, youth counselor, director of market research, lawyer, professor, probation officer, community service coordinator, and human resources manager. Graduates also continue their education in graduate programs or law schools.

### **Statement of policies - Admission**

For students enrolled at the University of Akron and for students wishing to transfer directly to Buchtel College of Arts and Sciences from their institutions, the following criteria must be satisfied for admission to the Department of Sociology:

- The student must be admissible to Buchtel College of Arts and Sciences
- A minimum grade point average of 2.20 must be met in all university work, including transfer credits until 30 UA credits are earned. Only credits earned at an accredited institution of postsecondary education, as recognized by The University of Akron, will be considered for transfer credit, and only those grades will be considered in the grade point average.

### **Graduation**

A Sociology, Sociology/Criminology and Law Enforcement major must earn a cumulative 2.20 grade point average in Sociology and overall to graduate with such a declared major.

# College of Business Administration

## Effective Instruction

The College of Business Administration (CBA) emphasizes effective teaching and participatory learning as the primary means to educate and prepare future business leaders. Faculty members are strongly committed to being involved with and accessible to CBA students. The CBA attempts to provide relatively small class sections throughout the curriculum.

Effective teaching and participatory learning includes challenging our students through a variety of teaching methods. The College relies upon the case method, seminar presentation, skills performance methods (oral and written), discussion method, and experiential learning in addition to traditional lectures in the classroom. Relevant learning experiences, such as internships and co-ops, are also important components of the CBA curriculum. These methods are used to: 1) involve students actively in their own education by requiring preparation and engagement; 2) instill in students the ability to educate themselves as a life-long habit; and 3) prepare students to more effectively and quickly bridge the gap to competent business leadership.

CBA students receive a well-rounded business education. Students acquire integrated business knowledge the following set of robust business skills:

- \* Quantitative
- \* Analytical
- \* Collaboration and teamwork
- \* Written communication and presentation
- \* Problem solving

CBA faculty are especially focused on preparing students to be data savvy and well-versed in business analytics.

Exposure to business practitioners - in and out of the classroom - assists in achieving these goals. The CBA introduces students to an understanding of professionalism, public service responsibilities and the role of business in society. This requires that students develop a respect for learning and a preference for solutions that advance the public good. Further, the CBA emphasizes creativity, open-mindedness, ethical behavior, and diverse cultural perspectives.

Since the College's inception, equal emphasis has been placed on broad basic theoretical principles and immediate applied practices within the curriculum. Classroom knowledge is supplemented with a strong professional development program, contact with business practitioners, the College's excellent tradition of vibrant student organizations, and invited speaker programs, to help students engage with the business community.

## College Requirements

### Requirements for Admission

To be admitted to The College of Business Administration, students must have completed the courses listed below and have an overall grade-point average of 2.5 or higher:

- English Composition I and II (3300:111 and 3300:112)
- Speech (7600:105 or 7600:106)
- College Algebra (3450:145) or Calculus with Business Applications (3450:210)
- Principles of Microeconomics (3250:200) or Principles of Macroeconomics (3250:201)
- Accounting Principles I (6200:201) OR
- Spreadsheet Modeling & Decision Analysis (6250:250) OR
- Introduction to Entrepreneurship (6300:201) OR
- Legal & Social Environment of Business (6400:220) OR
- Marketing Principles (6600:205)

### Other Admissions

Students accepted into the University Honors College as business majors are automatically admitted to the College of Business Administration. Incoming freshmen with appropriate credentials may receive direct admission to the College upon application to the University.

Freshmen who begin study in another major at the University, and would have met the direct admit criteria of the College of Business Administration, from high school, have until the last day of instruction in the first semester of their freshman year to change their major to the College of Business Administration.

## **Transfer Student Admission**

Transfer students from accredited two-year and four-year colleges are welcome. Students from outside the University must meet the same grade-point average, credit hours and coursework standards of University of Akron students. Transfer students who have not met the above coursework and academic performance standards will not be admitted to the College until all admission requirements are met.

## **Transfer/Transient Course Work**

Some courses taken out of the University may be accepted in lieu of college requirements. The College will consider transfer/transient coursework from regionally accredited community colleges and other AACSB accredited institutions in accordance with the State of Ohio transfer policies and requirements laid out in this Bulletin. Courses will be evaluated based on content, complexity, grading standards and an earned grade of "C" or higher.

If transferring from another regionally accredited community college, it is anticipated that students will have devoted the major share of their academic effort to the completion of basic requirements in the general education and pre-business areas. The College will evaluate courses from regionally accredited non-AACSB accredited colleges for course-to-course transfer/transient substitution for CBA 100 and 200 level course only.

## **Continuation of the Baccalaureate Program**

A CBA student shall be subject to academic probation if the accumulated grade-point average for all courses is less than 2.0. CBA students who are on academic probation for two consecutive semesters will be considered for academic dismissal. Probation and dismissal are decided by the Dean of the College in accordance with policies laid out in this Bulletin.

## **Degrees**

The College of Business Administration offers the following baccalaureate degrees: the Bachelor of Science in Accountancy, the Bachelor of Business Administration, the Bachelor of Arts in Economics, and the Bachelor of Science in Labor Economics

## **Integrated Core Curriculum**

The Integrated Core Curriculum is made of 36-39 credits and serves as the foundation of the business curriculum. The purpose of the Integrated Core Curriculum is to provide a basic understanding of the business disciplines, to contribute to a student's choice of major, and to fulfill pre-requisites for courses in the major. See an advisor for more information on the core curriculum and related requirements.

The following learning goals form the foundation of the learning activities that occur within the Integrated Core Curriculum:

- A. Master integrated business knowledge (accounting, business finance, marketing, business law, supply chain and operations management, management principles, business statistics and analytics, spreadsheet modeling, international business, and strategic management)
- B. Analyze data using quantitative techniques
- C. Be informed decision makers
- D. Develop leadership and collaboration competencies
- E. Use writing and oral communication skills to persuade and to mobilize action
- F. Demonstrate a global perspective and cross-cultural awareness
- G. Recognize and understand how to address ethical concerns

Based on the declared major, the Integrated Core Curriculum will consist of at least 11 courses arranged in sequential order on which to build a foundation.

### **Additional guidelines for the Core are:**

- Core 1 – 11 must be completed prior to enrolling in Core 12: 6500:490 Strategic Management

## **Requirements for Graduation**

To receive a baccalaureate degree from the College of Business Administration, a student must meet the following requirements:

- Complete a minimum of 128 semester credits with a minimum 2.30 grade-point average. No more than three credits of physical education courses may be applied toward CBA degree requirements.
- In order to enroll in CBA 3xx and 4xx courses, all students are required to have a minimum 2.00 overall grade-point average.
- After transfer into the College of Business Administration, students may take any courses for elective credit, except those courses which would be duplicative or significantly overlap any pre-business or CBA course.
- Obtain at least a 2.00 grade-point average for courses in the major as well as for courses in business administration and economics.

- At least 50 percent of the business credit hours required for a business degree must be earned at The University of Akron, including a minimum of 14 credits in the student's major program.
- Receive admission to the College of Business Administration and earn at least 15 credits within the College after admission is granted.
- Obtain the recommendation of the department faculty in the student's primary major.
- The Calculus Requirement, 3450:210, must be completed within the first 64 credit hours attempted.
- Complete other University requirements
- Complete all General Education requirements
- Complete Principles of Macroeconomics (3250:200) and Calculus with Business Applications (3450:210)
- Complete all Integrated Core Curriculum CORE courses (36 – 39 credits)

## ► **Programs of Instruction**

# College of Business Administration Programs of Instruction

Learn more about the undergraduate degree programs of instruction offered by the College of Business Administration. For specific curriculum guides for bachelor's degrees, minors and certificates offered through the College, see the [Undergraduate Curriculum Guides](#) section of the Undergraduate Bulletin.

## [3250: Economics](#)

Economics is the study of choice in a world with scarce resources. Students majoring in economics develop their analytical and problem-solving skills while exploring theories of economic systems and their application to a large number of fields. These fields range from finance and international trade to poverty reduction and environmental problems.

Graduates are employed in both the private and public sectors in a wide range of careers. For example they can be found as financial analysts, management trainees, human resource managers, city and state economists, bank examiners or health care administrators. An economics degree is an excellent background for entrance into professional programs such as law or the MBA. A joint major is a very useful option for students studying in other fields.

### **Degrees:**

- BA in Economics
- BS in Labor Economics.

### **Bachelor of Arts**

The BA program has core courses in theory and in quantitative and computer methods as well as a number of economics electives. If they wish, students can choose field electives relating to career tracks: business, banking and international economics, public policy or graduate school (see below). In one of their final field courses, students develop and carry out a senior project that shows their ability to apply what they have learned, both analytically and quantitatively. For potential employers, it provides an important demonstration of what an economics graduate can do

### **Bachelor of Science in Labor Economics**

The BSLE is a more focused program relating to issues involving human resources, from the analysis of wages and labor markets to the investigation of social policy problems like health, education and discrimination. Career opportunities exist for labor market analysts and for social and labor policy experts in state and local government (like the Department of Job and Family Services or Summit County Children's Services) and in local and international firms. The BSLE program has core courses in labor theory and application plus quantitative and computer methods. The culmination of the program for each student is to bring together all these areas in a labor market analysis and evaluation project. This project demonstrates students' ability to apply what they have learned both in analytical thinking and quantitative methods. For employers, it is a valuable demonstration of what a labor economics graduate can do.

## [6100: General Business](#)

This degree program is intended to offer flexibility to the student. Some students who intend to pursue careers in small business management, whether by creating or acquiring a business, or perhaps taking over a family business enterprise, may find the flexibility of this degree program best for them. Other students with more full-time professional experience may also prefer the broader course selection available in this degree program.

The Bachelor in Business Administration (BBA) General Business program requires students to complete the CBA core curriculum and 27 credit hours from specified courses.

## [6200: Accountancy](#)

The George W. Daverio School of Accountancy prepares students to become competent and responsible accounting professionals and business leaders. Accounting is essential for planning, decision-making, control and performance evaluation in all types of organizations, including business, government and non-profit entities. Accounting also supports the need for accountability and transparency in every organization, regardless of size, complexity or location. Government and regulatory organizations (e.g. the Internal Revenue Service and the Securities & Exchange Commission) rely heavily on accountants to support compliance with various laws and regulations. A need for accounting exists whether an organization is small or large, global or domestic, for profit or not-for-profit, listed or not listed on a stock exchange. Thus, an accounting major offers a wide range of opportunity for future success as a professional.

Students who major in accounting at The University of Akron are generally recruited for professional careers in financial reporting, cost management and control, financial management, financial analysis, internal auditing, external auditing, taxation, information systems audit and control, financial forensics and consultancy. Organizations that recruit accounting majors include public accounting firms, major corporations, small and medium size enterprises, government agencies and non-profit organizations. There are exceptional opportunities for professional advancement regardless of career path and the type of institution a graduate may choose.

Professional certification is vital for accounting professionals. We recommend the Certified Public Accountant (CPA) credential for all of our graduates. Ohio law requires 150 semester credit hours of college level education as a prerequisite for the CPA examination. We strongly encourage our students to pursue the Accelerated BS/MS Accounting program as a path to earning the 150 credits needed for CPA exam eligibility.

CPA certification is needed for successful careers in public accounting; it is also highly valuable for careers in corporations, government agencies and other organizations. In addition to the CPA, other certifications that students may pursue include Certified Management Accountant (CMA), Certified Internal Auditor (CIA), Certified Information Systems Auditor (CISA) and Certified Fraud Examiner (CFE).

## **6400: Finance**

The primary mission of the Department of Finance is to provide a quality education to students that will prepare them for leadership positions within the finance profession in business. Students acquire financial knowledge and skills that can be applied in a variety of environments. The study of finance prepares students to understand the financial transactions in today's global economy.

Careers in finance include corporate finance, investment management, financial markets and institutions and personal financial services. Careers in corporate finance include financial analyst positions in manufacturing, commercial and service enterprises where initial assignments might include financial planning, capital expenditure analysis, cash management, credit management, lease evaluation, mergers and acquisitions and special projects. Students with an interest in investment management are trained for careers as account executives, security analysts or portfolio managers in bank trust departments, securities brokerage firms, investment research firms and investment banks. Careers in financial markets and institutions are available in banking, mutual funds, insurance companies and other financial institutions. Banking careers include commercial lending, retail banking, treasury operations, trading and trust operations. Careers in financial planning include positions at finance and insurance companies, securities firms, banks and financial investment firms. Roughly 40 percent of professionals offering financial planning and wealth management services to individuals are self-employed.

The finance curriculum offers students the opportunity to study in one of three majors – Corporate Financial Management, Financial Services and Financial Planning. Additional information about these three degree programs may be obtained from the Finance Department or undergraduate advising.

## **6500: Management**

The Department of Management provides opportunities for students to prepare for three different majors: Human Resources Management, Supply Chain/Operations Management and Information Systems Management. Each major provides a solid foundation of general management skills needed by organizations today. Businesses, as well as non-profit institutions, face complex environments with multiple challenges and opportunities. The Department of Management faculty members interact regularly with business leaders to ensure that our students are prepared with the cutting-edge knowledge and skills required to obtain the best jobs.

The Human Resource Management major prepares students for jobs as Human Resource Management (HRM) professionals, as well as general managers. It is generally the people with talent that make one organization more successful than another. HRM professionals are the keys to the acquisition and use of talent in organizations to support strategy. HRM professionals oversee the recruitment, hiring, training and compensation of employees. They also design systems for performance management, guide labor relations, ensure legal compliance and monitor employee safety.

The Supply Chain/Operations Management major is a relatively new field that is central for the success of almost every business. Supply Chain/Operations deals with getting the right product, to the right place, at the right time, in the right condition, at the right price. It is a growing interdisciplinary field that involves building relationships with organizations around the world. Professionals in this area must understand procurement and sourcing, inventory control, logistics and transportation, import and export management, manufacturing and service operations, and negotiation and customer satisfaction skills. This major prepares students to be professionals in the broad supply chain field.

The Information Systems Management major prepares students to be business professionals that direct the technology-related activities of organizations. Graduates understand how to design and access computer systems in order to ensure good business decisions. Information Systems (IS) professionals work with executives to define, plan and achieve the technical goals of the company. IS professionals understand databases, networks, data analytics and system analysis. Students graduate from this program with the combination of technical and business expertise that organizations need for success.

A graduate with a degree in a management discipline will have many employment opportunities with firms in staff, supervisory and other professional positions. In addition, the graduate has the fundamental preparations to undertake advanced student leading to a graduate degree.

## **6600: Marketing**

Marketing is about the creation of value. The object of this creation can be a product, a service, a cause, a person or an idea. The American Marketing Association defines marketing as “the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.” Ultimately, great marketing is about creating customer commitment to the products, services and ideas that one produces. The discipline is built on learning the core practices associated with bringing a product/service/idea to market including product design and development, distribution, promotion and pricing. It also focuses on how to keep products competitive through branding, customer service and innovation. It is now generally accepted that the marketing perspective, a perspective that puts the customer first, can improve the operation of any organization, including not-for-profit organizations and government agencies.



Given the rather broad and encompassing view of marketing, it is not surprising that a significant proportion of the work force is employed in some aspect of the field. Many individuals with a marketing degree, particularly in smaller firms, become marketing managers responsible for all marketing related activities of the firm. Many others specialize in one specific area. Some of the more common areas include E-commerce, advertising and promotion, sales and sales management, brand management, product development and planning, marketing research & analytics, customer relationship management, media management and retail buying or merchandising. To accommodate the various career track options in marketing, the marketing department offers three majors: Marketing Management, Sales Management and Integrated Marketing Communications.

Each program is designed to provide the student with a full set of fundamental skills and work place competencies essential for success and advancement. Both theory and practice are stressed through a series of foundation courses that focus not only on “what to do,” but “how to do it” and professional capstone experiences through projects with real companies, internships and/or professionally taught specialty courses on state-of-the-art marketing practices.

Our majors must meet all requirements of 1) the General Education Program, 2) the Pre-Business Program, 3) the College of Business Administration Core Program, 4) the required foundation courses within each program, 5) the electives within each program, and 6) the professional experiences component of the program.

Students should give careful thought to the pursuit of a dual major. By adding a limited number of credit hours, students can combine any two of the four majors offered by the Department of Marketing. For example, a student could pursue a double major in sales management and marketing management or marketing management and international business. Double majors are one of the best methods for expanding your career specializations and opportunities. Check with your CBA advisor to determine the specific requirements for the double major of your choice.

## **6800: International Business**

Rapid globalization of business is converging around dynamic changes in the physical, political, economic, and cultural environments of organizations. This unprecedented wave of rapid change creates new opportunities and challenges that must be managed effectively. Our curriculum is designed specifically to prepare graduates to effectively manage the change and complexity that the wave of globalization brings with it. Special emphasis is placed on the process of foreign market entry. Carefully articulated course offerings and contents cut across accounting, finance, management, marketing and technology. Notable highlights include a required approved study abroad program, proficiency in a foreign language and a minor specialization. The integrative nature of our program stands at the intersection of theory and practice to provide a balanced approach, functional specialization and a broader cultural perspective.

Students majoring in International Business must complete one of the approved minors for a minimum of 18 credits. The areas that can be used for the minor include: in the College of Business Administration – Consumer Marketing, Database Marketing, Entrepreneurship, Finance for Business Majors, Financial Planning, Human Resource Management, Management Information Systems, Supply Chain/Operations Management and Sales Management; in the College of Arts & Sciences – Economics, Labor Economics, English, Mathematics/Applied Mathematics and General Philosophy.

All International Business majors must also participate in an approved study abroad program which includes the completion of 6800: 406. To satisfy the study abroad program, foreign students must choose a country other than their home country. All approved study abroad programs should meet at least 40 contact hours of learning to satisfy the completion requirement for 6800:406.

All International Business majors must complete a language requirement, which requires completion of English and another language. The other language must be an approved foreign language sequence with a minimum of 11 credits. Students with a native language other than English, can opt out of the second language (their native language) requirement by getting a ‘pass’ grade in the ‘language placement test’ administered by the Counseling Center, bypassing the credits for the second language.

To receive a Bachelor in Business Administration degree with a major in International Business, each student must successfully complete the 1) General Education program requirements, 2) Pre-Business program requirements, 3) College of Business Administration Core requirements, 4) required courses within the International Business major, 5) completion of two languages, with one being English, 6) specialization in a minor, and 7) participation in an approved study abroad program.

# College of Education

## College Requirements

Learn more about the requirements set forth in the College of Education.

### [Selection, Admission, Retention, and Teacher Licensure](#)

The LeBron James Family Foundation College of Education has selective admission, retention, and graduation requirements for the completion of a program at The University of Akron.

For all students applying to a College of Education Professional Education program, the admission and degree requirements outlined in the current UA Undergraduate Bulletin will be used to determine admission (or readmission) and degree requirements for all programs.

From admission through graduation, all decisions are made following the College's or department's approved criteria. Prior to admission to a program, Ohio requires all colleges and universities preparing teachers and educational personnel to assess students in the areas of verbal communication and academic achievement. The University of Akron's College of Education admission procedures are designed to establish admission criteria, provide for assessments, allow for skills enhancement, reassessment and reapplication where appropriate.

**General Education Requirements:** To be admitted to the College of Education, all students must be able to meet the following criteria: A student must have completed at least 29 semester hours of coursework. This coursework must include a minimum of three (3) semester hours in each of the required courses in mathematics, natural science, social science, and public/oral communications, six (6) semester hours in English composition and one (1) semester hour of physical education. Appropriate General Education equivalencies for transfer students will be determined by the University College Dean's Office. The remaining 10 semester hours must consist of general education coursework that meets the requirements of the University and the admission requirements of the department's program studies area.

**Grade-Point Average:** For admission, a grade point average of 3.0 or better overall and 2.5 or better overall in prerequisite credit hours from specific courses identified by College.

**Academic Achievement:** Competency in math skills as evidenced by: a composite score of 21 or higher on the ACT; 980(Math and Verbal) on the SAT; a grade of "B" or better in a minimum of 3 credits of mathematics that meets the University's General Education mathematics requirement. Competency in reading comprehension and writing as evidenced by: a composite score of 21 or higher on the ACT; 980(Math and Verbal) on the SAT or a grade of "B" or better in a course that meets the University's General Education English Composition I requirement.

**Bureau of Criminal Investigation Clearance:** A signed [Criminal Background Check Acknowledgement Form](#) must be submitted. Current Ohio Bureau of Criminal Identification and Investigation (BCII) and Federal Bureau of Investigation (FBI) background checks are required before you may participate in coursework with field experience.

**College of Education Application:** All students must complete [College of Education application form](#). Responses to the questions on the application will help College of Education advisors offer the most effective and efficient advisement. It will also help advisors know students as individuals with unique backgrounds and experiences. **Undergraduate** students should apply during the semester in which all College of Education Pre-admission requirements will be met.

**Admission Timeline:** Admission to a College of Education Professional Education program is in effect for five years from the date of admission. All criteria and procedures regarding selective admission and retention are available in The LeBron James Family Foundation College of Education, Zook Hall, The University of Akron, Akron, OH 44325, phone (330) 972-7750 or [www.uakron.edu/education](http://www.uakron.edu/education).

### [Application for Admission to Professional Education Programs](#)

All students are required to have completed the application process no less than six weeks prior to the semester in which they wish to begin coursework in the College of Education. Additional information and applications are available on the College of Education website at <http://www.uakron.edu/education/academic-programs/CIS/how-to-apply.dot>.

**Program Area of Study:** All students are expected to comply with requirements specified by the program to which they are applying. These are available in the department.

**Advisement:** All students will be assigned an advisor and will need to complete an individualized Program Course Distribution (PCD) with their advisor or other approved program designee. This PCD must be completed during the first semester of admission. Students are encouraged to see their program advisor when necessary to assure they are maintaining progress in their program.

**Retention:** Retention of students in each program will be evaluation based. Students will have opportunities to upgrade their skills and achievement in areas where such needs may exist. Completion of program requirements will be reviewed by the student and faculty advisor. Approval to student teach is contingent on the student's progress through the program of study with satisfactory grades. Graduation is contingent on completion of coursework, student teaching, GPA of 2.50 overall, 2.50 in education classes, and 2.50 in the student's major.

**Licensure:** After graduation, students may apply for licensure through the College of Education. The State of Ohio requires all applicants for licensure to submit a current BCII/FBI Clearance. A BCII/FBI Clearance is valid for 12 months from the date of issue. Ohio also requires all applicants for licensure to pass appropriate examination(s) for intended area(s) of licensure. Information about specific licenses can be obtained from the College of Education.

**Coursework:** Coursework more than 5 years old may not be accepted for licensure. Check with your advisor regarding specific departmental policies.

**Transfer Students:** Transfer students will be expected to meet the same admission standards as University of Akron students.

**Post-Baccalaureate Students:** Qualified post-baccalaureate students seeking licensure will be admitted to the College of Education and to the appropriate program once they meet all admission requirements.

## **Bachelor's Degrees**

The Professional Education Program prepares students to teach in one or more of the following areas/fields: early childhood inclusive teacher preparation (age 3 through grade 3); early childhood (age 3 through grade 3); middle childhood (grades 4 through 9); the conventional academic fields found in programs for adolescent to young adult students (grades 7 through 12); in special education as an intervention specialist for early childhood (P-3 mild/moderate/intensive); mild/moderate (K-12); or moderate/intensive (K-12); and multi-age (grades PK through 12). To qualify for the bachelor's degree, the minimum credits as required by the student's degree program at the time of admission with a grade-point average of 2.50 overall, 2.50 in education classes, and 2.50 in the student's major must be completed.

The specific subjects required for degrees in certain fields are set forth in subsequent pages. In all cases, the requirements include courses in general education, professional education and content areas.

The Bachelor of Arts in Education degree is granted to those whose major is in one of the academic fields. The Bachelor of Science in Education is granted to those whose major is in the other special fields or in early childhood or middle childhood education.

## **Professional Education Programs**

The conceptual framework theme, "Educator as Decision Maker," is central to The University of Akron's Professional Education Program. This was chosen because the complexity of teaching is increasing and the professional knowledge base is growing. Decision-making is stressed in the standards-based programs that prepare teachers and other school personnel for professional practice. Initial professional education programs are aligned with the Ohio Standards for the Teaching Profession, and Specialized Professional Association Standards. Advanced Programs for practicing teachers are aligned with the Ohio Standards for the Teaching Profession. For more complete information about the professional education program, consult the College of Education at (330)972-7750.

Students must complete appropriate professional education courses with grades of 'C' or better before being allowed to progress to the next phase of professional education preparation.

## **Professional Preparation**

Built on a foundation of general studies that begins prior to admission, the Professional Education Program is organized into four phases that reflect how teachers can learn to make good decisions.

- **Phase I. Learning About Learners**, "How can I use information about myself and others to understand decisions about students and learners?"
- **Phase II. Learning About Teaching**, "How do I use principles of learning to make instructional decisions?"
- **Phase III. Learning to Apply the Principles of Teaching**, "How do I make instructional decisions for specific groups of students?"
- **Phase IV. Learning to Teach**, "How do I make the best decisions for students?"

During each phase of the program, teacher candidates take a combination of core courses, field experiences, and courses in their program studies area. Students should note the sequence of core and program courses. The core courses cover the knowledge base that is common for all teachers, regardless of their teaching field. The field experiences provide teacher candidates with experience in schools from the beginning of their program. Additionally during their field and clinical experiences, teacher candidates learn to apply what they are learning in courses.

Program content area courses are related to teacher candidates' intended area of licensure. In addition, teacher candidates have a faculty advisor to help plan what to study and to review what has been accomplished.

The culminating experience for teacher candidates is student teaching. Under the supervision of a team of college faculty and a classroom teacher, each student teacher begins to put newly-developed competencies into practice.

For candidates seeking to graduate without licensure, substitute courses for this culminating experience of student teaching and colloquium will be determined with recommendation by the advisor and subject to approval by the Dean to assure that candidates meet an equivalent number of Education hours for the program. Candidates must meet all other program requirements. If the student wishes to seek licensure after graduation, the student would need to apply to be admitted to the appropriate program. The student will be required to complete all necessary requirements for licensure in place at the time admission.

## **Clinical and Field-Based Experiences**

All teacher candidates are required to participate satisfactorily in clinical and field-based experiences prior to recommendation for licensure to teach in Ohio. These clinical and field-based experiences are designed to provide teacher candidates with the opportunity to apply theory and skills related to their areas of licensure in diverse clinical and field-based settings. Clinical experiences are those planned activities in which professional education students apply the principles of teaching.

## **Student Teaching**

Student teaching is an all-day, full-time, planned teaching experience for 16 weeks in an approved public or private school. Placements are made in schools selected and supervised by the College of Education in collaboration with school districts and faculty.

All teacher candidates must have an approved student teaching application on file to be considered for placement.

To qualify for student teaching, teacher candidates must have a 2.50 average overall, a “C” or better in professional education classes, a minimum of a 2.50 and/or a “C” or better in the teacher candidate’s major, and in methods courses as defined by departments. Satisfactory completion of field and pre-clinical experience is also required before student teaching.

## **Licensure**

Every teacher in Ohio public schools is required to have a teaching license covering the fields in which teaching is being done. This license is issued by the Ohio Department of Education upon recommendation of the Dean of the College of Education. The teacher candidate must provide evidence of a current BCII/FBI Clearance, must pass appropriate examination(s) required in Ohio, complete the appropriate program requirements successfully, and be recommended for a teaching license.

## **Endorsements**

### **TESOL Endorsement (Teaching English to Speakers of Other Languages)**

This program introduces teacher candidates to the key issues in teaching English to non-native speakers through coursework in linguistics, second language theory and methods, and related disciplines.

Teacher candidates seeking this endorsement must have studied a foreign language at some time during their academic career.

Students who do not have English as a native language must demonstrate adequate proficiency in English with a valid TOEFL score of 580 or above and a score of 240 or above on the TSE (Test of Spoken English).

### **Reading Endorsement**

Teacher candidates who are preparing to teach or who already hold a teaching license may add a reading endorsement at the graduate level only.

Information on how to apply for Ohio Department of Education licensure upon completion of a program or how to add an endorsement to an existing license may be obtained from the LeBron James Family Foundation College of Education, Zook Hall; (330) 972-7750 or [www.uakron.edu/education](http://www.uakron.edu/education).

## **► Programs of Instruction**

## Department of Curricular & Instructional Studies

The Department of Curricular and Instructional Studies includes the areas of early childhood, middle childhood, secondary (adolescent to young adult), preschool to grades 12 (P-12) education and the areas of special education as an intervention specialist for early childhood (P-3 mild/moderate/ intensive), mild to moderate (K-12) or moderate to intensive (K-12). Initial Professional Education programs are available at the undergraduate, post-baccalaureate and master's degree levels.

- The **early childhood program** prepares teachers to teach age three to grade three.
- The **middle childhood program** prepares teachers to teach grades four through nine with specialization in each of two areas selected from reading/language arts, mathematics, science and social studies.
- The **secondary program** prepares teachers of grades seven to twelve to teach language arts, mathematics, science, social studies or family and consumer science (grades 4-12).
- The **P-12 program** prepares teachers of music, drama, or visual arts.
- The **special education** options prepare undergraduates as intervention specialists/teachers for children with special needs and graduate students to be master teachers.
- Endorsements are available in reading and teaching English as a second language.

The University [Center for Child Development](#), a collaboration between the College of Education and the School of Family and Consumer Science, provides childcare for children while serving as a preservice learning site for teacher education student.

### [Departments](#)

#### **5200: Early Childhood Education**

Courses and experiences prepare our teacher candidates to work in preschools, childcare centers, or to teach in primary schools. Various techniques to establish positive learning environments are taught as students learn to plan, implement, and evaluate instructional programs, and to select, develop and implement methods and materials for the introduction of science, language arts, math and social sciences to children in an integrated curriculum which stresses critical thinking and problem solving.

Upon receipt of an initial teaching license, a student may be eligible to return for additional licensure, based on additional coursework.

Endorsements such as Teaching English to Speakers of Other Languages (TESOL) and Reading can be added to licenses.

For additional information, teacher candidates should contact The LeBron James Family Foundation College of Education in Zook Hall, call (330) 972-7750 or at [www.uakron.edu/education](http://www.uakron.edu/education).

#### **5250: Middle Childhood Education**

These Education majors work toward licensure in Middle Childhood Education. All teacher candidates in Middle Childhood Education are also required to have two areas of concentration from outside the College of Education. Teacher candidates may choose from natural sciences, social studies, mathematics, and language arts and reading.

Prior to admission, teacher candidates must complete a minimum of 31 credit hours of coursework with a 2.50 GPA. These requirements provide Middle Childhood Education majors with the breadth of knowledge (science, written and oral communication, math and social studies) they will need to make decisions in the Middle Childhood setting. Teacher candidates admitted to Middle Childhood Education must achieve a grade of "C" or higher in all professional education courses to be eligible to student teach and graduate from the College of Education.

Courses and experiences prepare teacher candidates to work in elementary, middle and junior high schools. Various techniques to establish positive learning environments are taught as teacher candidates learn, plan, implement and evaluate instructional programs, and select, develop and implement methods and materials for the introduction of science, language arts, math and social sciences to children in an integrated curriculum that stresses critical thinking and problem solving.

Upon receipt of an initial teaching license, a student may be eligible to return for additional licensure, based on additional coursework.

Endorsements such as the 4-6 Generalist, Teaching English to Speakers of Other Languages (TESOL) and Reading (Graduate only) can be added to licenses.

For additional information, teacher candidates should contact The LeBron James Family Foundation College of Education in Zook Hall, call (330) 972-7750 or at [www.uakron.edu/education](http://www.uakron.edu/education).

#### **5300: Secondary (Adolescence to Young Adult) Education**

Prior to admission, students must complete a minimum of 29 credit hours of coursework with a 3.00 GPA. These requirements provide Adolescence to Young Adult Education, P-12 and Specialty Program majors with the breadth of knowledge they will need to make decisions in the secondary school setting. Students admitted to Secondary Education must achieve a grade of "C" or higher in all professional education courses to be eligible to student teach and graduate from the College of Education.

The program mandates an expert knowledge in a specific content area. This knowledge prepares and encourages teachers to be decision-makers by adapting and applying content knowledge to the needs and interests of a diverse student population. Upon graduation, teacher candidates are ready to teach in school settings appropriate to their licensure.

The Department offers teacher licensure in the following areas: Language Arts (7-12), Math (7-12), Science (7-12), Social Studies (7-12), and Drama/Theatre (P-12). Licensure is also available in Visual Arts (P-12), Music (P-12).

For additional information, students should contact The LeBron James Family Foundation College of Education in Zook Hall, call (330) 972-7750 or at [www.uakron.edu/education](http://www.uakron.edu/education).

### **5610: Special Education**

Prior to admission, teacher candidates must complete a minimum of 27 credit hours of coursework with a 3.00 GPA. This program is designed to prepare educators to meet the needs of children and adolescents with exceptionalities. The College of Education offers four licensure options: Early Childhood Intervention Teacher Preparation (P-3); Intervention Specialist Early Childhood (P-3); Intervention Specialist Mild to Moderate (K-12); and Intervention Specialist Moderate to Intensive (K-12).

These programs prepare teacher candidates to work effectively with pupils who experience physical, learning, and/or emotional special education needs. Graduates of these programs are trained to put theory into practice by providing instruction for students with special needs in a variety of educational settings. These settings include the classroom setting, individual and small group tutoring, and special classes.

For additional information, teacher candidates should contact The LeBron James Family Foundation College of Education in Zook Hall, (330) 972-7750 or at [www.uakron.edu/education](http://www.uakron.edu/education).

# College of Engineering

## Objectives

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. Professional service is in concert with the objectives of the University.

## College Requirements

### Direct Admission

A new first-year student can be a Direct admit to the College of Engineering if they meet the following requirements:

- \* High school GPA of 3.4 or higher
- \* At least 24 composite ACT or at least 1110 composite SAT
- \* At least 24 math ACT or at least 560 math SAT

### University Admissions

Students interested in engineering who do not meet the academic requirements for direct admission can still be admitted to The University of Akron. Students will be part of the Center for Academic Advising and Student Success. After certain criteria are met, students can apply to enter the College of Engineering.

### For Current UA Student and Transfer Students

Current UA students who are not in the College of Engineering and students transferring to UA from another institution may apply for the College of Engineering when they meet the following criteria:

- \* Complete at least 30 semester hours of coursework post high school
- \* Complete Calculus 2 with a C- or higher
- \* Have a 2.3 grade point average in at least three of the following categories:
  - \* in all coursework
  - \* in all engineering coursework
  - \* in all required mathematics coursework
  - \* in all required science coursework (chemistry, physics, computer science, biology)

Admission of students who do not meet the above requirements will be considered by the dean or representative only if the request originates by an Engineering department head or representative.

## Continuation in the Baccalaureate Programs

### Academic Warning/Probation/Suspension/Dismissal

A student's term and cumulative GPA determine if a student is in "good standing" or on "academic warning", "probation", "suspension" or dismissed from the College of Engineering. Evaluation is done at the end-of-term based on the term GPA and the cumulative GPA. Specific details on the process are found at [http://www.uakron.edu/engineering/academics/images/COE\\_WPSD\\_policy.pdf](http://www.uakron.edu/engineering/academics/images/COE_WPSD_policy.pdf)

Students are on academic warning if their term GPA drops below a 2.0, but their cumulative GPA is above a 2.0. Continued poor performance or if a student's cumulative GPA drops below a 2.0, they are placed on academic probation. Students on academic probation may not register for classes without first consulting a faculty advisor and obtaining permission to take an approved group of courses. Those students will have academic "holds" placed on their account and cannot register for classes until such a meeting occurs. Students whose performance does not improve on academic probation are suspended from the College; while suspended, they are provided a contract (agreed to by the Associate Dean for Undergraduate Studies and the student). If the student does not meet the terms of the contract, they are dismissed from the College of Engineering. If the student's cumulative GPA at the time of dismissal is below a 2.0, they are also dismissed from The University of Akron.



## Degrees

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

## Requirements for Graduation

- Compliance with [University requirements](#)
- Completion of the requirements in the appropriate list of courses and a minimum of 136-140 credits of coursework
- Recommendation of the student's department
- Achievement of 2.00 grade point average in all engineering coursework attempted with 4XXX course prefix

## Engineering Accreditation

Engineering is a profession in which knowledge of mathematics and natural sciences, gained by study, experience, and practice, is applied, with judgment, to develop ways to economically utilize the materials and forces of nature for the benefit of mankind.

Admission to the engineering profession is normally through a university undergraduate program in one of the disciplines of engineering. Curricular criteria are established by academic and industrial representatives that sit on the accrediting board, ABET, Inc. The curricular criteria under which Akron's Engineering programs are currently accredited are:

- \* One year of mathematics and basic science
- \* One-half year of humanities and social sciences
- \* One year of engineering science
- \* One-half year of engineering design

In addition, the ABET Criteria requires that (1) each program shall make a formal assessment of each student's ABET Required Abilities and (2) that a process must exist by which the student assessments can be used to modify the educational delivery process. The ABET Required Student Outcomes are:

- \* An ability to apply knowledge of mathematics, science, and engineering
- \* An ability to design and conduct experiments, as well as to analyze and interpret data
- \* An ability to design a system, component, or process to meet desired needs
- \* An ability to identify, formulate, and solve engineering problems
- \* An ability to communicate effectively
- \* An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
- \* An ability to function on multidisciplinary teams
- \* An understanding of professional and ethical responsibility
- \* The broad education necessary to understand the impact of engineering solutions in global and societal context
- \* A recognition of the need for, and an ability to engage in life-long learning
- \* A knowledge of contemporary issues

The Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering, Mechanical Polymer Engineering, and Aerospace Systems Engineering programs are accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

## Cooperative Education

The optional cooperative education program provides for a coordinated sequence of alternating periods of classroom instruction and employment during a five-year program.

The cooperative program simultaneously provides for the development of fundamental principles in the classroom and for their application in practice. The student has the opportunity to find the type of work and organization in which the student can best apply individual ability. The student gains an appreciation of the problems of labor and management by first-hand experience. The



student develops mature judgment by coping with everyday problems. The employer of a coop student has the ability to train and select a student whose abilities and aptitudes can be adapted to the needs of technical staff requirements.

While a student is at work, all rules and regulations prescribed by the employer must be obeyed. In addition, the student is subject to all current labor laws and conditions. The student is considered a full-time student by the University while on industrial assignments.

The University does not guarantee employment, but makes every effort to place a student in the best learning situation that is consistent with the acquisition of sound professional experience.

## **Programs of Instruction**

- [4200: Chemical Engineering](#)
- [4250: Corrosion Engineering](#)
- [4300: Civil Engineering](#)
- [4400: Electrical Engineering](#)
- [4450: Computer Engineering](#)
- [4600: Mechanical Engineering](#)
- [4700: Mechanical Polymer Engineering](#)
- [4800: Biomedical Engineering](#)
- [4900: Aerospace Systems Engineering](#)
- [Bachelor of Science in Engineering](#)

# 4200: Chemical Engineering

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The Chemical Engineering program helps students develop intellectual capacity and the ability to apply the principles of transport phenomena, thermodynamics, and chemical reaction kinetics to the creative resolution of technological problems.

All engineers are trained in the application of mechanics, materials, economics, systems, and controls. Chemical engineers, however, apply chemical principles to design, evaluate, build, and operate systems capable of converting inexpensive raw materials into marketable products via chemical reactions, biological processes, and physical separations.

Graduates of the Chemical Engineering program find career opportunities in the chemical process industries, usually involving polymer production, petroleum refining, environmental remediation, materials research and development, process design and development, and process operations and control. In addition, chemical engineers are increasingly in demand in such areas of current interest as process simulations, biotechnology, supercritical fluid processes, and solids processing. Critical thinking skills developed throughout the curriculum enable chemical engineers to succeed in other fields including medicine, patent law, and international business.

The Chemical Engineering program maintains a balance between theory and practice to prepare students for careers in a highly technical global society. The curriculum stresses the integration of mathematics, science, and chemical engineering fundamentals throughout the program. At each level of the program, from freshman through seniors, students have the opportunity to gain experience in a wide range of emerging technologies through laboratory courses and design or research electives. Exciting work is performed in biocompatible polymeric materials, biological cellular and enzymatic processes, nanocomposite materials, chemical vapor deposition, computational molecular science, microscale separations, green chemistry, and novel catalytic reactions. Students are also encouraged to gain important practical experience through the optional cooperative education program.

**Mission:** The goal of the Chemical and Biomolecular Engineering Department is to prepare baccalaureate graduates with the necessary skills so that they can contribute to a highly technical global society through their professional careers. The philosophy of the Chemical and Biomolecular Engineering faculty is to provide a strong theoretical foundation supported by practical applications of that knowledge, which is consistent with the mission of The University of Akron.

The specific educational objectives of the chemical engineering program are that:

- A. Our graduates will apply their technical proficiency to make positive contributions as chemical engineers or any other career path they choose.
- B. Our graduates will continue life-long learning through professional activities and training, the pursuit of higher educational degrees, and individual professional improvement.
- C. Our graduates will contribute to the professional practice of their chosen field through effective communication, leadership, teamwork and service, while exhibiting high ethical and professional standards.

The Chemical Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The following student outcomes describe what students are expected to know and be able to do by the time of graduation with a B.S. degree in Chemical Engineering from The University of Akron:

- Have a good grounding in chemistry and working knowledge of advanced chemistry
- Can relate chemical structure to material properties
- Able to apply first principles to analyze and solve chemical engineering problems, including comprehensive open-ended design problems
- Develop experiments from proposed hypotheses and interpret data
- Pose and develop practical solutions to chemical engineering problems which include the limitations of environmental, safety, ethical, and economic issues
- Design and select optimal processes for chemical production
- Select and use computational tools to design, analyze and solve chemical engineering problems
- Work effectively in teams
- Write and speak effectively in a technical setting
- Independently assimilate new concepts to facilitate life-long learning
- A knowledge of contemporary issues

The Chemical and Biomolecular Engineering Department provides a unique opportunity to master teamwork and design project management skills. Teams of freshmen through senior Chemical and Corrosion Engineering undergraduates work on a realistic engineering design project. Besides experience with a range of current engineering topics, the projects allow students to develop teamwork, communication, presentation, project management and information technology skills.

The chemical engineering program is accredited by ABET and meets the curriculum requirements specified by the American Institute of Chemical Engineers. Graduates must demonstrate:

- A thorough grounding in chemistry including organic and physical and a working knowledge of advanced chemistry such as inorganic, analytical, materials, polymers or biochemistry
- A working knowledge of material and energy balances, thermodynamics, heat, mass, and momentum transfer, chemical reaction engineering, separation processes, process dynamics and control, and process economics and design

# 4250: Corrosion Engineering

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The corrosion engineering degree program is a comprehensive engineering program that incorporates the fundamental and applied aspects of aqueous and high temperature corrosion. The program incorporates laboratory and project management experiences throughout the curriculum. Students will be prepared to enter into the engineering workforce and make an impact in industries including Refining, Transportation Systems, Water Distribution, Energy, Food and Chemical Processing and others.

The corrosion engineering program is administered by the Department of Chemical and Biomolecular Engineering. The goal of the Chemical & Biomolecular Engineering Department is to prepare baccalaureate graduates with the necessary skills so that they can contribute to a highly technical global society through their professional careers. The philosophy of the department is to provide a strong theoretical foundation supported by practical applications of that knowledge, which is consistent with the mission of The University of Akron.

The specific educational objectives of the corrosion engineering program are that:

1. Make positive technical contributions to their business, profession, and/or community
2. Continue to develop their educational background and/or professional preparation
3. Enhance the quality of their work as practicing engineers by communicating well, working effectively on (multidisciplinary) teams, participating in service activities, and acting ethically in their professional duties

Graduates of the Corrosion Engineering Program will:

- Have a good grounding in math, chemistry, and physics
- Be able to apply math, chemistry, physics, and engineering principles
- Have knowledge of materials and mechanical properties of materials in particular
- Have knowledge of corrosion principles and degradation due to interaction with corrosive media
- Be able to identify, formulate, and solve corrosion engineering problems
- Be able to pose and develop solutions to corrosion problems considering environmental, health, safety, social, political, ethical, manufacturing, sustainability, and economic issues
- Be able to design structures to mitigate/avoid corrosion considering environmental, safety, ethical and economic issues
- Be able to design and conduct experiments and interpret the resulting data to measure and interpret the corrosion event (e.g. rate of corrosion and time to failure)
- Write and speak effectively in a technical setting
- Work effectively on (diverse) teams
- Be able to independently assimilate new information to sustain life long learning
- Understand ethical and professional responsibility
- Have broad education necessary to understand the impact of engineering in a global society
- Have knowledge of contemporary issues
- Be able to use modern engineering tools necessary for engineering practice

# 4300: Civil Engineering

[Return to the College of Engineering](#)

Civil Engineers plan, design, build, and operate the infrastructure of modern society. This includes highways, bridges, buildings, power plants, industrial facilities, tunnels, seaports, airports, offshore structures and almost anything else needed as the basis of modern life. Civil engineers are also vigorously engaged in environmental activities, particularly creating safe water supplies and transporting it to where it is needed, collecting and treating wastewaters, cleanup of environmental problems, and insuring the safe disposal of solid wastes.

To achieve the high level of professional competence needed, an extensive study of mathematics, mechanics (both solids and fluids), engineering materials, structural design and environmental reactions is required. The civil engineering sub-topics that utilize these fundamentals are environmental, geotechnical, hydraulic, structural, and transportation engineering. The civil engineering curriculum at The University of Akron insures a firm grounding in all these sub-topic areas, while allowing a specialization, if desired, in the environmental, geotechnical, transportation, and structural areas. Engineering design problems are incorporated into courses in each area. The senior capstone design course presents a problem involving one, or possibly all, of these areas in the design of complex systems.

Most civil engineering graduates work for design consultants, construction companies, or governmental agencies. Others work for industrial firms and utilities. Many civil engineers own their own businesses.

Program Educational Objectives have been established that represent the projected abilities of a program graduate within a few years of graduation. The Civil Engineering Program Educational Objectives are the foundation of the program. The Civil Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

**Program Objective #1:** Successfully and accurately complete Civil Engineering projects as part of a team, on time and within budget, in an ethical and professional manner, and using modern engineering tools-software

**Program Objective #2:** An ability to communicate effectively with written, oral, and visual means in both technical and non-technical settings

**Program Objective #3:** Professional service as evidenced by participation in a professional society and/or educational outreach activities

**Program Objective #4:** Engage in lifelong learning as evidenced by participation in continuing education courses, workshops, graduate courses, and by pursuing professional licensure

**Program Objective #5:** A basic knowledge of the business of engineering including how the private and public sector operate separately and collectively

The curriculum is designed to emphasize the fundamentals which place the graduate in a strong position to pursue further education, formally or informally, and to begin a career in any of the above areas. To meet the curriculum requirements specified by the American Society of Civil Engineers (ASCE), the civil engineering program will prepare students who have the following attributes:

## Civil Engineering Student Outcomes

### Foundational

- Solve problems in mathematics through differential equations and apply this knowledge to the solution of engineering problems
- Solve problems in calculus-based physics, chemistry, and one additional area of natural science and apply this knowledge to the solution of engineering problems
- Demonstrate the importance of the humanities in the professional practice of engineering
- Demonstrate the incorporation of social sciences knowledge into the professional practice of engineering

### Technical

- Use knowledge of materials science to solve problems appropriate to civil engineering
- Analyze and solve problems in solid and fluid mechanics
- Specify an experiment to meet a need, conduct the experiment, and analyze and explain the resulting data
- Formulate and solve an ill-defined engineering problem appropriate to civil engineering by selecting and applying appropriate techniques and tools
- Evaluate the design of a complex system, component, or process and assess compliance with customary standards of practice, user's and project's needs, and relevant constraints
- Analyze systems of engineered works, whether traditional or emergent, for sustainable performance
- Analyze the impact of historical and contemporary issues on the identification, formulation, and solution of engineering problems and analyze the impact of engineering solutions on the economy, environment, political landscape, and society
- Analyze the loading and capacity, and the effects of their respective uncertainties, for a well-defined design and illustrate the underlying probability of failure (or nonperformance) for a specified failure mode
- Formulate documents to be incorporated into the project plan
- Analyze and solve well-defined engineering problems in at least four technical areas appropriate to civil engineering
- Evaluate the design of a complex system or process, or evaluate the validity of newly created knowledge or technologies in a traditional or emerging advanced specialized technical area appropriate to civil engineering

## **Professional**

- Plan, compose, and integrate the verbal, written, virtual, and graphical communication of a project to technical and non-technical audiences
- Apply public policy process techniques to simple public policy problems related to civil engineering works
- Apply business and public administration concepts and processes
- Analyze engineering works and services in order to function at a basic level in a global context
- Organize and direct the efforts of a group
- Function effectively as a member of a multidisciplinary team
- Demonstrate attitudes supportive of the professional practice of civil engineering
- Plan and execute the acquisition of required expertise appropriate for professional practice
- Justify a solution to an engineering problem based on professional and ethical standards and assess personal professional and ethical development

# 4400: Electrical Engineering

[Return to the College of Engineering](#)

## Electrical Engineering Fundamentals

Every aspect of modern life is influenced by electrical engineers. They design and develop systems ranging from massive power grids and global communications networks to tiny integrated circuits inside computers and personal electronics. Branches of electrical engineering include communications, controls, electromagnetics, electronics, and power systems. Important applications include power generation and distribution, sustainable energy systems, manufacturing automation, aerospace systems, robotics, sensors and instrumentation, imaging systems, and many others.

The Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. Our comprehensive curriculum prepares students to identify, formulate, and execute solutions to real-world problems. Students learn how to use modern engineering tools in well-equipped laboratories, with activities that reinforce the concepts learned in the classroom. The curriculum emphasizes design and teamwork, and culminates in a capstone senior design project that integrates the material learned in earlier courses. Our well-established co-op program enables students to strengthen the connections between theory and practice in a professional setting, and provides valuable industrial experience.

The educational objectives of the Electrical Engineering program are that its graduates:

- Achieve competitively compensated electrical engineering positions or related professional positions, or entry into programs of advanced study
- Prove to be highly competent and productive in electrical engineering or related practice
- Continue to develop professionally through both practical experience and a lifelong commitment to learning
- Exhibit high standards of ethical conduct, societal responsibility, and professionalism in engineering.

In order to achieve these objectives, students graduating from the Electrical Engineering program have:

- an ability to apply knowledge of mathematics, science, and engineering
- an ability to design and conduct experiments as well as to analyze and interpret data
- an ability to design a system, component, or process to meet desired needs within realistic constraints
- an ability to function on multi-disciplinary teams
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibilities
- an ability to communicate effectively
- the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- a recognition of the need for, and ability to engage in life-long learning
- a knowledge of contemporary issues
- an ability to use techniques, skills, and modern engineering tools necessary for engineering practice
- an understanding of safety issues in electrical engineering

# 4450: Computer Engineering

[Return to the College of Engineering](#)

In addition to traditional large computer applications, devices containing some form of embedded computing system are becoming pervasive in our society. Computer engineers design and develop hardware and software for all of these systems, ranging from software applications to communication networks to components in computing systems to small embedded sensors. Branches of computer engineering include operating systems, embedded systems design, digital circuits, algorithms, software design, and computer architecture among others. Important applications include wired and wireless networks, simulation, automation, digital control, sensing, robotics, “apps,” data management, and many others.

The Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. Our comprehensive curriculum prepares students to identify, formulate, and execute solutions to real-world problems. Students learn how to use modern engineering tools in well-equipped laboratories, with activities that reinforce the concepts learned in the classroom. The curriculum emphasizes design and teamwork, and culminates in a capstone senior design project that integrates the material learned in earlier courses. Our well-established co-op program enables students to strengthen the connections between theory and practice in a professional setting, and provides valuable industrial experience.

The educational objectives of the Computer Engineering program are that its graduates:

- Achieve competitively compensated computer engineering positions of related professional positions, or entry into programs of advanced study
- Prove to be highly competent and productive in computer engineering or related practice
- Continue to develop professionally through both practical experience and a lifelong commitment to learning, and
- Exhibit high standards of ethical conduct, societal responsibility, and professionalism in engineering.

In order to achieve these objectives, students graduating from the Computer Engineering program have:

- an ability to apply knowledge of mathematics, science, and engineering
- an ability to design and conduct experiments as well as to analyze and interpret data
- an ability to design a system, component, or process to meet desired needs within realistic constraints
- an ability to function on multi-disciplinary teams
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibilities
- an ability to communicate effectively
- the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- a recognition of the need for, and ability to engage in life-long learning
- a knowledge of contemporary issues
- an ability to use techniques, skills, and modern engineering tools necessary for engineering practice
- an understanding of safety issues in computer engineering

# 4600: Mechanical Engineering

[Return to the College of Engineering](#)

Mechanical engineers design and analyze physical systems and are employed in a variety of industries in different capacities. Mechanical engineers play important roles in many types of companies, including automotive, petroleum, energy generation and conversion, aerospace, tire, consulting, chemical, electronic, and manufacturing.

The Mechanical Engineering curriculum at The University of Akron is designed to give the student knowledge of fundamental principles of the (1) thermal/fluids stem, (2) structures and motion stem, and (3) controls stem of mechanical engineering, as well as the application of these principles to pertinent problems. A significant measure of the mechanical engineering education is the degree to which it has prepared the graduate to pursue a productive engineering career that is characterized by continued professional growth.

The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The Mechanical Engineering program identifies program educational objectives that describe what their graduates are expected to attain within a few years of graduation. They are as follows:

1. Practice the mechanical engineering discipline successfully within community accepted standards
2. Acquire teamwork and communications skills to develop a successful career in mechanical engineering
3. Fulfill professional and ethical responsibilities in the practice of mechanical engineering, including social, environmental and economic considerations
4. Engage in professional service, such as participation in professional society and community service
5. Engage in life-long learning activities, such as graduate studies or professional workshops
6. Develop a professional career in the prevailing market that meets personal goals, objectives and desires

To meet those program educational objectives as well as the curricular requirements specified by the American Society of Mechanical Engineers (ASME) for accreditation, the Mechanical Engineering program identifies student outcomes, which are what students are expected to know and be able to do by the time of graduation. They are as follows:

- A. Apply knowledge of mathematics, science and engineering in a logical and discerning manner
- B. Design and perform laboratory experiments for thermal, fluid, materials and mechanical systems; know how to analyze and interpret results
- C. Design thermal, fluid, mechanical, materials, and control systems to meet specifications within environmental, social, political, ethical, health and safety, manufacturability and sustainability constraints
- D. Participate effectively in teams involving several disciplines
- E. Identify, formulate, and solve thermal, fluid, materials, and mechanical problems by applying first principles, including open-ended problems
- F. Develop practical solutions for mechanical engineering problems under professional and ethical constraints
- G. Communicate effectively with written, oral, and visual means in a technical setting
- H. Understand the impact of engineering in a global, economic, environmental, and societal context
- I. Be prepared for a lifetime of continuing education
- J. Know about contemporary issues in engineering
- K. Have an ability to use modern modeling and simulation techniques, and computing tools



# 4700: Mechanical Polymer Engineering

[Return to the College of Engineering](#)

The Department of Mechanical Engineering in cooperation with the Department of Polymer Engineering has developed the undergraduate program in Mechanical Polymer Engineering. This program integrates mechanical engineering science and design with polymer processing science and technology.

The Mechanical Polymer Engineering curriculum at The University of Akron is designed to give the student knowledge of fundamental principles as well as the application of these principles to polymer processing problems. A significant measure of the Mechanical Polymer Engineering education is the degree to which it has prepared the graduate to pursue a productive engineering career in the polymer industry that is characterized by continued professional growth.

The Mechanical Polymer Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The Mechanical Polymer Engineering program identifies program educational objectives that describe what their graduates are expected to attain within a few years of graduation. They are as follows:

1. Practice the mechanical or mechanical-polymer engineering discipline successfully within community accepted standards
2. Acquire teamwork and communications skills to develop a successful career in mechanical or mechanical-polymer engineering
3. Fulfill professional and ethical responsibilities in the practice of mechanical or mechanical-polymer engineering, including social, environmental and economic considerations
4. Engage in professional service, such as participation in professional society and community service
5. Engage in life-long learning activities, such as graduate studies or professional workshops
6. Develop a professional career in the prevailing market that meets personal goals, objectives and desires

To meet those program educational objectives for accreditation, the Mechanical Polymer Engineering program identifies student outcomes, which are what students are expected to know and be able to do by the time of graduation. They are as follows:

- A. Apply knowledge of mathematics, science and engineering in a logical and discerning manner
- B. Design and perform laboratory experiments for thermal, fluid, materials and mechanical systems; know how to analyze and interpret results
- C. Design thermal, fluid, mechanical, materials, and control systems to meet specifications within environmental, social, political, ethical, health and safety, manufacturability and sustainability constraints
- D. Participate effectively in teams involving several disciplines
- E. Identify, formulate, and solve thermal, fluid, materials, and mechanical problems by applying first principles, including open-ended problems
- F. Develop practical solutions for mechanical polymer engineering problems under professional and ethical constraints
- G. Communicate effectively with written, oral, and visual means in a technical setting
- H. Understand the impact of engineering in a global, economic, environmental, and societal context
- I. Be prepared for a lifetime of continuing education
- J. Know about contemporary issues in engineering
- K. Have an ability to use modern modeling and simulation techniques, and computing tools

# 4800: Biomedical Engineering

[Return to the College of Engineering](#)

Biomedical Engineering is a highly interdisciplinary field of engineering which combines a fundamental understanding of engineering principles with an appreciation of the life sciences. Biomedical Engineers are prepared to solve problems in the health care industry and interact equally with other engineers and health care professionals. Students are prepared to embark on careers in research, design and development of medical devices, instrumentation, analysis tools, clinical evaluation methods, systems and processes, and other forms of medical technology.

The development of an in-depth understanding of the fundamentals of engineering is essential and therefore a degree in Biomedical Engineering focuses first on core engineering coursework, followed by advanced applications specific to the field of Biomedical Engineering. To maintain a core understanding of engineering, the program is divided into three tracks: Biomechanics; Instrumentation, Signals and Imaging; and Biomaterials and Tissue Engineering. The Biomechanics track is designed for those students who would pursue a Mechanical Engineering background with specialization in the areas of cardiovascular, orthopedic, rehabilitation engineering or system simulations. The Instrumentation, Signals and Imaging track is designed for those students who wish to pursue an Electrical Engineering background with specialization in biomedical instrumentation, signal and image processing, imaging devices, detectors, or system simulations. The Biomaterials and Tissue Engineering track is designed for those students who desire to focus on the cellular aspects of Biomedical Engineering with specialization in the areas of material interactions with the human body, design and development of biomaterials, including tissue engineering and drug delivery systems.

Students in the Department of Biomedical Engineering receive individual advising in their areas of interest. Graduates of the program will be prepared to apply their knowledge of engineering and medicine to design, test and evaluate systems or system components to be used in the health care industry, to design and develop research projects, including the analysis and interpretation of data and the dissemination of results, and to participate in other biomedical engineering problem solving activities. Graduates will also be well prepared to enter graduate study in Biomedical Engineering, Medical School or other professional professionals.

The Biomedical Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. The Biomedical Engineering program identifies program educational objectives that describe what their graduates are expected to attain within a few years of graduation. Accordingly, the educational objectives of the Biomedical Engineering program are to educate biomedical engineers who:

1. Are viewed as technically competent at the interface between engineering and medicine as evidenced by:
  - a. Creative and innovative problem solving
  - b. Performance as a contributing team member
  - c. Ethical and professional actions
  - d. An ability to interface with diverse constituencies
  - e. A knowledge of intellectual property and federal regulations
2. Possess an ability to communicate effectively with written, oral and visual means in both technical and non-technical settings
3. Exhibit continual professional development as evidenced by:
  - a. Attendance at conferences, workshops or other training courses
  - b. Enrollment in graduate, medical or other professional schools
  - c. Active participation in professional societies.
4. Exhibit continual professional service as evidenced by:
  - a. Active participation in professional societies
  - b. Service as a mentor
5. Are advancing on their chosen career path

Evaluation of the Bachelor's Degree Program in Biomedical Engineering is ensured through the use of exit-interviews and alumni tracking and survey procedures. The Department of Biomedical Engineering has established the following student outcomes. Graduates of the undergraduate program in Biomedical Engineering will possess:

- The ability to demonstrate a basic knowledge of biology, anatomy, and physiology, fundamental engineering conservation laws and track-specific engineering principles as applied to biomedical engineering
- The ability to devise, design, and conduct biomedical engineering experiments and analyze the results
- The ability to design medical devices, systems or techniques to meet specific goals
- The ability to participate effectively as a member of a multi-disciplinary team
- The ability to recognize, define, evaluate and solve biomedical engineering problems
- An understanding of professional and ethical responsibility in biomedical engineering
- The ability to communicate effectively with multi-disciplinary groups using written, oral and visual means
- The ability to appreciate the impact of biomedical engineering on society
- The ability to pursue/sustain active professional growth

- A knowledge of contemporary issues in medicine and engineering, as well as an awareness of current developments in society and technology
- An ability to use modern techniques, skills and tools for biomedical engineering practice
- The ability to apply advanced mathematics (including differential equations and statistics), science and engineering to solve problems at the interface of engineering and biology
- The ability to make measurements on and interpret data from living systems, and
- The ability to address the problems associated with the interaction between living and non-living materials and systems

# 4900: Aerospace Systems Engineering

[Return to the College of Engineering](#)

The Bachelor of Science in Aerospace Systems Engineering degree program is intended to produce engineers who possess both a broad, interdisciplinary knowledge of aerospace engineering fundamentals and who will be able to move quickly into the role of project managers, the precursor position to program managers and ultimately, senior managers. These engineers can lead multidisciplinary teams and bring about the integration of components in a variety of systems. The program includes basic engineering and aerospace courses and will also include specific non-engineering courses, selected to meet the goal of developing future senior technical leaders for our aerospace industries. The program features a mandatory co-op component that begins following the sophomore year. The co-op requirement is expected to fill out the student's technical background as well as provide a basis for broad personal growth that is part of the aim of the General Education requirement. Three fewer hours of General Education courses are required for Aerospace Systems Engineering due to the mandatory co-op.

To meet the curriculum requirements specified by the American Institute of Aeronautics and Astronautics for ABET accreditation, the undergraduate program in Aerospace Systems Engineering must satisfy the following program outcomes:

- Apply knowledge of mathematics, science and engineering in a logical and discerning manner
- Design and perform laboratory experiments for thermal, fluid, mechanical, and aerospace systems; know how to analyze and interpret results
- Design thermal, fluid, mechanical and control systems as well as airborne structures or propulsion systems to meet specifications within environmental, social, political, ethical, health and safety, manufacturability and sustainability constraints
- Participate effectively in teams involving several disciplines
- Identify, formulate, and solve thermal, fluid, mechanical and aerospace systems problems by applying first principles, including open-ended problems
- Develop practical solutions for aerospace systems engineering problems under professional and ethical constraints
- Communicate effectively with written, oral, and visual means in a technical setting
- Understand the impact of engineering in a global, economic, environmental, and societal context
- Be prepared for a lifetime of continuing education
- Know about contemporary issues in engineering
- Have an ability to use modern modeling and simulation techniques, and computing tools

# Bachelor of Science in Engineering

[Return to the College of Engineering](#)

This degree program was established to introduce flexibility into the College of Engineering. Within the 66 credits of the option portion of the program, a student can pursue a focused curriculum in areas such as business administration, industrial management, environmental engineering, biomedical engineering, and pre-medicine. The program of study may be very narrow as in the case of a student wishing to specialize in structural design, foundation and soil mechanics. For another student interested in patent law, the program may be broad, touching on chemical, mechanical, and electrical engineering subjects. The individual's program is designed to meet each student's goals.

## Admission

Admission to the program is restricted. A student requests admission by letter to the associate dean of the College of Engineering, outlining in some detail the particular objective and how the Bachelor of Science in Engineering program may enable the student prepare for career goals.

### General Curriculum Requirements

### Credits

**General Education and Science Core (must include the following): 61**

3150:151 Principles of Chemistry I

3150:152 Principles of Chemistry I Laboratory

3150:153 Principles of Chemistry II

3450:221 Analytic Geometry-Calculus I

3450:222 Analytic Geometry-Calculus II

3450:223 Analytic Geometry-Calculus III

3450:335 Introduction to Ordinary Differential Equations

3470:401 Probability and Statistics for Engineers

or

3470:461 Applied Statistics

3650:291 Elementary Classical Physics I

3650:292 Elementary Classical Physics II

**Program Options Engineering**

40

**Program Options**

26

**Free Electives, advisor approval**

10

# College of Health Professions

The College of Health Professions brings together the School of Nursing, School of Nutrition/Dietetics, School of Social Work and School of Speech-Language Pathology and Audiology. Learn more about the schools and their admissions requirements:

- [School of Nursing](#)
- [School of Nutrition/Dietetics](#)
- [School of Social Work](#)
- [School of Speech-Language Pathology and Audiology](#)

## ► [Programs of Instruction](#)

# College of Health Professions Programs of Instruction

Learn more about the undergraduate degree programs of instruction offered by the College of Health Professions. For specific curriculum guides for bachelor's degrees, minors and certificates offered through the College, see the [Undergraduate Curriculum Guides](#) section of the Undergraduate Bulletin.

## Nursing

### **Bachelor of Science in Nursing**

- Full-time Option
- Part-time Option

### **R.N. to B.S.N. Program**

(This sequence is limited to registered nurse graduates of Associate Degree and Diploma nursing programs.)

The RN to BSN program is designed for the registered nurse with a diploma or associate degree of nursing. It is specifically designed for those who are interested in obtaining the baccalaureate degree in nursing and/or continuing on to a master's degree in nursing. The RN program consists of 32 hours of upper-division baccalaureate coursework. During the RN-BSN program, students may opt to take up to 3 graduate courses for a total of 8 credits towards their MSN. Continuation in the graduate program is predicated on meeting graduate program requirements and acceptance into the graduate nursing program.

### **Accelerated Option for the Basic Baccalaureate in Nursing Program**

The accelerated option is designed for those students with a baccalaureate degree and prerequisites to earn a Bachelor of Science Degree in Nursing in four semesters - one academic year and two summers.

### **LPN/BSN Sequence**

The sequence is designed for LPNs who completed a practical nursing curriculum, as well as LPNs with bachelor's degrees in an area other than nursing. The pathway provides learning activities that build on prior knowledge and experience.

## Nutrition & Dietetics

### **Bachelor of Science in Dietetics**

To become a registered dietitian (RD), a student must complete the academic requirements, complete a minimum of 1,200 hours of supervised experience in dietetic practice, obtain appropriate verification, and pass the dietetic registration examination. Only accredited programs like those at The University of Akron are recognized by the Academy of Nutrition and Dietetics.

The University of Akron has two routes to prepare a student for a career in dietetics – the Didactic Program (DP) and the Coordinated Program (CP). The Didactic Program includes all required coursework necessary to apply for a dietetic internship. The Coordinated Program allows students to complete 1,200 hours of supervised experience along with regular coursework during their junior and senior years. Regardless of the option chosen, students must have successfully completed their coursework and clinical experience before they are eligible to take the registration examination.

The University of Akron students apply through the College of Health Professions Dean's Office to be considered for admission into the dietetics major. Students must meet the minimum criteria listed below:

- 3.0 overall GPA
- Completion of prerequisite courses with a grade of “C” or better

The curriculum for DP and CP are the same for the first year. Students who desire to be admitted to the CP may apply to the program when CP program prerequisites have been completed. Seats are limited and entry is competitive. Students who do not enter the CP program but meet other program requirements will continue in the DP program.

### **Bachelor of Science in Food and Environmental Nutrition**

Students obtaining a Bachelor of Science degree in Food and Environmental Nutrition will qualify for the food industry in food marketing, entrepreneurship, quality control, quality assurance, and food product design. This major creates professionals to provide the expertise to meet the challenges of the food industry. Employment is generally with food manufacturers and related businesses with an emphasis on marketing and the consumer.

Students must meet the requirements to be admitted to the College of Health Professions, the School of Nutrition & Dietetics, and the Food and Environmental Nutrition program.

## **Social Work**

### **7750: Social Work**

Consistent with the mission of The University of Akron and the College of Health Professions, the mission of the undergraduate social work program is to prepare students for competent and effective generalist practice. The goals of the undergraduate social work program are to: 1) prepare students to integrate the knowledge, values and skills of the social work profession for competent and effective generalist practice with diverse client systems in various practice settings; 2) prepare students to identify the strengths and abilities of diverse client systems to foster empowerment toward social justice and systematic well-being; and 3) prepare students to utilize theoretically-based social work research, knowledge and critical thinking skills for effective and ethical social work practice. The social work major is an accredited undergraduate professional program preparing students for entry-level practice positions in social service agencies employing Social Workers.

Elective courses are available in such areas as health, child welfare, mental health, grant writing, family service, corrections, etc. Certificate programs in Pan-American Studies, Addiction Services, Gerontology (Aging) and Victim Studies can be scheduled within the elective framework of the curriculum.

The Bachelor of Arts degree with a major in social work requires completion of 14 credits of a foreign language (Spanish is recommended; sign language as well as other foreign languages are accepted). The Bachelor of Arts in Social Work degree does not require a second language. Both degrees require 120 hours. Students who complete an associate degree program with a social services emphasis can complete either the B.A. or B.A./S.W. curriculum in social work by completing the required courses.

The Social Work Program at The University of Akron is fully accredited by the Council on Social Work Education.

Students wishing to major in social work must request an intercollege transfer to the College of Health Professions, School of Social Work from their current college. A 2.75 grade point average and 30 credit hours is required for admission to the School. Once admitted to the School, a separate admissions packet must be completed with the School in order to be admitted as a social work major in good standing.

## **Speech-Language Pathology and Audiology**

### **7700: Speech-Language Pathology and Audiology**

The program in Speech-Language Pathology of The University of Akron is accredited by the Council on Academic Accreditation of The American Speech-Language-Hearing Association. The Doctor of Audiology program at the University of Akron, in association with the Northeast Ohio Audiology Consortium, is also accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association.

The School of Speech-Language Pathology and Audiology offers an undergraduate (preprofessional) program of academic training in speech-language pathology and audiology. Audiologists are hearing care specialists for evaluation and treatment of individuals with hearing and balance disorders. Scope of practice includes conducting hearing assessments, selecting and fitting hearing aids/assistive listening devices, programming cochlear implants, testing balance, and counseling regarding hearing loss. Speech-language pathologists work with children and adults with language, voice, fluency, articulatory and phonologic, cognitive and swallowing disorders. They provide assessment and treatment for these disorders as well as working in prevention of them.

Course work focuses on the evaluation and treatment of the many disordered communication processes. Students who qualify academically may also take the elective course: 7700:446 Observation and Clinical Techniques. This course includes accumulation of a minimum of 25 hours of supervised observation, as required for graduate study by the American Speech-Language-Hearing Association. The preprofessional undergraduate program prepares students to pursue a master's degree, which is required for employment and licensure as a speech-language pathologist. A doctoral degree (Au.D.) is required for licensure as an audiologist.

Typical work settings for speech-language pathologists and audiologists include: schools, hospitals, clinics, private practice, physicians' offices, industry and universities.

## **Allied Health**

### **Bachelor of Science in Respiratory Therapy**

This Bachelor of Science program is accredited by the Commission on Accreditation for Respiratory Care, 1248 Harwood Road, Bedford Texas, 76021, 817-283-2835; www.coarc.com. The program prepares graduates to perform respiratory therapy procedures, under the direction of a physician. This program emphasizes critical thinking and assessment of patients with cardiopulmonary disorders. Admission is selective due to space availability in the clinical component of the program.

### **Associates of Science**

#### **2740: Medical Assisting Technology**



This program provides students with the background to perform a wide range of tasks in the physician's office and other ambulatory health care settings. Administrative tasks include ICD-9-CM & CPT coding and medical software usage. Clinical tasks include injections, phlebotomy, assisting with minor surgery, minor office procedures, and CLIA waived laboratory tests.

The Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants

Endowment (AAMAE). CAAHEP, 1361 Park St., Clearwater, Fla., (727) 210-2350, [www.caahep.org](http://www.caahep.org).

### **2760: Radiologic Technology**

This program prepares graduates to perform radiologic examinations under a physician's direction for diagnosis and treatment of physical diseases and injuries. The University of Akron offers this associate degree in conjunction with an area hospital school of radiology, which maintains national accreditation. Upon completion of the accredited program in radiologic technology the student will earn the associate in applied science degree at The University of Akron, and become eligible for the registry exam. (Selective Admission)

### **2770: Surgical Technology**

This program trains people to prepare equipment and assist the physician and other members of the surgical team with patient care and related services in the hospital operating room. (Selective Admission with a deadline for application of April 15)

### **2780: Healthcare Simulation Technology**

This program provides the healthcare student with a simulated clinical environment through high-fidelity mannequins that breathe, blink, talk, and bleed. The healthcare student can also start IV's as well as perform many medical procedures that simulate the real life experience of taking care of a patient. As a Simulation Technologist you are the operator that runs this technology.)

## **Sport Science & Wellness Education**

### **5550: Physical Education**

The Department of Sport Science and Wellness Education offers the following undergraduate programs:

- Physical Education (Pre K-12)
- Athletic Training Education Program
- Exercise Science
- Sport Studies
- Licensure in Dance (Pre-K-12)

Students must earn a "C" or better in all Physical Education courses to be recommended for licensure.

### **5560: Outdoor Education**

Admission Suspended

### **5570: Health Education**

- Health Education with Licensure

### **5570: Community Health and Wellness Education**

- Community Health (Admission Suspended)

Students must earn a "C" or better in all Physical Education courses to be recommended for licensure.

# Williams Honors College (WHC)

## Admission

**Applicants are automatically considered for admission to the Williams Honors College once they have completed an application to The University of Akron.**

To be admitted to the Williams Honors College, a student must be enrolled as a full-time student in a bachelor's degree program. A student may be admitted to the Williams Honors College upon graduation from high school, upon transfer from another college or university, or as a continuing student at The University of Akron.

Admission to the Williams Honors College will be offered to applicants entering from high school who provide evidence of the following:

- High school grade-point average of 3.75 or above and an ACT score of 25 or 26
- High school grade-point average of 3.5 or above and either an ACT score of 27 or above or SAT ranking in the highest 10 percent nationally

Other applicants, whether transfer students or continuing undergraduates, must satisfy the following:

- Grade-point average of 3.6 or above
- Completed fewer than 64 credits of college coursework

## Honors Curriculum

### Academic Majors

A Williams Honors College student completes the requirements for a major in one of the colleges awarding bachelor's degrees. The student enrolls in honors classes, whenever those are available. The Honors Research Project counts as advanced coursework.

### Honors Distribution

In place of The University of Akron General Education requirements (except for physical education), a Williams Honors College student completes an individually selected set of courses to meet the Honors Distribution. The Honors Distribution consists of the following four group requirements totaling at least 38 credits:

#### Group I (The Humanities)

Six or more credits in courses offered by these departments:

- 2040: Black Experience
- 3001: Women's Studies
- 3002: Pan-African Studies
- 3200: Classical Studies
- 3240: Archaeology (depending on the course)
- 3400: World Civilizations
- 3400: Humanities in the Western Tradition
- 3400: History
- 3220: Latin
- 3600: Philosophy

#### Group II (Languages and the Arts)

Six credits of English Composition (Honors) and/or other English; and three or more credits from the other departments listed below:

- 2020:222 Tech Rep Writing (with certain restrictions)
- 3300: English
- 3500: Arabic
- 3500: Chinese
- 3500: Japanese
- 3520: French
- 3530: German
- 3550: Italian
- 3570: Russian
- 3580: Spanish
- 7100: Art
- 7500: Music

- 7520: Applied Music Lessons
- 7600: Communication
- 7700: Sign Language
- 7800: Theatre
- 7900: Dance

### **Group III (The Social Sciences)**

Six or more credits in courses offered by the departments below:

- 2040: Human Relations
- 2040: American Urban Society
- 2040: Diversity in American Society
- 3006: Institute for Life-Span/Gerontology
- 3230: Anthropology
- 3240: Archaeology
- 3250: Economics
- 3350: Geography and Planning
- 3700: Political Science
- 3750: Psychology
- 3850: Sociology

### **Group IV (The Natural Sciences and Mathematics)**

Three or more credits in mathematics, computer science, or statistics; and six or more credits of science courses, including a lab:

- 3100: Biology
- 3150: Chemistry
- 3230:151: Human Evolution
- 3370: Geology
- 3450: Mathematics (135 or higher)
- 3460: Computer Science
- 3470: Statistics
- 3650: Physics

No group can be totally fulfilled with advanced placement, bypassed, or other alternate credit options. Students should select an honors section of a course if an honors section is offered. Suggested courses and special cases are noted on the Williams Honors College web page.

### **Honors Colloquia**

All Williams Honors College students participate in the Honors Colloquium series: Humanities, social sciences, and natural sciences. These one-semester, two-credit courses are interdisciplinary seminars open only to Williams Honors College students.

- 1870:250 Honors Colloquium: Humanities
- 1870:360 Honors Colloquium: Social Sciences
- 1870:470 Honors Colloquium: Natural Sciences

### **Honors Research Project**

Williams Honors College students are required to complete an Honors Research Project. This capstone of the honors student's academic and pre-professional studies begins with a choice of faculty adviser and submission of a proposal in the junior year. Students work intensively, with the guidance of a faculty sponsor, on a thesis, investigation, production, or problem of the student's choice. In designing, completing, and reporting on their Honors Research Projects. The students have unique opportunities to apply their learning and test their abilities. Students should register for Honors Research Project course credit, totaling at least two credits, in their major department.

### **Other Features**

#### **Scholarships**

Students admitted to the Williams Honors College are eligible for academic scholarships awarded by the Office of Admissions, ranging from \$500 to the Lisle M. Buckingham/Orr Prestigious Scholarships, which provide tuition and general fees, room and board, for up to eight semesters.

#### **Advising**

An Honors Faculty Adviser is available to advise Williams Honors College students in each academic department. With this Honors Faculty Adviser's guidance, the student plans the Honors Distribution and schedules what is needed to meet departmental, college, and Williams Honors College degree requirements. Professional Honors advisers are also available in the Williams Honors College office to assist with general academic advisement issues, personal and career counseling.

**Priority in Registration and Residence Assignment**

Williams Honors College students are among the first students to register for classes each semester. In addition, new Williams Honors College students have priority in residence hall assignments and exclusive access to the Honors complex, which also houses the Williams Honors College offices, computer facilities, seminar, individual and group study rooms, and meeting spaces for the use of commuting WHC students.

**Access to Graduate Courses**

With the permission of the WHC Faculty Adviser and the graduate program instructor, a Williams Honors scholar may enroll in graduate courses for either undergraduate credit or up to 12 credits of graduate credit.

**The Honors Advisory Council**

Consisting of faculty representing the colleges granting the bachelor's degree, two WHC students, the Director of Admissions, the Director of Student Financial Aid, and the Dean of the Williams Honors College, the Honors Council is responsible for all decisions on admissions to the Honors College, the awarding of Honors College scholarships, the approval of each student's Honors Distribution and Honors Research Project, and the definition of policies and procedures appropriate to the mission of the WHC.

# College of Applied Science & Technology

## Cooperative Education

Minimum requirements for cooperative education students include the following:

- Enrollment in a program of study offered by College of Applied Science and Technology wherein cooperative education has been established
- Minimum grade-point average of 2.00 for all University of Akron coursework and a minimum of 2.00 for all coursework applicable to the program of study
- Completion of specific courses and/or credits for a particular program as approved by the college faculty

## ► [Programs of Instruction](#)

# College of Applied Science and Technology Programs of Instruction

Learn more about the programs of instruction offered by College of Applied Science and Technology. For specific curriculum guides for associate and bachelor's degrees, minors and certificates offered through the College, see the [Undergraduate Curriculum Guides](#) section of the Undergraduate Bulletin.

## Baccalaureate Degree Programs of Instruction

### **Computer Information Systems, Networking Option (Step-Up)**

Baccalaureate level graduates have learned business computer and network applications and practices consistent with the requirements of the modern information technology professional. This program emphasizes the knowledge and applied skills necessary to succeed in today's environment.

The networking option allows students to attain an in-depth study of network management including building, securing, managing, and troubleshooting multimedia wired and wireless LAN and WAN networks.

Students entering the Computer Information Systems program must demonstrate a fundamental knowledge of computers by examination or take the necessary courses prior to enrolling in the program.

### **Computer Information Systems, Specialized IT Applications Option**

The bachelor of science in Computer Information Systems, Specialized IT Applications Option is designed to prepare an individual to manage a technical lab environment in a specific field of study, such as health care or manufacturing. The student learns equipment repair, maintenance and management techniques, as well as deploying a networked set of equipment specific to the application field of study.

### **Computer Information Systems, Programming Option (Step-Up)**

The bachelor of science in Computer Information Systems, Programming option allows students to attain an in-depth study of effective business application development, client/server database application development, and database management.

### **Computer Information Systems, Web Development Option (Step-Up)**

The bachelor of science in Computer Information Systems, Web Development option allows students to attain an in-depth study of effective web design and management, web application development, and database management.

### **Computer Information Systems, Digital Forensics**

Students in the program will acquire the skills and knowledge that are needed by the digital forensics professional. This program requires students to study and master network security, intrusion detection, infrastructure protection, cyber attacks, cryptography, and the collection, preservation, examination, analysis, documentation, and presentation of digital artifacts.

## **Emergency Management and Homeland Security (Step-Up) Degree Programs Full Four Year and Step-up**

### **Bachelor of Science in Emergency Management and Homeland Security**

Emergency Management and Homeland Security studies events or threats such as natural disasters, terrorist incidents, and technological hazards. Students will acquire specialized knowledge in disaster management through prevention/mitigation, preparedness, response, and recovery actions utilizing an All-Hazards focused approach. This dynamic discipline prepares graduates for careers in the governmental, corporate, public health, and nonprofit sectors. Emergency Management and Homeland Security can be a career that makes a difference in people's lives.

The program offers a Bachelor of Science degree along with a minor and certificate which is accredited by the International Fire Service Accreditation Congress (IFSAC). Students can step-up from responder related Associates Degrees such as criminal justice or fire protection. Students can also choose to follow a traditional college program with little or no bridgework.

All university general education requirements must be completed as outlined in this Bulletin.

This program is accredited by International Fire Service Accreditation Congress (IFSAC) Oklahoma State University, 1700 West Tyler Stillwater, OK 74078-8075; Phone: (405) 744-8802; [www.ifsac.org](http://www.ifsac.org).

### **Bachelor of Organizational Supervision (Step-Up)**

The degree builds on the skills and knowledge acquired at the associate degree level. The baccalaureate program provides graduates with advanced supervisory and leadership competencies critical for professional career advancement.

## **Engineering and Science Technology (Step-Up)**

The baccalaureate-level programs in Engineering Technology are intended to fill the widening gap in industry between the professional engineer and the engineering technician. The graduate of these programs works in close support of engineers, translating conceptual ideas into functioning systems and providing supervisory direction for the implementation of these ideas by technicians and craftspeople.

These programs are designed as transfer programs to permit the qualified engineering technology student to continue education to the baccalaureate degree. During the first and second years of full-time study, a student follows an associate degree program in the corresponding engineering technology. The third and fourth years of full-time study provide the additional study required for the baccalaureate degree. Emphasis is placed on advanced training in the student's field of specialization, broadened knowledge of related technical fields, extended general education, and basic management training.

Programs are available in automated manufacturing engineering technology, electronic engineering technology, mechanical engineering technology, surveying and mapping, and construction engineering technology. It is intended that a graduate will find employment in manufacturing, technical sales and service, application engineering, inspection and testing and the more standardized aspects of engineering design.

### **Bachelor of Science in Automated Manufacturing Engineering Technology**

The Bachelor of Science in Automated Manufacturing Engineering Technology is an upper-level degree program designed to provide the student with additional education beyond an AAS degree. A Manufacturing Engineering Technology associate degree program serves as the first two years. Although an associate manufacturing program is cited, graduates from other related associate programs can frequently enter the program with little or no bridgework.

### **Bachelor of Science in Electronic Engineering Technology**

Accredited by the Engineering Technology Accreditation Commission of [ABET](#).

Graduates of the Electronic Engineering Technology program will work with engineers in developing, manufacturing, testing and servicing Electrical/Electronic components, equipment and systems.

### **Bachelor of Science in Mechanical Engineering Technology**

Accredited by the Engineering Technology Accreditation Commission of [ABET](#).

This program prepares individuals to work as Technologists in applying specific principles to the analysis, design, development, implementation, or oversight of advanced mechanical systems or processes.

### **Bachelor of Science in Construction Engineering Technology**

Accredited by the Engineering Technology Accreditation Commission of [ABET](#).

The B.S. in Construction Engineering Technology degree program is a three year, upper level degree program designed to provide the student with additional education beyond the AAS degree in Construction Engineering Technology. This degree is also designed to meet the formal education requirements for registration as a Professional Engineer in the State of Ohio. This upper degree program is defined as follows: The first two years are completed as an AAS degree in Construction Engineering Technology or similarly based program. Two of the remaining three years are for the completion of prescribed course work. The remaining year of the three years is devoted to a cooperative work experience in the construction field. The student normally enters the co-op segment between the junior and senior years.

The B.S. in Construction Engineering Technology degree program includes classroom, laboratory, and industry experiences which prepare students for careers in the construction industry and other allied industries.

### **Bachelor of Science in Surveying and Mapping**

Accredited by the Applied Science Technology Accreditation Commission of [ABET](#).

The Bachelor of Science in Surveying and Mapping is an upper level degree program designed to meet the formal education requirements for registration as a Professional Surveyor (P.S.) in the State of Ohio. The first two years are completed as an Associate of Applied Science (A.A.S.) degree in Land Surveying or a program that has similar content. Two of the three remaining years are for the completion of courses for the degree. The remaining year is devoted to cooperative work experience.

## **Associate Degree Programs of Instruction**

Specialized technical programs are offered in the following departments of the college:

- Engineering and Science Technology
- Applied General and Technical Studies
- Public Service Technology
- Business and Information Technology

These programs lead to the Associate in Applied Science, Associate in Applied Business (carrying a designation of the specific program), and Associate of Technical Study. In addition, programs in liberal arts leading to the Associate of Arts and Associate of Science is offered in the Department of Applied General and Technical Studies.

### **Requirements for Graduation**

Candidates for the associate degree must:

- Complete the required courses listed in the program
- Complete as a minimum, the number of credits listed for each program
- Earn a minimum grade-point average of 2.00 at The University of Akron
- Be recommended by the faculty
- Earn a minimum of 16 credits and spend the last semester in residence at the University unless excused by the dean of the college
- Complete other University requirements
- A student who expects to receive a second associate degree must earn a minimum of 16 credits in residence which have not counted toward the student's first degree

## **Applied General and Technical Studies**

### **202000: Associate of Arts**

The Associate of Arts degree cultivates in students the habit of life-long learning through a diverse curriculum and teaches students to think critically and creatively about their perceptions of ideas, events and people. This degree is designed to position the student for successful employment, career advancement or more focused study at the baccalaureate level.

### **202005: Associate of Science**

The Associate of Science degree teaches students to think critically and creatively about their perceptions of ideas, events and people. This degree is for students who would like to pursue a science based degree. Core curriculum emphasizes mathematics and science, but also includes English, history, and social studies, while learning fundamental skills in analysis, research, composition and reading comprehension. This is a science intensive degree designed to position the student for successful employment, career advancement, or more focused study in STEM (science, technology, engineering and mathematics) fields at the baccalaureate level.

### **230000ATS: Associate of Technical Studies**

The Associate of Technical Studies (ATS) program is available for adult students whose educational objectives and interests cannot be met through one of the formal associate degree programs.

This program enables students to combine certifications (institutional, state, national) earned through an educational entity or a place of employment, with general education courses to meet the associate degree requirements.

## **Business and Information Technology**

### **2280: Hospitality Management**

Provides the general knowledge and skills necessary for success within the multi-faceted hospitality industry.

Students wishing to enter the Hospitality Management program must pass department placement test, successfully complete bridge course, or gain permission from program director

### **2420: Business Management Technology**

This program provides comprehensive training in varied business activities which prepare for beginning management or supervisory-level positions in business, industry or self-employed management.

### **2440: Computer Information Systems**

This program prepares graduates to enter the job market as Information Technology (IT) professionals. Emphasis of the curriculum is on providing graduates with the skills and knowledge to solve computer-related business problems.

### **2520: Marketing and Sales Technology**

This program equips graduates to fill entry-level positions in distributed business areas including retailing, industrial distribution, and fashion.

## **Engineering and Science Technology**

The Department of Engineering & Science Technology (E&ST) offers market-driven, applied degrees (associate and bachelor) and certificates. E&ST faculty expertise (discipline education and real-world work experience) is a key component to our program success and facilitate the effective, experiential learning brought to our students. Strategic partnerships within the region help ensure student success and job placement. The majority of our programs are ABET accredited, ensuring program quality and continuous improvement. E&ST students have various



learning opportunities outside of the classroom including co-ops, service-learning and professional student organizations. Program courses are offered during the day and evenings in formats that include online, hybrid, and flipped.

### **2860: Electronic Engineering Technology**

Accredited by the Engineering Technology Accreditation Commission of [ABET](#).

This program prepares individuals for work as technicians in developing, manufacturing, installing, testing and maintaining electronic equipment and systems.

### **2880: Manufacturing Engineering Technology**

Through the study of basic technical subjects and through concentration on work measurement, manufacturing computer applications, quality control, robotics, manufacturing work cells, and MRPII, this program educates the student in the areas of analysis, design and management of the resources, facilities and people involved in modern manufacturing.

### **2920: Mechanical Engineering Technology**

Accredited by the Engineering Technology Accreditation Commission of [ABET](#).

This program prepares individuals to work as technicians in developing, designing, manufacturing, testing and servicing mechanical equipment and systems.

### **2980: Land Surveying**

Formerly known as Surveying Engineering Technology and accredited by the Applied Science Technology Accreditation Commission of [ABET](#).

The Associate of Applied Science in Land Surveying degree program is designed to prepare students for employment as a surveying and mapping technician, working under the direct supervision of a registered professional surveyor. The program provides a foundation in mathematics, natural science, and communication skills as well as the surveying skills necessary to become a Certified Surveying Technician (CST) under the National Society of Professional surveyors (NSPS) testing program. Upon completion of the AAS in Land Surveying, a student may proceed to the Surveying and Mapping Bachelor of Science degree.

### **2985: Geographic and Land Information Systems (GIS/LIS)**

Accredited by the Applied Science Technology Accreditation Commission of [ABET](#).

This program prepares graduates to enter the job market as GIS/LIS technicians for business and industry. Emphasis of the curriculum is on understanding digital geographic data, software applications in solving geographic problems, and graphic communication techniques.

### **2990: Construction Engineering Technology**

Accredited by the Engineering Technology Accreditation Commission of [ABET](#).

Students in the AAS CET program are prepared to work in the field of construction engineering technology using knowledge of construction methods, business operations, and management skills to support construction projects. They work on residential and commercial buildings, bridges, roads, dams, wastewater treatment systems, or other similar projects. Common jobs assumed by graduates of this program include but are not limited to: engineering technician, construction coordinator, cost estimator, scheduler, field engineer and assistant project engineer.

## **Disaster Science and Emergency Services**

### **2230: Fire Protection Technology**

This program prepares persons to serve governmental, industrial and other fire protection agencies in fire fighting and prevention, property protection and in handling emergency situations.

### **2240: Emergency Medical Services Technology**

This program is for Certified National Registry Emergency Medical Technician-Paramedics seeking to better understand social values and to develop technical knowledge and skills.

# Wayne College

## Admissions

Admission materials can be obtained by writing the Admissions Office at Wayne College or the Office of Admissions of The University of Akron, or by calling (330) 683-2010 in the Orrville/Wooster area, or 1-800-221-8308 in Ohio.

The student enrolled at Wayne College may also take courses at the main campus of The University of Akron while attending Wayne College. Likewise, a student enrolled on the main campus may take courses at Wayne College. The University of Akron Wayne College is accredited at the associate degree level by the Higher Learning Commission of the North Central Association.

## ► [Programs of Instruction](#)

# Wayne College Programs of Instruction

The following associate degree programs are available at Wayne College. The structure of these programs may differ from similar programs within the College of Applied Science and Technology of The University of Akron. All required courses for these programs are available at the college for students attending day or evening classes. A diploma issued as a result of the completion of one of these programs carries The University of Akron Wayne College designation. In some instances, specific course sequencing is necessary, especially for the student attending full time, to accommodate completion of the program in two years. Please consult an advisor at Wayne College for further details.

For specific curriculum guides for associate degrees, minors and certificates offered through the College, see the [Undergraduate Curriculum Guides](#) section of the Undergraduate Bulletin. For information on Wayne College General Education/Transfer Program, visit the [General Education](#) section of the Undergraduate Bulletin.

## [Associate Studies](#)

### **Associate of Technical Studies**

The Associate of Technical Studies (ATS) provides an integrated program of study for those students whose educational objectives and interests cannot be met through the college's formal associate degree programs. The Associate of Technical Studies permits students to combine various courses from two or more of the college's existing programs with other University credits, with credits earned at other postsecondary institutions, and/or with training received through other educational enterprises.

The Associate of Technical Studies is administered through the Office of the Dean and coordinated by the Associate Dean of Instruction. Interested students must complete a formal Associate of Technical Studies application. Upon application, the Associate Dean of Instruction makes an initial assessment of any transfer work and assists the applicant in selecting relevant areas of study. The application is then forwarded for review by the faculty most closely associated with the proposed area of study. Upon faculty acceptance, the application is submitted to the Associate of Technical Studies Committee who, upon approval, forwards the application to the dean of Wayne College for final approval.

### **2020: Associate of Arts/Associate of Science**

The Associate of Arts and Associate of Science degree programs are intended to help individuals understand effective social behavior and appreciate scientific fact and human values. The programs are designed to impart specific skills essential to effective adult functioning. These include the abilities to write and speak effectively, to calculate, and to think constructively and critically. The programs also provide a broad foundation of general knowledge about the physical and social universe as preparation for advanced baccalaureate study.

Most recipients of the Associate of Arts and the Associate of Science degrees transfer to bachelor's degree-granting institutions to complete their intellectual, professional, and cultural goals. The Associate of Arts and the Associate of Science degrees meet the general education requirements for most baccalaureate degree programs at The University of Akron and other colleges and universities throughout the country.

Completing the Associate of Arts or the Associate of Science degree also fulfills the Transfer Module as outlined by the Ohio Board of Regents.

## [Business and Office Technology](#)

### **2420: Business Management Technology**

The Accounting Option provides training for a variety of accounting positions. Graduates will be prepared for immediate employment in the areas of financial and managerial accounting, sales, procurement, credit and collections, business research, data compilation and reporting.

Students entering the program must demonstrate a fundamental knowledge of computer software and keyboarding by examination (CISBR) or take the bridge courses prior to enrolling in the program. See an advisor for details.

### **General Business Option**

The General Option provides training in varied business activities in preparation for an entry-level management position in business, industry, government, nonprofit organizations or as a self-employed manager. Students wishing to enter the program must demonstrate a fundamental knowledge of computer software by examination (CISBR) or take the bridge courses prior to enrolling in the program. See an advisor for details.

### **Accounting Option**

The Accounting Option provides paraprofessional training for a variety of accounting positions. Graduates will be prepared for immediate employment in the areas of financial and managerial accounting, sales, procurement, credit and collections, business research, data compilation and reporting.

### **2530: Health Care Office Management**

The Health Care Office Management program is designed to meet the needs of current health care office employees and others to develop skills to prepare for technical, supervisory, or management positions in the health care field. Graduates will be trained for the daily operation and management of the health care practice. The responsibilities include all administrative, financial, human resources, clerical and supply functions, with a special emphasis on medical coding, insurance billing, and financial analysis.

## **Sport Science and Wellness Education**

### **2670: Exercise Science Technology**

The Exercise Science Technology program prepares graduates for paraprofessional positions in fitness and wellness settings. Graduates are trained to instruct and coach both groups and individuals in various exercise activities. They assist clients in assessing physical fitness levels and they help clients in setting and reaching fitness goals. Graduates are prepared to enter careers as fitness trainers, wellness coaches, or other health and fitness paraprofessional positions, or to continue their education towards a bachelor's degree in areas including exercise science, sports science or pre-physical therapy.

This associate degree articulates with the following baccalaureate degrees in the Department of Sport Science and Wellness Education: 5552:10 Physiological Sciences; 5552:11 Sport Coaching/Strength and Conditioning; 5552:13 Pre-Physical Therapy; 5552:14 Sport Management.

## **Paraprofessional Education**

### **2650: Paraprofessional Education – Early Childhood**

The Associate of Applied Science degree in Paraprofessional Education—Early Childhood is designed for individuals who want to serve children ages 3 to grade three. Students study theories of child development, developmentally appropriate practices to serve young children, and the importance of collaborative skills to work with parents and a variety of service providers. Students also develop the skills necessary for placement into early childhood settings as teacher assistants. The program serves as a pathway to the bachelor's degree program for students interested in obtaining licensure as an early childhood educator.

### **2650: Paraprofessional Education – Intervention Specialist**

The Associate of Applied Science degree in Paraprofessional Education — Intervention Specialist is designed for individuals who want to serve students with disabilities in a variety of educational settings. You will study how children learn and develop; how to support students with diverse learning needs within their school settings; how to effectively collaborate with teachers and other related service personnel; and the historical foundations for special education programs.

The program serves as a pathway to the Bachelor's degree program for students interested in obtaining licensure as an Intervention Specialist. The goal of the Paraprofessional Education program at Wayne College is to create a cadre of paraprofessionals who will serve the diverse needs of students in the educational community. These educational paraprofessionals will be trained to perform the following activities within their roles in educational programs — provide instructional support to individuals and small groups of students, implement behavior plans, collaborate with teachers to ensure educational programming is consistent across settings and personnel, assist teachers with technology integration for students, collect data on students and educational practices, and provide personal care assistance.

# 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 Living

[www.uakron.edu/offcampus](http://www.uakron.edu/offcampus)

Phone: (330) 972-8305

Email: [ocss@uakron.edu](mailto:ocss@uakron.edu)

Off-Campus Living is a resource center dedicated to helping commuter and off-campus students. It is located in the first floor lobby of Simmons Hall at the front ZipAssist information desk. Students may stop in for resources and assistance about various issues including off-campus housing, landlord questions, and more.

## Student Recreation and Wellness Services

[www.uakron.edu/rec](http://www.uakron.edu/rec)

Phone: 330-972-2348

Fax: 330-972-6715

With Student Recreation and 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 6) Informal Recreation. SRWS are comprised of the following 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, rock climbing wall and adventure equipment rental.
- Ocacek Natatorium (ONAT): Amenities include an Olympic-size swimming pool, racquetball courts and wallyball courts.
- Central Hower South Gym: This gym provides opportunities for informal (drop in) recreation, Intramural Sports, and Club Sports practice and competition.
- Buchtel Field: This grass field located on the corner of Brown St. and Wheeler St. provides outdoor recreation space for students, faculty, and staff.

## Residence Life and Housing

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

Phone - 330-972-7800

Email - [reslife@uakron.edu](mailto: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 10 on-campus residence hall facilities accommodating approximately 2,800 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)
- Permanent home residence of parents or legal guardians who reside outside Medina, Portage, Stark, Summit, or Wayne countries AND such residence is 25 miles or fewer from main campus (proof of residence is 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 and Testing 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](http://www.uakron.edu/advising)

## Inter-college Transfer (ICT)

[www.uakron.edu/advising/how-do-i/ict](http://www.uakron.edu/advising/how-do-i/ict)

## Career Center

[www.uakron.edu/career](http://www.uakron.edu/career)

Phone – 330-972-7747

Email – [career@uakron.edu](mailto: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 and Testing Center

[www.uakron.edu/counseling](http://www.uakron.edu/counseling)

Phone – 330-972-7082

The Counseling and Testing Center provides comprehensive, culturally competent 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](http://www.uakron.edu/access)

Phone – 330-972-7928

TDD: 330-972-5764

E-mail: [access@uakron.edu](mailto: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](http://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](http://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 College of Applied Sciences and Technology Advising
- **Polsky Math Lab:** The [Polsky Math Lab](#) provides one-on-one assistance to students having difficulty in basic math courses, College of Applied Sciences and Technology 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](http://www.uakron.edu/admissions)

Phone – 800-655-4884

Email – [admissions@uakron.edu](mailto:admissions@uakron.edu)

#### **New Student Orientation**

[www.uakron.edu/nso](http://www.uakron.edu/nso)

Phone – 330-972-2622

Email – [orientation@uakron.edu](mailto:orientation@uakron.edu)

#### **Bursar**

[www.uakron.edu/student-accounts](http://www.uakron.edu/student-accounts)

Phone – 330-972-5100

Email – [cashier@uakron.edu](mailto:cashier@uakron.edu)

#### **Office of Financial Aid**

[www.uakron.edu/finaid](http://www.uakron.edu/finaid)

Phone – 800-621-3847

Email – [finaid@uakron.edu](mailto:finaid@uakron.edu)

#### **Information Technology Services**

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

Phone – 330-972-6888

# Additional Academic Programs and Services

- [Study Abroad](#)
- [Learning & Living-Learning Communities](#)
- [Academic Achievement Programs](#)
- [Officer Training Programs \(ROTC\)](#)
- [Office of Multicultural Development](#)
- [Adult Focus](#)
- [UA Solutions](#)
- [Additional Locations](#)
- [University Partnership Program](#)

## Study Abroad

<http://www.uakron.edu/study-abroad>

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. Study Abroad is an excellent opportunity to develop those skills, as well as enhance one's academic background and grow personally. The Study Abroad office of 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 study 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 a Study Abroad advisor as well as attend the Study Abroad Festival held in September.

## Learning Communities/Living-Learning Communities

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

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

Academic Achievement Programs is dedicated to the mission of preparing Akron middle and high school students for greater access and success in higher education. Systematic academic, social and cultural experiences are provided through five distinct programs during the academic year, along with a six week summer enrichment component. These experiences expand and enhance their academic instruction and adds value to the overall development of students. Activities are intended to empower students to make better decisions at home, in school and in personal relationships, which will help 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](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.

## UA Solutions

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

UA Solutions is a full service consulting firm operating from The University of Akron. We exist as a liaison between the immense collection of resources within the University, and our region's corporations of all sizes and industries. Our value, both to the University and to our clients, is a powerful and customizable solution-based service that identifies development opportunities and produces programs and solutions that can only come from the expertise of The University of Akron.

UA Solutions 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.

UA Solutions 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	\$45
Entering postbaccalaureate or graduate	\$45
Transient students (first enrollment only)	\$45
International Students (non-refundable)	\$60

### 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>	\$145
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)	\$30/term
Late Payment Fees (charged to students who have not paid for tuition and mandatory fees by the invoice due date)	\$100
Co-op Course Fee	\$55
Alternative Credit Fees	
Bypassed Credit, per credit	\$5
CLEP, per test	\$25 (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	\$28.50/credit hour up to a maximum of 12 credit hours
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### General Service Fee

Akron Campus & College of Applied Science and Technology pursuing a bachelor's degree	\$35.70/credit hour up to a maximum of 12 credit hours
Akron Campus pursuing an associate's degree in College of Applied Science and Technology	\$27.60/credit hour up to a maximum of 12 credit hours
Medina County University/Center Wayne College	\$7.34/credit hour up to a maximum of 12 credit hours

## Registration and Other Related Fees

### Technology Fee

Academic Level: 0-95.5 Credits  
96 Credits or More

\$13.20/credit hour  
Exempt

## 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

### Career Services

Registration Fee for alumni and reciprocity (covers 12-month cost of employer referrals) \$45

### 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

### Counseling, Testing and Career Center

Cognitive Functioning and Academic Achievement Tests \$55

Learning Disability Battery \$100

ACT Residual Test \$45

ACT Residual Test Standby (\$20 plus \$40 ACT fee) \$65

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 >>](#)

# Fees and Expenses continued

[Go back>>](#)

## Dance Institute Fees

[Click here to view Dance Institute Fees](#)

### Developmental Support Fees

Charged to all students enrolled in Developmental courses \$12.50/credit hour

### Engineering Infrastructure Fee – All Engineering Courses

Infrastructure Fee – all engineering courses \$26/credit hour

### English Language Institute

Late Registration \$50  
Application fee \$50  
Materials fee, per level, per semester/8-week session \$50/40

### Health Services

Allergy injections \$6  
Immunizations \$24-\$61  
Laboratory Tests (avg. costs for most common tests) \$6-\$196  
Prescribed Medications/Treatments \$3.60-\$43.20  
Visit fee \$15

### ID Fees

ZipCard Replacement \$20

### Insufficient Funds Fees

"Insufficient Funds" or returned check charge and VISA/Mastercard returns for Insufficient Funds \$25

### International Programs

Archive document search \$50  
International Student/Teacher Identity Cards \$22  
Processing Post-Completion OPT \$35  
Replace Lost Immigration Form \$50  
Guest Travel Abroad Participant Fee \$300  
Request to retain Int'l Undergraduate Application \$60  
J-1 Visiting Scholar Processing Fee \$150

### Liability Fees

Liability Insurance Fee, Student Nursing \$15  
Liability Insurance Fee, Allied Health Technology/Surgeon's Assistant \$61.50  
Liability Insurance Fee, Allied Health Technology/Other than Surgeon's Assistant \$15

### Library Fees (Bierce, Auburn Science and Wayne)

Library Fee (excluding seniors, Law School and Wayne College students); College of Applied Science and Technology associate students 0-95.5 credit hours \$4/credit hour; \$3/credit hour  
Photocopies and printing charges \$.07/page

### Overdue Materials

UA students, undergraduate (\$20 maximum) .10/day  
Non-University borrowers (\$20 maximum) .25/day  
Replacement Cost plus \$20 surcharge  
Fines for recalled materials \$1/day  
Fines for hourly reserve materials \$2/hour (\$50 max.)  
Fines for daily reserve materials \$2/hour (\$50 max.)  
Fines for OhioLINK loans \$.50/day (\$50 max.)  
Fines for laptop computer late fee \$10/hour (\$100 max.)

### Archival Services

Photograph for personal use \$5 + costs  
Photograph for commercial use \$75 + costs  
Research time by assistant (min. 2 hrs) \$20/hour  
Photocopying time by assistant (min. 2 hrs) \$15/hour + copies  
Photocopies \$.25/copy + postage  
Film footage for commercial use (price varies) \$45/second

### Dance Institute Fees

**Research Service** (1-hour minimum charged)  
 UA students, faculty and staff  
 Research fee (charged in 15 min. increments)

At cost  
 \$90/hour

### Nutrition Center

Minimum Fee \$5

Initial Comprehensive Nutrition Assessment

\$80

Individual 50-minute session

\$50

Additional quarter session

\$12.50

Additional half session

\$25

Follow-up Nutrition Session

\$25

Nutrition Screening

\$15

Computerized Nutrient Analysis

\$30/day

Group Sessions (per session, per member)

\$15

**Special Services:**

Indirect Calorimetry

\$75

Body Composition Testing (BIA, skinfold measurement)

\$15

Nutrition Education Presentation

\$120

Menu Planning Consultation

\$75

Computerized Menu Analysis (per hour)

\$75

Food Systems Management Consultation (per hour)

\$75

Sports Nutrition Testing & Consultation (per-hour)

\$80

Athletic Team Performance & Recovery Service

(Includes three 50-minute group sessions, three screening sessions and two on- or off-season education presentations):

Up to 20 athletes

\$2,000

21 or more athletes

\$100 each additional athlete

Nutrition Education/Instruction Materials

Acquisition cost x 1.5

*(A sliding scale or the Health & Human Services guideline on poverty will be used if the client has no insurance and if the family income and the number of dependents indicate there is a need.)*

### Off-Campus Student Services

Locker Rental Fee per semester

\$25

Damaged or Lost Equipment Fee

Cost + 10%

### Student Conduct and Community Standards

Administrative Fees

Finding of Responsibility:

Agreement reached during Fact Finding

\$50

Agreement reached through Hearing Board Process

\$75

**Disciplinary Fines**

Restitution for lost/stolen/damaged while in possession (max)

Cost plus 20%

Substance Abuse Violations:

Alcohol use/possession/distribution

1st, 2nd, 3rd offense

\$50, \$100, \$150

Drug/controlled substance use/possession

1st, 2nd, 3rd offense

\$100, \$150, \$250

Serious Violations of the Code of Conduct

Violent/threatening behavior

\$150

Theft

\$150

Weapons

\$150

Drug sales/distribution, 1st offense

\$150

Other Fines:

Impose a fine on the student which corresponds to the nature of the violation, not to exceed the maximum value of \$250. For example, fines may be imposed for issues such as students who host or promote large parties or events that are no in compliance with Akron city regulation and/or result in negative consequence for the university community.

\$0-\$250

[Additional Fees Continued >>](#)

# Fees and Expenses continued

## Student Recreation and Wellness Services

Full details including the full list of membership and guest fees can be found at the [Student Recreation and Wellness Services](#) website

### University Police Department

Police Service Calls (for vehicle assistance)	\$10
Special Events Detail (3 hour minimum)	\$44/hour
Police Report – 1-5 pages	No Charge
6 or more pages	.05/page
Fingerprinting – Students, faculty and staff	\$5/card
All others	\$15/card
Photo	\$5
Web-based records check: BCI only/FBI only/BCI and FBI	\$29/\$31/\$56

## [Parking and Transportation Fees](#)

Complete student transportation information and instructions and costs of obtaining a parking permit can be found on the Parking Services website.

Students and employees who desire a twenty-four hours per day, seven days per week parking privilege may apply for a permit and be assessed an optional parking permit fee for such privilege. The University may limit the locations that such permit shall be valid, and may limit the number of such permits that will be issued per year, per academic term, or other period. Qualified residence hall students will receive this parking privilege pursuant to the terms of their residence hall contract, without the necessity of paying an additional optional parking permit fee.

## Course Materials Fee Schedule

A course materials fee is assessed to cover the cost of instructional materials for some of The University's undergraduate courses.

- [2015-2016 Course Materials Fees](#)

## [Enrollment Cancellation](#)

An undergraduate student whose financial account shows an amount due after their assigned due dates risks having all or part of their registration for current and/or future terms cancelled; however, non-payment of fees does not guarantee enrollment cancellation. If a student enrolls in classes and then decides not to attend, it is still the student's responsibility to drop their classes to ensure the proper credit toward fees for the term, as defined by the current refund policy.

[How to drop a class](#)

## [Payment Plans and Options](#)

Payment plans are available to help those students who cannot pay the full charges for tuition, on-campus housing and/or the meal plan at the start of the semester. To read more and sign up, visit the Payment options portion of the Office of Student Accounts website.

## [Student Health and Accident Insurance](#)

All registered students taking six or more credit hours, doctoral students, ELI students and other special academic program students are eligible to enroll in a student health insurance plan offered by the Leonard Insurance Company on behalf of the University. All registered international students taking credit hours are required to purchase this insurance plan unless proof of comparable coverage is furnished. Visit the Student Health Insurance page located within the Student Health Services website.

## [Veterans Information](#)

Full veteran information can be found at the Military Services Center website. The mission of the Center is to provide comprehensive enrollment and referral services to veterans and their families, making the transition to The University of Akron as smooth as possible.

## [Regulations Regarding Refunds](#)

The Office of Student Accounts helps students and parents by addressing questions and concerns about refunds if needed. Complete details are located on that website.

## Residence Hall Refunds



## Refund/Release and Forfeiture Policy

A contract for housing accommodations at The University of Akron upon being breached by the student or otherwise terminated by The University of Akron is subject to the following refund provisions:

A **full refund** of room fees and the Prepayment under the following circumstances:

- Graduation of the student from The University of Akron;
- Academic dismissal of the student from The University of Akron;
- Non-attendance or complete withdrawal by the student from The University of Akron prior to the start of the Contract term (except the advance rental payment of one hundred fifty dollars which shall be forfeited). The one hundred fifty dollar deposit be refunded for new entering students and new transfer students when notification of intent to break Contract is received prior to the fifteenth of May for the following fall semester; or
- In the event mandatory or recommended participation in academic programs of The University of Akron requires the student to commute regularly beyond the Akron metropolitan area (i.e., student teaching or co-op assignments)

A **partial refund** of paid room and board fees, except the Prepayment fee, once occupancy has been established (e.g., acceptance of room keys and/or signing occupancy document) will be prorated beginning on the date the student officially surrenders use of University housing and returns all appropriate keys (room and apartment keys) to University staff and satisfies University-mandated housing separation requirements and procedures under the following circumstances:

- Cancellation of the entire Contract term after the start of the fall semester and subsequent spring semester; or
- Cancellation of a single semester Contract after the start of that semester

A **partial refund** of paid room and board fees when the student has fulfilled fall semester obligations and breaches the Contract for spring semester, except when under any dismissal or suspension. The student shall pay, as administrative fee for breach of the terms of the Contract, an amount of \$200.00.

A student shall remain responsible for the full cost of the then-current residence hall Contract term if the University, in its sole discretion, terminates the contract:

- For reasons related to the orderly operation of the residence halls, or for reasons relating to the health, physical or emotional safety and well-being of the persons or property of students, faculty, staff or University property; or
- In the event that the student is dismissed or suspended from The University of Akron for disciplinary reasons in accordance with law or the rules and regulations of the Board of Trustees, or, if the student is suspended or placed on terms of disciplinary probation in accordance with law or the rules and regulations of the Board of Trustees, whereby such terms of probation prohibit the student from residing in University housing accommodations

Contract cancellations for a current semester received after the 12th week of that semester will be assessed the full semester fees.

The student is financially responsible for fees incurred through the date of such termination, dismissal, suspension or probation or until the student has completed the check-out process with the appropriate University employee, whichever date is later.

**Notice requirements.** All notices of intent to break this contract must be submitted in writing to the Department of Residence Life and Housing. If the student is under the age of eighteen years, the written notification of termination must be co-signed by the student's parent or legal guardian.

**No-Show Policy.** The University will hold a student's assignment until close of business on Wednesday of the first week of each semester. At that time the room will be reassigned, student's Contract will be cancelled and Prepayment will be forfeited, or cancellation fee incurred, whichever is applicable.

[Go back](#)

# Audiology and Speech Center Fees

Fee Description	Amount
Evaluation of Speech/Voice Device (per hour)	\$95.00
Modification of Speech/Voice Device (per hour)	\$70.00
Assistive Technology for Literacy: Assessment	\$130.00
Assistive Technology for Literacy: Intervention	\$70.00
Speech-Language and/or Hearing Screening	\$20.00
92506 Evaluation of Speech, Language, Voice, Communication, and/or Auditory Processing	\$125.00
Office Consultation (per hour)	\$80.00
92507 Treatment of Speech, Language, Voice, Communication, and/or Auditory Processing Disorder; Individual	\$70.00
92508 Treatment of Speech, Language, Voice, Communication and/or Auditory Processing Disorder; Group 2, or more (per hour)	\$35.00
92610 Evaluation of Oral and Pharyngeal Swallowing Function (per hour)	\$200.00
92526 Treatment of Swallowing Dysfunction and/or Oral Function for Feeding (per hour)	\$65.00
92601 Diagnostic Analysis of Cochlear Implant, Patient Younger Than 7 Years of Age; With Programming (per hour)	\$70.00
92602 Diagnostic Analysis of Cochlear Implant, Patient Younger than 7 Years of Age; with Subsequent Programming (per hour)	\$70.00
92603 Diagnostic Analysis of Cochlear Implant, Age 7 or Older; with Programming (per hour)	\$70.00
92604 Diagnostic Analysis of Cochlear Implant, Age 7 or Older; with Subsequent Programming (per hour)	\$70.00
96105 Assessment of Aphasia (Includes Assessment of Expressive and Receptive Speech and Language Function, Language Comprehension, Speech Productions Ability, Reading, Spelling, Writing, e.g. by Boston Diagnostic Aphasia Exam) with Interpretation and Report, per Hour	\$75.00
96110 Developmental (Screening), with Interpretation and Report (Per Standardized Instrument Form)	\$20.00
96111 Developmental Testing, (Includes Assessment of Motor, Language, Social, Adaptive, and/or Cognitive Functioning by Standardized Developmental Instruments) with Interpretation and Report	\$125.00
96125 Standardized Cognitive Performance Testing (e.g. Ross Information Processing Assessment) per Hour of a Qualified Health Care Professional's Time, Both Face to Face Time Administering Tests to the Patient and Time Interpreting These Test Results and Preparing the Report *Must Be Billed with "GN" Modifier	\$105.00
Modification of Speech/Voice Device (per hour)	\$70.00
97532 Development of Cognitive Skills to Improve Attention, Memory, Problem Solving (Includes Compensatory Training), Direct (One-on-One) Patient Contact by the Provider, Each 15 Minutes	\$15.00
92607 Evaluation for Prescription for Speech-Generating Augmentative and Alternative Communication Device, Face-to-Face with the Patient; First Hour	\$175.00
92608 Evaluation for Prescription for Speech-Generating Augmentative and Alternative Communication Device, Face-to-Face with the Patient; Each Additional 30 Minutes	\$75.00
92605 Evaluation for Prescription of Non-Speech Generating Augmentative and Alternative Communication Device, Face-to-Face with the Patient; First Hour	\$125.00
92618 Evaluation for Prescription of Non-Speech Generating Augmentative and Alternative Communication Device, Face-to-Face with the Patient; Each Additional 30 Minutes	\$80.00
92609 Therapeutic Service(s) for the Use of Speech-Generating Device, Including Programming and Modification	\$70.00
92606 Therapeutic Service(s) for the Use of Non-Speech Generating Device, Including Programming and Modification	\$70.00
Assistive Technology for Literacy: Assessment	\$130.00
Assistive Technology for Literacy: Intervention	\$70.00
92551 Screening Test, Pure Tone, Air Only	\$20.00
92552 Pure Tone Audiometry (Threshold); Air Only	\$20.00
92553 Pure Tone Audiometry Air & Bone	\$35.00
92556 Speech Audiometry Threshold; with Speech Recognition	\$35.00
92557 Comprehensive: Audiometry Threshold Evaluation and Speech and Speech Recognition (92553 and 92556 Combined)	\$70.00
92558 Evoked Otoacoustic Emissions, Screening (Qualitative Measurement of Distortion Product or Transient Evoked Otoacoustic Emissions), Automated Analysis	\$20.00
92626 Evaluation of Auditory Rehabilitation; First Hour	\$125.00
92627 Evaluation of Auditory Rehabilitation Status; Each Additional 15 Minutes	\$25.00
92630 Auditory Rehabilitation; Pre-Lingual Hearing Loss	\$65.00
92633 Auditory Rehabilitation; Post-Lingual Hearing Loss	\$70.00
92567 Tympanometry (Impedance Testing)	\$20.00
92550 Tympanometry and Reflex Threshold Measurements	\$30.00
92585 Auditory Evoked Potentials for Evoked Response Audiometry and/or Testing of the Central Nervous System; Comprehensive	\$125.00

Fee Description	Amount
92586 Auditory Evoked Potentials for Evoked Response Audiometry and/or Testing of the Central Nervous System; Limited	\$60.00
92587 (Distortion Product) Evoked Otoacoustic Emissions; Limited (Evaluation) (To Conform the Presence or Absence of Hearing Disorder, 3-6 Frequencies) (Or Transient Evoked Otoacoustic Emissions, with Interpretation and Report)	\$40.00
92588 (Distortion Product) Evoked Otoacoustic Emissions; Comprehensive or Diagnostic Evaluation (Quantitative Analysis of Outer Hair Cell Function by Cochlear Mapping, Minimum of 12 Frequencies) (with Interpretation and Report)	\$80.00
92563 Tone Decay Test	\$20.00
92565 Stenger Test, Pure Tone	\$20.00
92568 Acoustic Reflex Testing; Threshold	\$20.00
92577 Stenger Test, Speech	\$20.00
92570 Acoustic Immittance Testing Includes Tympanometry (Impedance Testing), Acoustic Reflex Threshold Testing, and Acoustic Reflex Decay Testing (Do Not Report 92570 in Conjunction with 92567, 92568)	\$40.00
Off-Site Consultation (per hour)	\$80.00
HEARING AID SERVICES	
97755 ALD Exam & Selection	\$70.00
92590 Hearing Aid Exam & Selection: Monaural	\$65.00
92591 Hearing Aid Exam & Selection: Binaural	\$65.00
92592 Hearing Aid Check: Monaural	\$30.00
92593 Hearing Aid Check: Binaural	\$30.00
V5014 Repair Aid - Hearing Aid Repair/Service: Out of Warranty	Cost x 1.5
V5014 Repair Aid - Hearing Aid Extended Warranty	Cost x 1.5
92594 Electroacoustic Analysis: Monaural	
92595 Electroacoustic Analysis: Binaural	
97703 Hearing Aid: Fit/Orientation/Check	
V5010 Hearing Aid Assessment	
V5020 Conformity Check/Real Ear Measurement	
Hearing Aids (Conventional)	*Acquisition Cost x 2.8
Hearing Aid Monaural V5060 BTE/ V5050 ITE/ V52343 ITC/ V5242 CIC	*Acquisition Cost x 2.8
Hearing Aid Binaural V5140 BTE/ V5130 ITE/ V5249 ITC/ V5248 CIC	*Acquisition Cost x 2.8
HA CROS V5170 ITE/ V5180 BTE	*Acquisition Cost x 2.8
HA BICROS V5210 ITE/ V5220 BTE	*Acquisition Cost x 2.8
Hearing Aids (Programmable)	*Acquisition Cost x 2.0
HA Prog. Analog Monaural V5247 BTE/ V5246 ITE/ V5245 ITC/ V5244 CIC	*Acquisition Cost x 2.0
HA Prog. Analog Binaural V5253 BTE/ V5252 ITE/ V5251 ITC/ V5250 CIC	*Acquisition Cost x 2.0
Hearing Aids (Digital Signal Processing)	*Acquisition Cost x 1.7
HA Digital Monaural V5257 BTE/ V5256 ITE/ V5255 ITC/ V5254 CIC	*Acquisition Cost x 1.7
HA Digital Binaural V5261 BTE/ V5260 ITE/ V5259 ITC/ V5258 CIC	*Acquisition Cost x 1.7
Assistive Listening Devices (ALDs)	Mfr. Sug. Retail Price
V5268 ALD Telephone Amplifier	Mfr. Sug. Retail Price
V5269 ALD Alerting	Mfr. Sug. Retail Price
V5270 ALD TV Amplifier	Mfr. Sug. Retail Price
V5272 ALD TDD	Mfr. Sug. Retail Price
V5273 ALD for US with CI	Mfr. Sug. Retail Price

Fee Description	Amount
V5275 Ear Impression	Mfr. Sug. Retail Price
V5299 Miscellaneous Service	Mfr. Sug. Retail Price
Miscellaneous	*Acquisition Cost x 2.0
V5090 Dispensing Fee Unspecified	\$200.00
V5160 Dispensing Fee HA Binaural	\$300.00
V5262 Disposable Hearing Aid	*Acquisition Cost x 2.0
V5264 Earmold Services (Swim Plugs or Earmolds)	*Acquisition Cost x 2.0
V5264 Earmold Services (Musician)	*Acquisition Cost x 1.5
V5265 Earmold Disposable Hearing Aid	*Acquisition Cost x 2.0
V5266 Batteries	* Acquisition Cost x 2.0
V5267 Hearing Aid Accessory	*Acquisition Cost x 2.0
Tinnitus Maskers	*Acquisition Cost x 2.0
Central Auditory Processing Educational Report	\$60.00
92620 Evaluation of Central Auditory Function, with Report; Initial 60 minutes	\$100.00
92621 - Each Additional 15 Minutes	\$20.00
92625 Assessment of Tinnitus (Including pitch, Loudness Matching and Masking) - (Do not report 92625 in Conjunction with 92562) (For Unilateral Assessment, Use Modifier 52)	\$65.00
Hyperacusis Evaluation	\$65.00
97112 Therapeutic Procedure, One or More Areas, Each 15 Minutes; Neuromuscular Reeducation of Movement, Balance, Coordination, Kinesthetic sense, Posture, and/or Proprioception for Sitting and/or Standing Activities - Vestibular Rehabilitation (per hour)	\$15.00
92540 Basic Vestibular Evaluation, Includes Spontaneous Nystagmus Test with Eccentric Gaze Fixation Nystagmus with Recording, Positional Nystagmus Test, Minimum of 4 Positions, with Recording, Optokinetic Nystagmus Test, Bidirectional Foveal and Peripheral Stimulation, with Recording, and Oscillating Tracking Test, with Recording. (Do Not Report 92540 in Conjunction with 92541, 92542, 92544 and 92545)	\$180.00
92541 Spontaneous Nystagmus Test, Including Gaze and Fixation Nystagmus, with Recordings - Spontaneous Nystagmous Test	\$45.00
92542 Positional Nystagmus Test, Minimum of 4 Positions, with Recording	\$65.00
Evaluation of Speech/Voice Device (per hour)	\$95.00
92543 Caloric Vestibular Test, Each Irrigation (Binaural, Bithermal Stimulation Constitutes four Tests), with Recording	\$12.00
92532 Positional Nystagmous Test	\$45.00
92543 Caloric Vestibular Test, Each Irrigation (Binaural, Bithermal Stimulation Constitutes four Tests), with Recording	\$12.00
92534 Optokinetic Nystagmous Test	\$45.00
92545 Oscillating Tracking Test, with Recording	\$45.00
92547 Use of Verical Electrodes (Used in Conjunction with 92541-92546) (For Unlisted Vestibular Tests, Use 92700)Use of Electrodes	\$45.00

\*Acquisition Cost refers to single-unit cost.

***A sliding scale, or the Health & Human Services guidelines on poverty, will be used if the client has no insurance and if the family income and the number of dependents indicates there is a need. The sliding scale is detailed in Appendix A.***

# Center for Child Development Fees

Fee Description	Period	Amount
<b>Registration</b> (Fall through Summer) (Non Refundable)		\$75 per child
<b>Insurance</b> (Fall through Summer)		\$35 per child
<b>Enrollment</b> (Preschool and School Age --Full Day)		
	University Full-Time, per week	\$205
	Community Full-Time, per week	\$210
	Part Time - 3 days/week (M,W,F)	\$160
	Part Time - 2 days/week (T,R)	\$115
<b>Schedule Changes</b>		
	One Change	No Charge
	Subsequent Changes	\$5.50
<b>Toddler Program</b>		
	University Full-Time, per week	\$230
	Community Full-Time, per week	\$235
	Part Time - 3 days/week (M,W,F)	\$172
	Part Time - 2 days/week (T,R)	\$123
<b>Activity Fee</b> (Fall through Summer)		\$75 per child
<b>Field Trip T-Shirt</b>		\$15
<b>Late Pick-up Fees</b> (for children who are not picked up by the Center's stated closing time)		
	1 - 15 minutes after closing	\$25
	16 - 30 minutes after closing	\$50
<b>Late Fee Payment</b> (assessed if weekly tuition is not paid by the second school day your child is in attendance during the week)		\$10/week
<b>Family Discount</b> (given to the older child when more than one child from the same family is registered full-time)		10%

**\*Vacation Credit:** After a 3 month attendance, regular full-time families with full year (12 month) attendance qualify for 2 weeks vacation credit. other full-time attendance less than 12 months qualifies for 1 week credit. Only 1 week may be used during the fall and spring semesters combined, the 2nd week may be used during the summer session.

# Dance Institute Fees

Fee Description	Period	Amount
Placement Fee with Pre-Registration		\$20.00
Placement Fee without Pre-Registration		\$30.00
New Student Registration Fee		\$10.00
<b>Summer Curriculum (1-4 weeks)</b>		
Advanced	4 weeks	\$1,020.00
	3 weeks	\$800.00
	2 weeks	\$538.00
	1 week	\$318.00
Intermediate II	4 weeks	\$900.00
	3 weeks	\$710.00
	2 weeks	\$510.00
Intermediate I	4 weeks	\$848.00
	3 weeks	\$662.00
	2 weeks	\$476.00
Beginner/Advanced-Beginner	2 weeks	\$311.00
Afternoon Beginner/Advanced-Beginner Arts Camp w/ dance (2 weeks)		\$128.00
Afternoon Arts Camp only (2 weeks)		\$192.00
Pre-Ballet/Storybook Dance (one 45-minute classes/week)	4 weeks	\$55.00
Tap (2 classes/week)		\$112.00
Adults:(one class/week)	5 weeks	
Ballet/Jazz/Modern - 1.5 hours		\$72.00
Pilates -based Mat Exercise/Hip-Hop/Ballet - 1 hour		\$58.00
Summer Single Classes		\$15.00
Program Discounts (only one type of discount may be applied)		
UA Faculty & Staff Family		20% off per person
Multiple Child/Family Member Attending		25% off 2nd, 30% off 3rd
		20% off full summer program and/or single class
UA Dance Majors/Minors		
<b>Academic Year Curriculum (two 16-week semesters total)</b>		
Advanced	9 classes/week	\$3,100.00
Intermediate II	7 classes/week	\$2,624.00
Intermediate I	6 classes/week	\$2,318.00
Advanced-Beginner	4 classes/week	\$1,722.00
Beginner B	3 classes/week	\$1,304.00
Beginner A	2 classes/week	\$872.00
Pre-Ballet	1 class/week	\$438.00
Storybook Dance	1 class/week	\$438.00
Tap	1 class/week	\$438.00
Adults:		
Ballet/Jazz/Modern - 1.5 hours	1 class/week	\$448.00
Pilates-based Mat Exercise/Hip-Hop/Ballet - 1 hour	1 class/week	\$360.00
Academic Year Single Classes		\$15.00
Singles Classes for UA Dance students		\$7.50
Program Discounts		
UA Faculty & Staff Family		20% off per person
Multiple Child/Family Member Attending Dance Institute		25% off 2nd, 30% off 3rd
Refund Service Charge (per refund)		\$25.00

This fee would be charged to any student or student's parent who has paid tuition and requests a refund due to an injury or an extenuating circumstance. (No charge would be incurred for crediting the tuition to the time period when the student returns.)

Late Pick-up Fees (beginning 10 minutes after the end of the last class)

\$15 per hour

(for students who are not picked up following the last class of the day--must be paid at the time of pickup or before the beginning of the next scheduled class)

# 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 judgments
- 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:

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
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\*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

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

3230:151	Human Evolution/Lab	4
<b>Biology</b>		
2780:106	Anatomy and Physiology for Allied Health I	3
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
<b>Chemistry</b>		
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
<b>Environmental Studies</b>		
3370:211	Introduction to Environmental Science	3
<b>Geology</b>		
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/Lab I	1
3370:203	Exercises in Environmental Geology II/Lab	1
<b>Physics</b>		
2820:160	Technical Physics	4
2820:161	Technical Physics: Mechanics I	2
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**

		<b>Credits</b>
2420:263	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**

**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

**Set 4 - Psychology**

2040:240	Human Relations	3
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**Social Sciences: 6 credits**

3750:100	Introduction to Psychology	3
<b>Set 5 - Sociology/Anthropology</b>		
2040:244/344	Death and Dying	3
3230:150	Human Cultures	3
3850:100	Introduction to Sociology	4
5100:150	Democracy in Education	3
<b>Set 6 - United States History</b>		
3400:250	U.S. History to 1877	4
3400:251	U.S. History since 1877	4
<b>Set 7 - Science/Technology/Society</b>		
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:

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

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
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**

		<b>Credits</b>
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
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

**Area Studies & Cultural Diversity: 4 credits - 2 courses**

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**

		<b>Credits</b>
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
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 the College of Applied Science and Technology

In order to improve articulation and to better serve our students, all associate degree programs currently within CAST will contain 17 credits\* of general education course work to be selected from the areas and courses designated in the table below. Programs are required to make at least one selection from each of the 6 discipline areas listed\*\*, making suggestions or requirements that are most appropriate for their degrees. This course work must be approved by GEAC and, therefore be accepted as part of the statewide Ohio Transfer Module. Programs are encouraged to select approved course work from CAST. The general education core will not appear in the University's General Bulletin but will, instead, be reflected within the program course work selected.

## Core Curriculum for the College of Applied Science and Technology

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

	Credits
2020:121 English (or higher)	3

### Oral Communication: 3 credits

	Credits
2540:263 Professional Communications and Presentations	3

### Mathematics: 3 credits

	Credits
2030:152 Technical Math II	2
2030:153 Technical Math III (or higher)	2
2030:161 Math for Modern Technology	4

### Social Science/Interpersonal Skills - 3 credits

	Credits
2040:240 Human Relations	3
2040:242 American Urban Society	3
2040:247 Survey of Basic Economics	3
2040:243 Contemporary Global Issues	3
2040:244/344 Death and Dying	3
2040:241 Technology and Human Values	2

### Natural Science: 3 credits

	Credits
2820:105 Basic Chemistry	3
2820:111 Introductory Chemistry	3
2820:112 Introductory and Analytical Chemistry	3
2820:160 Technical Physics: Mechanics	4
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 College Faculty 12/15/2015

Courses listed may be substituted with equivalent courses from other colleges.

\*Credit hour requirements reduced to 17 as a result of reduction of 1 credit for English 121

\*\*Subject to change when the University of Akron finalizes the General Education 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.

- [Akron Global Polymer Academy](#)
  - [Applied Polymer Technology Services](#)
  - [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 Research](#)
  - [Center for Silver Therapeutics Research](#)
  - [Center for Statistical Consulting](#)
  - [Center for the History of Psychology](#)
  - [English Language Institute](#)
  - [Experiential Learning Center for Entrepreneurship and Civic Engagement](#)
  - [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 of Bioscience and Social Research](#)
  - [Institute of Polymer Science and Polymer Engineering](#)
  - [Intellectual Property Law and Technology Center](#)
  - [National Center for Education and Research on Corrosion and Materials Performance](#)
  - [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](#)
-

# 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](#)
- [Interdisciplinary Programs](#)
- [College of Applied Science and Technology](#)
- [Buchtel College of Arts and Sciences](#)
- [College of Engineering](#)
- [College of Education](#)
- [College of Business Administration](#)
- [College of Health Professions](#)
- [College of Polymer Science and Polymer Engineering](#)
- [School of Law](#)

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### ROTC

- [Aerospace Studies \(1500\)](#)
- [Military Science \(1600\)](#)

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### Interdisciplinary Programs

- [Home-Based Intervention Therapy \(1820\)](#)
- [Williams Honors College \(1870\)](#)
- [Medical Studies \(1880\)](#)

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### College of Applied Science and Technology

- [Cooperative Education \(2000\)](#)
- [Developmental Programs \(2010\)](#)
- [Distinguished Study Program \(2015\)](#)
- [Applied General and Technical Studies English \(2020\)](#)
- [Applied General and Technical Studies Mathematics \(2030\)](#)
- [Applied General and Technical Studies Social Sciences \(2040\)](#)
- [Individualized Study \(2100\)](#)
- [Criminal Justice Technology \(2220\)](#)

- [Fire Protection Technology \(2230\)](#)
  - [Emergency Management and Homeland Security \(2235\)](#)
  - [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 Administration \(2540\)](#)
  - [General Technology \(2820\)](#)
  - [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**

- [Early Childhood Development \(2200\)](#)
- [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 \(3230\)](#)
- [Archaeology \(3240\)](#)
- [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 \(3750\)](#)
- [Criminal Justice Studies \(3800\)](#)
- [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 \(4900\)](#)
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**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 \(5500\)](#)
- [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**

- [Economics \(3250\)](#)
- [Cooperative Education \(6000\)](#)
- [General Business \(6100\)](#)
- [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**

- [Medical Assisting \(2740\)](#)
- [Radiologic Technology \(2760\)](#)
- [Surgical Technology \(2770\)](#)

- [Allied Health \(2780\)](#)
- [Respiratory Therapy \(2790\)](#)
- [General Education \(5540\)](#)
- [Physical Education \(5550\)](#)
- [Outdoor Education \(5560\)](#)
- [Health Education \(5570\)](#)
- [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 \(9871\)](#)
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**School of Law**

**Notes:**

Graduate-level courses only. See Graduate Bulletin

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## **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](#)

# 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
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

**Theatre**

OAH 024 7800:264 Playscript & Performance Analysis

OAH 025 7810:110 Performance Laboratory

OAH 026 7800:100 Experiencing Theatre

OAH 027 7800:172 Acting I

OAH 028 7800:265 Basic Stagecraft

**Business**

OBU  
001 6200:201 Accounting Principles I

OBU  
002 6200:202 Accounting Principles II

OBU  
004 6400:220 Legal & Social Environment of Business

OBU  
005 3300:275 Specialized Writing

OBU  
009 6500:304 Business Statistics and

6500:305 Business Analytics

**Communication**

**Communication Studies**

OCM  
001 7600:115 Survey of Communication Theory

OCM  
002 7600:235 Interpersonal Communication

OCM  
003 7600:344 Group Decision Making

OCM  
004 7600:105 Introduction to Public Speaking

OCM  
005 7600:106 Effective Oral Communication

**Public Relations/Advertising**

OCM  
006 7600:102 Survey of Mass Communication

OCM  
012 2520:203 Principles of Advertising

**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  
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

### **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  
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



## Academic Calendar

[Download the pdf](#)

### August 2016

- 5 School of Law Summer 2016 2nd 5-week session classes end
- 7 School of Law Summer 2016 Intersession II begin
- 7 Summer Session 2016 8-week session classes end
- 10 School of Law Summer 2016 10-week sessions classes end
- 20 Summer 2016 Commencement
- 21 Summer Session 2016 2nd 5-week session classes end
- 21 School of Law Summer 2016 Intersession II ends
- 22 School of Law Fall Semester 2016 classes begin for entering students (orientation week)
- 23 Final grades due for Summer Session 2016
- 25-26 Audit Sixty Plus (60+) in-person Fall Semester 2016 registration
- 29 Fall Semester 2016 classes begin
- 29 School of Law Fall Semester 2016 classes begin

### September 2016

- 5 Labor Day Holiday - University closed
- 6 Last day to add regular session (15 week) Fall Semester 2016 classes without signatures
- 12 Last day to add regular session (15 week) Fall Semester 2016 classes without signatures

### October 2016

- 17 Last day to process course withdrawals for Fall Semester 2016 (11:59pm)
- 24 Spring 2017 registration begins

### November 2016

- 1 Graduation applications due for students completing Graduate degree requirements by the end of Fall Semester 2016
- 1 Graduation applications due for students completing Law degree requirements by the end of Spring Semester 2017
- 11 Veteran's Day Observance - Staff Holiday - Classes Held
- 24-27 Thanksgiving recess - University closes at 5:00 pm, Nov. 27
- 28 Fall Semester 2016 classes resume from Thanksgiving recess

### December 2016

- 1 Graduation applications due for students completing Associate or Baccalaureate degree requirements by the end of Spring 2017
- 2 School of Law final instructional day for Fall Semester 2016
- 3-6 School of Law Fall Semester 2016 Reading Period
- 7-16 School of Law Fall Semester 2016 final examination period
- 11 Final instructional day for Fall Semester 2016
- 12-18 Final examination period for Fall Semester 2016
- 16-17 Fall 2016 Commencement
- 20 All grade changes and incomplete make-ups for previous term due in the Office of the University Registrar (5:00pm)
- 20 Final grades due for Fall Semester 2016
- 26 Christmas Holiday observance - University closed

### January 2017

- 1 New Years Day observance - University closed
- 12-13 Audit Sixty Plus (60+) in-person Spring Semester 2016 registration
- 16 Martin Luther King, Jr. Day observance - University closed
- 17 Spring Semester 2017 classes begin
- 17 School of Law Spring Semester 2017 classes begin
- 23 Last day to add courses for Spring Semester 2017 without signatures
- 31 Last day to drop Spring Semester 2017 classes without "WD" appearing on transcript

### February 2017

21 President's Day observance - classes cancelled (Law School classes held)

**March 2017**

8 Last day to process course withdrawals for Spring Semester 2016 (11:59pm)

13 Summer Session 2017 Registration begins

21-Apr 2 Spring Semester 2017 recess

**April 2017**

1 Graduation applications due for students completing Associate or Baccalaureate degree requirements by the end of the Summer Session 2017

1 Graduation applications due for students completing Graduate degree requirements by the end of Spring Semester 2017

3 Spring Semester 2017 classes resume from Spring recess

3 Fall Semester 2017 Registration begins

28 School of Law final instructional day for Spring Semester 2017

29-May 2 School of Law Spring Semester 2017 Reading Period

**May 2017**

3-12 School of Law Spring Semester 2017 final examination period

7 Final instructional day for Spring Semester 2017

8-14 Final examination period for Spring Semester 2017

12-14 Spring 2017 Commencement

14 School of Law Summer 2017 Intersession classes begin

16 All grade changes and incomplete make-ups for previous term due in the Office of the University Registrar (5:00pm)

16 Final grades due for Spring Semester 2017

18-19 Sixty Plus (60+) in-person Summer Session 2017 registration

22 Summer 2017 Intersession I classes begin

22 Summer Session 2017 1st 8-week session classes begin

28 School of Law Summer 2017 Intersession I classes end

29 Memorial Day observance - University closed

30 School of Law Summer 2017 1st 5-week classes begin

30 School of Law Summer 2017 1st 10-week classes begin

**June 2017**

1 Graduation applications due for students completing Associate or Baccalaureate degree requirements by the end of Fall Semester 2017

1 Graduation applications due for students completing Graduate degree requirements by the end of Summer Semester 2017

11 Summer Intersession 2017 classes end

12 Summer Session 2017 1st 5-week and 2nd 8-week classes begin

30 School of Law Summer 2017 1st 5-week classes end

**July 2017**

4 Independence Day observance - University closed

16 Summer Session 2017 1st 5-week and 1st 8-week classes end

17 Summer Session 2017 2nd 5-week classes begin

# Appendix B

## 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.

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

## Applied Polymer Technology Services

As of June 1, 2016, Akron Polymer Training Center (APTC) and Applied Polymer Research Center (APRC) have merged. The combined centers will go forward together under the name Akron Polymer Technology Services (APTS).

At Applied Technology Services (formerly the Akron Polymer Training Center and Applied Polymer Research Center), our mission is to advance all sectors of the polymer industry through the delivery of training, testing, and processing services that enrich learning and optimize industrial performance. Services are enhanced by the capabilities within The University of Akron and by developing domestic and international partnerships with business, industry, community, and other institutions of higher education.

Combining these two centers, provides customers with access to testing capabilities that include a new TOSOH EcoSEC GPC Laboratory, means to improving technical skills for conducting efficient failure investigation and root cause analysis through hands-on training courses with pilot and industrial scale equipment, as well as a range of processing services. Both centers have considerable talent and experienced staff that together will allow us to better serve our customers moving forward.

If you have any additional questions, please contact Dr. Jelynn A. Stinson at 330-972-8661 or [apts@uakron.edu](mailto:apts@uakron.edu)

<http://www.uakron.edu/apts/welcome.dot>

## 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.

<http://www.uakron.edu/engineering/research/centers.dot>

## **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, [wtyons@uakron.edu](mailto:wtyons@uakron.edu) or [www.uakron.edu/conflict](http://www.uakron.edu/conflict).

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

## **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.

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

## **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

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

## **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.

<http://www3.uakron.edu/faa/schools/family/>

## **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/](http://www.uakron.edu/cite/) for more information.

<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](http://www.uakron.edu/education/community-engagement/literacy).

<http://www.uakron.edu/education/community-engagement/literacy/>

# 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.

<http://www3.uakron.edu/cor/>

# 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.

<http://www.uakron.edu/engineering/BME/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/](http://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.

<http://www.uakron.edu/statistics/about-us/center-for-statistical-consulting.dot>

# 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.

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

## **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](http://www.uakron.edu/eli), email [ua-eli@uakron.edu](mailto:ua-eli@uakron.edu) or call 330-972-7544.

<http://www3.uakron.edu/eli/>

## **Experiential Learning Center for Entrepreneurship and Civic Engagement**

The EXL Center has one core mission: promoting Experiential Learning for University of Akron students. This core mission has two distinct foci: Academic Civic Engagement and Entrepreneurship\*. Our primary goals are: (1) to support, expand, and create new, credit-bearing, experiential learning programs and opportunities for all UA students and (2) to build the Center outward into the



community as the primary interface between the university campus and business and non-profit partners that surround it. Achieving these two goals will create a sustainable resource for our students, our faculty, our partners, and our wider community.

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

## **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.

<http://www.uakron.edu/firstenergy-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 <http://www.uakron.edu/cba/centers-and-institutes/fisher/index.dot> for more information.

<http://www.uakron.edu/cba/centers-and-institutes/fisher/index.dot>

## **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](http://www.uakron.edu/cba/taylor).

<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.

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

## **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.

<http://www.uakron.edu/engineering/BME/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.

<http://www.uakron.edu/cba/centers-and-institutes/igb/index.dot>

# **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.

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

# **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.

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

# **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.

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

## **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.

<http://www.uakron.edu/law/curriculum/areas/ip.dot>

## **National Center for Education and Research on Corrosion and Materials Performance**

Housed at The University of Akron, the National Center for Education and Research on Corrosion and Materials Performance provides a multi-disciplinary approach to help government and industry develop solutions for corrosion and materials performance challenges, whether they are unique or day-to-day problems.

The Center has a comprehensive set of programs and services in education and workforce training, research and technology development, and outreach and public policy activities.

<https://www.uakron.edu/ncercamp/>

## **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.

<http://www.uakron.edu/nursing/community-engagement/nursing-center-for-community-health.dot>

## **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.

[http://www.uakron.edu/nutritiondietetics/nutrition\\_center.dot](http://www.uakron.edu/nutritiondietetics/nutrition_center.dot)

## **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.

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

## **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.

<http://www.uakron.edu/libraries/archives/>

## **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.

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

## **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.

<http://www.uakron.edu/summitcollege/police-academy/index.dot>

## **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.

<http://www.uakron.edu/chemistry/magnet/index.dot>

## **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.

<https://www.uakron.edu/cba/centers-and-institutes/fitzgerald/index.dot>

## **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.

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

# Appendix C

## 1100

100	UA EDUCATION ABROAD	0 credits
Academic study at an affiliated institution outside the continental United States.		
101	THE AKRON EXP: UNIVERSITY 101	2 credits
Acquisition of the skills, techniques, information, and strategies necessary to aid new students in their transition from high school or work to the college environment. Delivered in face-to-face format and fully online format.		
102	TUTOR TRAINING I	1 credits
Prerequisite: Permission from coordinator of tutorial programs based on GPA, letter or recommendation, and interview. Corequisite: Tutoring practicum of 25 hours. Training of peer tutors in several academic areas with topics to meet requirements of the College Reading and Learning Association.		
103	TUTOR TRAINING II	1 credits
Prerequisite: 102. Summative training of peer tutors emphasizing assertiveness training, leadership skills, administering and interpreting a learning styles inventory, and structuring a learning experience.		
104	TUTOR TRAINING III	1 credits
Prerequisite: 102. Summative training of peer tutors emphasizing assertiveness training, leadership skills, administering and interpreting a learning styles inventory, and structuring a learning experience.		
110	INFO TOOLS FOR ACADEMIC SUCCESS	1 credits
Information Tools for Academic Success will allow a student to bring a real world problem or academic assignment to class to use as the framework upon which to build a repertoire of information skills. This class is a project-oriented, process-based course in which the students will: Identify and articulate an information need as it relates to a problem or assignment; effectively and efficiently access appropriate information using a variety of resources; critically evaluate the information; incorporate the information into their existing knowledge base; use the information appropriately and effectively to accomplish an explicit purpose; understand the legal, social, and economic aspects of information ultimately accessing and using information in an ethical manner.		
117	CAREER PLANNING	2 credits
Learners develop the skills necessary to make effective educational and career decisions. Emphasis upon self-understanding, career exploration, career planning, and decision making. Delivered in face-to-face format and fully online format.		
150	RESIDENT ASSISTANT SKILLS	2 credits
This course is designated for Resident Assistants upon their hire to the Department of Residence Life and Housing. Leadership development and management skills are the core material.		
191	ST: GENERAL EDUCATION	1-4 credits
Special Topics in General Education.		
205	LEADERSHIP PRINCIPLES & PRACTICES	2 credits
This course is about being a leader and about leadership. Students will learn leadership principles through case studies and self-assessment with a goal of developing effective leadership skills and abilities. Students complete the course better prepared to lead across a broad spectrum of responsibilities by possessing and communicating an organized perspective of leadership.		

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

## 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 LDRSHIP 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.
- 490 ST: MILITARY SCIENCE 1-3 credits  
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.

## 1820

- 403 HBI THEORY 3 credits  
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  
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  
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.

## 1870

- 250 HONORS COLLOQUIUM: HUMANITIES 2 credits  
Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in humanities.
- 260 HONORS COLLOQ: SOCIAL SCIENCE 2 credits  
Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in social sciences.
- 270 HONORS COLLOQ: NATURAL SCIENCE 2 credits  
Prerequisite: admission to Williams Honors College Interdisciplinary colloquium on important issues in natural sciences.
- 350 HONORS COLLOQ: HUMANITIES 2 credits  
Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in humanities.
- 360 HONORS COLLOQ: SOCIAL SCIENCE 2 credits  
Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in social sciences.
- 370 HONORS COLLOQ: NATURAL SCIENCE 2 credits

Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in natural sciences.

450 HONORS COLLOQUIUM: HUMANITIES 2 credits

Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in humanities.

460 HONORS COLLOQ: SOCIAL SCIENCE 2 credits

Prerequisite: admission to Williams Honors College. Interdisciplinary colloquium on important issues in social sciences.

470 HONORS COLLOQ: NATURAL SCI 2 credits

Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in natural sciences.

## 1880

201 MEDICAL SEMINAR & PRACTICUM I 3 credits

Prerequisites: 3100:191. Provides field experiences in health-care delivery in geographic area served by Northeastern Ohio Universities College of Medicine and The University of Akron. Student directed in supervised roles of professional and paraprofessional in meeting health-care needs of community. Open to first-year student in Phase 1 of B.S./M.D. program.

310 MEDICINE & THE HUMANITIES 3 credits

Medical history, literature, and ethics from the perspective of the Humanities, with readings from original sources and literary works on medical subjects.

## 1900

301 MUSEUMS AND ARCHIVES I 3 credits

This course provides students with a basic set of skills that prepares them for work in the museum and archives professions. Topics covered include the role of museums and archives, handling and preservation, museum exhibit design and assessment, organizing and describing materials, policies and procedures, the relations, education and assessment, the research purposes museums and archives, and cultural considerations.

302 FOUND. OF MUSEUMS/ARCHIVES II 3 credits

Prerequisite: 1900:301. Provides basic skills for working in museum and archives professions.

## 2000

201 COOPERATIVE EDUCATION 0 credits

(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

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

## 2010

- 42 BASIC WRITING 0 load hours\*\*  
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.
- 50 BASIC MATHEMATICS I 0 load hours\*\*  
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.
- 52 BASIC MATHEMATICS II 0 load hours\*\*  
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).
- 54 BASIC MATHEMATICS II SUPPORTED 0 credits  
Prerequisites: 2010:050 and approval from Developmental Programs. 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.
- 56 BASIC MATH II EXTENDED -PART A 0 credits  
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.
- 57 BASIC MATH II EXTENDED -PART B 0 credits  
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.
- 60 COLLEGE READING 0 load hours\*\*  
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.
- 62 COLLEGE READING & STUDY SKILLS 0 load hours\*\*  
Prerequisite: College Reading (1020:060) or placement. Continued practice of comprehension strategies with emphasis on textbook reading, and implementation of effective study strategies such as note-taking, test-taking, and memory techniques. Upon successful completion of College Reading and Study Skills, the student should be prepared to apply reading and study strategies in college classes. Lab hours are required.
- 64 APPL STDY STRAT: 0 load hours\*\*  
Corequisite: Selected General Education Courses taken concurrently. Designed to help students apply various study strategies to a specific course, such as psychology, sociology and others. Includes lecture and textbook analysis, memory techniques, and test-taking strategies. Lab hours are required.
- 71 DEVELOPMENTAL CHEMISTRY 0 load hours\*\*  
Prerequisite: 2010:052 or 057 or equivalent with a grade of C or better. A mathematics review applied to chemistry and intensive instruction in principles of general chemistry. Emphasis is placed on developing learning strategies and controlling anxieties.
- 81 FUNDAMENTAL MATH I 0 credits  
Prerequisite: Placement by Academic Advisor. An intensive review of arithmetic with an emphasis on learning strategies and controlling anxieties. Upon successful completion of Fundamental Mathematics I, the student should be prepared to enroll in Fundamental Math II. \*\*Load hours do not carry academic credit toward a degree program, but do count in computing a student's course load for financial aid or student employment, and are used in probation and dismissal decisions. \*\*

**82 FUNDAMENTAL MATH II**

0 credits

Prerequisites: Placement by academic advisor or 2010:81. Upon successful completion of Fundamental Mathematics II, the student should be prepared to enroll in Fundamental Math III. \*\*Load hours do not carry academic credit toward a degree program, but do count in computing a student's course load for financial aid or student employment, and are used in probation and dismissal decisions. \*\*

**83 FUNDAMENTAL MATHEMATICS III**

0 credits

Prerequisites: Placement by academic advisor or 2010:82. Upon successful completion of Fundamental Mathematics III, the student should be prepared to enroll in Fundamental Math IV. \*\*Load hours do not carry academic credit toward a degree program, but do count in computing a student's course load for financial aid or student employment, and are used in probation and dismissal decisions. \*\*

**84 FUNDAMENTAL MATHEMATICS IV**

0 credits

Prerequisites: Placement by academic advisor or 2010:83. Upon successful completion of Fundamental Mathematics IV, the student should be prepared to enroll in 2420: 170 or 2030: 130 or 2030: 161 or 3450: 100 or 3470: 250 or 3450: 135. \*\*Load hours do not carry academic credit toward a degree program, but do count in computing a student's course load for financial aid or student employment, and are used in probation and dismissal decisions. \*\*

**99 ST: DEVELOPMENTAL PROGRAMS**

0 load hours\*\*

Instruction in one or more of the following basic skills: writing, reading, mathematics, and study skills. A combination of these skills may be presented with an overall theme such as writing, reading and technology. See the current Schedule of Classes for course offerings.

## 2015

**150 DISTINGSHED STUDENT COLLOQ 2 credits**

See department for course description.

## 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: 2020:121 or 3300:110 or 3300:111 or equivalent. Prepares students 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: 2020:121, 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 ELCTRN 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.

325 SIGNS OF PROFESSIONAL WRITING 1 credits

Prerequisite: 2020:121, 3300:111, or equivalent. Practical examination of concrete and abstract indicators that lead readers to judge the professional quality of a written text beyond its meaning and correctness.

## 2030

130 MATH FOR ALLIED HEALTH 3 credits

Prerequisite: Placement test or completion of 2010:052, 054, 057, or 084 with a grade of C or better. 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: Placement test or completion of 2010:052, 054, 057 or 084 with a grade of C or better. Fundamental concepts and operations, functions, graphs, factoring and algebraic fractions, and quadratic equations.

152 TECHNICAL MATHEMATICS II 2 credits

Prerequisite: 2030:151 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: Placement test or completion of 2010:052, 054, 057, or 084 with a grade of C or better. 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

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

345 TECHNICAL DATA ANALYSIS 2 credits

Prerequisite: 2030:154 or equivalent with a grade of C- or better, or placement test. Data summarization including graphic representation, numerical measures, introduction to probability, confidence intervals and hypothesis testing.

356 TECHNICAL CALCULUS II 3 credits

Prerequisite: 2030:255 or equivalent with a grade of C- or better, or placement test. Methods and applications of integration, first and second order differential equations and applications, series expansion, Laplace transform, partial derivatives, and double integrals.

361 APPLIED CRYPTOGRAPHY 3 credits

Prerequisite: 2030:154. Symmetric cryptography, modular arithmetic, stream and block ciphers, random numbers, Advanced Encryption Standard, public-key cryptography, key exchange, digital signatures, hash functions, message authentication.

480 ADV T: TECHNICAL MATHEMATICS 2 credits

Prerequisite: 2030:255 or equivalent with a grade of C- or better, or placement test. Matrices, introduction to series, partial derivatives, least squares adjustments, topics in astronomy, and coordinate systems.

## 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 3 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.

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 3 credits

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

345 DEATH/DYING HEALTH CARE PROFES 3 credits

Examination of loss, death, and dying in health care professions. Theory-driven course emphasizing development of practical skills to address death-related issues and experiences.

349 INTEGRATED HUMAN BEHAVIOR/HLTH 3 credits

Examination of the reciprocal nature of physical and mental health factors related to disease course/progression. Emphasis on application of theory-driven conceptualization and interventions.

## 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.

## 2200

110 FOUNDATIONS IN EARLY CHILD EDU 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: 2200:245 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.

## 2220

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: 3800:100 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.

282 DIGITAL FORENSIC IMAGING 3 credits

This course cover the general principles of photography and practical elements and advanced concepts of forensic photography.

380 FILE SYSTEM ANALYSIS 3 credits

Prerequisite: 2220:281. The analysis of volumes, partitions, and data files to understand the design of file systems and data structures.

381 COMPUTER FORENSIC METHODS II 3 credits

Prerequisite: 2220:281. Obtaining and analyzing digital information from computer storage media to determine details of origin and content.

480 DIGITAL & SCIENTIFIC EVIDENCE 3 credits

Prerequisite: 2220:104. Examination of the role of scientific and digital evidence in the legal system. Courtroom admissibility and presentation rules are covered.

## 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: 100. 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	FIELD EXPERIENCE I	2 credits
	Prerequisites: 30 credit hours of successfully completed course work in the Fire Protection Technology program which includes 2230:100, 2230:102, 2230:104, 2230:204, 2230:205, and 2230:280 and permission. Course designed to measure the knowledge, skills and abilities required to become a graduate of The University of Akron, Fire Protection Program.	
296	FIELD EXPERIENCE II	2 credits
	Prerequisites: 30 credit hours of successfully completed course work in the Fire Protection Technology program which includes 2230:100, 2230:102, 2230:104, 2230:204, 2230:205, and 2230:280. If not currently an active fire fighter, you must take 2230:295 first. Course designed to measure the knowledge, skills and abilities required to become a front line supervisor, work in hazmat bureau or beginning arson investigator,.	

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.

## 2235

105 INTRO DISASTER, HAZARDS & RISK

3 credits

Provides a research based and practitioner overview of how people perceive and react to extreme events before, during, and after disasters.

285 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.

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.

340 DISASTER RESEARCH METHODS

3 credits

Introduction to scientific method and processes, research ethics, and qualitative and quantitative methods. Use of research for appropriate decision making.

350 DISASTER PREP & RESPONSE

3 credits

Prerequisite: 2235:305. Legal requirement, planning formats, and response procedures are presented. Special focus community risk assessment: hazard analysis, vulnerability assessment, and community response capability assessment.

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.

365 DISASTER MITIGATION

3 credits

Prerequisite: 2235:305. Examines disaster prevention and risk reduction. Focuses on such concepts as sustainability, resiliency, non-structural and structural mitigation and various sectors' responsibilities.

367 DISASTER RECOVERY

3 credits

Prerequisite: 2235:305. Provides foundations for disaster relief and recovery planning, stages of recovery, resources used, and formation of public/private partnerships for recovery action and resource allocation.

370 HAZARD SCIENCE AND MGMT

3 credits

Overview of hazards theory, the science of hazard development, and various hazard types. Emphasis on emergency management and homeland security perspectives in regard to various hazard management related topics.

401 CRISIS LEADERSHIP

3 credits

This course presents leadership research from an interdisciplinary perspective. Content is drawn the fields of business, training, simulation, organizational theory, government, and others. This course covers early leadership theory, horizontal theories, crisis training models and approaches, and crisis cognitive processing strategies. Students will examine the overall system of building better crisis leaders.

406 DISASTER MGMT TECHNOLOGY

3 credits

Prerequisite: 2235:305. Provides an overview of the various types of technology utilized in disasters, emergency management and homeland security. Topics include communications, watches, warnings, and operational challenges.

407 HAZARDOUS WEATHER OBSERVATIONS

3 credits

Overview of meteorological variables and weather data useful to EM including meteorological instruments, forecasts, model, radar and satellite imagery, thunderstorms, tornadoes, winter storms and hurricanes.

420	DISASTER VULNERABILITY	3 credits
Prerequisites: 2235:305. Analysis of citizen actions regarding major disasters including perspectives of individuals and emergency managers using case studies, theories, and social problems.		
425	PRIV SECTOR DISASTER APPLICATI	3 credits
Prerequisites: 2235:305. Examines emergency management and homeland security business components in the private and public sectors. Emphasizes business continuity plans along with case studies in hazards and disasters.		
430	CONT ISS EMER MGMT & HOME SEC	3 credits
Discussion of relevant issues impacting the field of emergency management and homeland security by analyzing various case studies.		
435	CYBER ISS IN EMER MGMT & HOME	3 credits
Prerequisite: 2235:305. Discussion and analysis of cyber issues impacting the public, private, and nonprofit sectors of emergency management and homeland security.		
480	EMER MGMT & HOME SEC CAPSTONE	3 credits
Prerequisite or Corequisite; 2235:495. Ties together relevant concepts in emergency management and homeland security to help prepare graduates for professional careers integrating theory and applications.		
490	CURRENT TOPICS: EMERGENCY MGMT	1-4 credits
Prerequisites: 305 and 350. A variety of course topics on current subjects related to emergency management and disaster preparedness. May be repeated for up to 12 credits.		
495	EMER MGMT & HOME SEC INTERN	3 credits
Prerequisite: 30 hours in program and permission from program director. Supervised work experience in emergency management and/or homeland security to increase student understanding by applying program education to an applied work experience.		
497	INDP STUDY: EMERGENCY MGMT	1-4 credits
Prerequisites: 305 and 350. Selected topics, special areas of study in emergency management, disaster preparedness under the supervision of a faculty member with whom specific arrangements have been made.		

## 2240

100	INTRO TO EMT TRAINING	3 credits
Corequisites: 2240 101 and 102. Overview of the EMS System, safety/well being of an EMT, medical/legal and ethical issues in providing emergency care.		
101	EMT-B FUNDAMENTALS	2 credits
Corequisite: 2240: 101. Develop skills required of EMT-Basic for Assessment, air way management, patient evaluation for shock, trauma/special needs patient, learn appropriate interventions for all situations.		
102	EMT-B FUNDAMENTALS II	2 credits
Corequisite: 2240: 100 and 101. Provide students with the tools to start the EMT-Basic course and will prepare students to achieve national certification as an EMT-Basic.		
201	FUNDAMENTALS EMT-PARAMEDIC I	3 credits
Corequisites: 2240:202, 2240:203, 2240; 204, 2240:205. Introduction to emergency medical care-paramedic, the well-being of the EMT-paramedic, and illness and injury prevention.		
202	FUNDAMENTALS EMT-PARAMEDIC II	3 credits
Corequisites: 2240:201, 2240:203, 2240:204; 2240:205. Instruction in medical/legal issues, ethics, and the paramedic, and general principles of anatomy and physiology.		
203	FUND. OF EMT-PARAMEDIC III	3 credits
Corequisites: 2240:201, 2240:202, 2240:204, 2240:205. Instruction in medical math, pharmacology, venous		

access , and medication administration.

204 FUNDAMENTALS EMT-PARAMEDIC IV 3 credits

Corequisites: 2240:201, 2240:202, 2240:203, 2240:205. Instruction includes therapeutic communications, life span development, and airway management/ventilation.

205 FUNDAMENTALS EMT-PARAMEDIC V 3 credits

Corequisites: 2240:201, 2240:202, 2240:203, 2240:204. Skill Session Practices, competency Testing from skills learned throughout the semester.

206 FUNDAMENTALS EMT-PARAMEDIC VI 3 credits

Prerequisites: 2240:201, 2240:202, 2240:203, 2240:204, 2240:205. Corequisites: 2240:207, 2240:208, 2240:209, 2240:211. Instruction is respiratory emergencies and cardiovascular emergencies.

207 FUNDAMENTALS EMT-PARAMEDIC VII 3 credits

Prerequisites: 2240:201, 202, 203, 204 and 205. Corequisites: 2240: 206, 208, 209, 211. Instruction in cardiovascular emergencies, diabetic emergencies, and allergic reactions.

208 FUND OF EMT-PARAMEDIC VIII 3 credits

Prerequisites: 2240:201, 202, 203, 204 and 205. Corequisites: 2240: 206, 207, 209, and 211. Instruction in paramedic skills, practical trauma, and medical skills practical.

209 FUNDAMENTALS EMT-PARAMEDIC IX 3 credits

Prerequisites: 2240:201, 202, 203, 204 and 205. Corequisites: 2240: 206, 207, 208 and 211. Medical skills practical and skills testing.

211 FUNDAMENTALS EMT-PARAMEDIC X 3 credits

Prerequisites: 2240:201, 202, 203, 204 and 205. Corequisites: 2240: 206, 207, 208 and 209. Practical skills testing, client orientation, and written skills testing.

## 2260

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.

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.

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.

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.

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.

297 INDP STUDY: COMMUNITY SERVICES 1-3 credits

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

## 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 1 credits

This course covers an introduction to food service sanitation and safety practices pertinent to hospitality managers.

121 FUNDAMENTALS OF FOOD PREP 4 credits

Prerequisite or Corequisite: 2280:120. Skills and basic knowledge of food preparation procedures in a laboratory situation.

122 A LA CARTE COOKING 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 3 credits

Prerequisite: permission. Internship is an off-campus work experience in which the student applies concurrently learned concepts to practical situations within the hospitality industry.

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: 2030:161 and 2280:101. 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:LEGAL AND ETHI 3 credits

Prerequisite: 2280:101. The course will address the critical legal and ethical issues in the hospitality industry.

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.

## 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.

## 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.

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.

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 3 credits

Survey course of basic tax concepts, research, planning, and preparation of returns for individuals. 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, 2420:270. 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 3 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.

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

Corequisite: 2420:300. Contemporary perspectives and issues in leadership and supervision. Development of effective leadership characteristics.

311 COMM SRV & LDRSHP IN A GLO CON 3 credits

Co-requisite: 2420:300. 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 OP ASSESS & IMPROVE 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.

# 2430

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.

# 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, database 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 SERVER  
ADMINISTRATION 3 credits

Prerequisites: 2440:105 or pass placement test. Provides Web server administration guidelines such as selecting software/hardware, domain name registration, analyzing security/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.

180 INTRO TO DATABASE  
MGMT 3 credits

Prerequisites: 2440:121. Overview of database system models and functions. Covers introduction to database design and relational database definition and manipulation using SQL.

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: 2440:121 and 2440:140. Provides students with instruction on interactive Web programming using XML and DHTML (HTML/XHTML/HTML5, CSS, and Web scripting).

212 MULTIMEDIA & INTERACTIVE  
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.

240 COMPUTER INFO  
SYSTEMS INTRNSHP 3 credits

Prerequisites: 2440:241, or 2440:202 and 2440:247, or 2440:282 and 2440:247. Provides student experience in computing/information technology in the workplace. Students meet with instructor to discuss and examine experiences.

241 SYSTEMS ANALYSIS &  
DESIGN 3 credits

Prerequisite: 180 and 160 or 170 or 256. Covers all phases of business systems analysis, design, development, and implementation. Such principles as system flowcharting and file and document design emphasized.

247 HARDWARE SUPPORT 3 credits

Prerequisites: Admission to program or permission of program director. This course introduces the student to the basic skills required to troubleshoot, maintain and repair computers.

248 SERVER HARDWARE  
SUPPORT 3 credits

Prerequisite: 247. This course introduces the student to server hardware and expands student knowledge of client hardware.

251 CIS PROJECTS 3 credits

Prerequisite: 241 or permission. Using a simulated work environment, project teams are set up and required to analyze an unstructured problem, prepare alternative designs and implement a solution.

256 C++ PROGRAMMING 3 credits

Prerequisite: 121. This course explores object-oriented programming through C++ program development.

258 INFO CONTINUITY &  
RECOVERY 3 credits

Prerequisites: 201, 247. This course focuses on issues in keeping organizational information secure and available. It also covers contingency planning for disasters and security breaches.

259 COMPUTER AND NETWORK SECURITY 3 credits

Prerequisites: 202, 247. This course focuses on computer and network security issues related to conducting business over the Internet. A common framework of information security terms and principles is used, and students learn to implement these principles in a business environment.

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.

300 NETWORK AUTHENTIC & SECURITY 3 credits

Prerequisite: 2440:204. WAN Technologies Junior/Senior standing and compliance with the repeat policy. This course focuses on network security issues related to conducting business over the Internet, including authentication, authorization, and firewalls.

303 VOICE, DATA, AND VIDEO 3 credits

Prerequisite:2440:204 Wan Technologies. Junior/Senior standing and compliance with the repeat policy. This course focuses on network issues related to the integration of voice, data, and video over the same network media and equipment.

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.

340 NETWORK FORENSICS  
I 3 credits

Prerequisites: Junior/Senior standing and 2220:281 with a grade of C or better. This course will provide the student with basic knowledge of surveillance of networking devices, identifying and preventing attacks and incident response.

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: 2440:170. This course explores object-oriented programming through Visual Basic program development at a more advanced level, with more attention to business applications.

388 ADVANCED  
UNIX/LINUX 3 credits

Prerequisite: 2440:145 and Junior/Senior standing. This course provides students with the necessary knowledge and skills to perform basic administrative tasks on a UNIX/Linux operating system.

400 ADVANCED ROUTING 4 credits

Prerequisites: 2440:201, 202, 203, 204, 300, 2030:154 OR possess a current CCNA certification and be able to configure a router to the CCNA standards and compliance with the repeat policy. 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.

401 MULTILAYER  
SWITCHING 3 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 3 credits

Prerequisites: 2440:301 and 2440:401 and 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 Troubleshooting course.

430 NETWORK  
MONITORING & MGMT 3 credits

Prerequisite: 2440:204 WAN Technologies OR Junior Standing and compliance with the repeat policy. This course provides students the basic theory and practical application of network monitoring and management skills.

440 INTRUSION DETECTION Prerequisite: Junior/Senior standing and 2440:388 and 2440:340 with a grade of C or better. This course will introduce students to the various methods used to detect external and internal intrusion of computer systems.

441 CYBER SECURITY 3 credits

Prerequisites: Junior/Senior standing and 2030:361, 2440:388 and 2440:340 with a grade of C or better. This course will address issues involving hacking, malware, social theories, protocols, firewalls, intrusion detection, the prevention and containment of intrusion incidents, the incident response process, and computer forensic examination.

442 WIRELESS FORENSICS 3 credits

Prerequisite: Junior/Senior standing and a grade of C or better in 2440:340. The forensic identification and tracking of attacks on wireless networks and mobile communications devices.

443 NETWORK FORENSICS II 3 credits

Pre-requisite: Junior/Senior standing or 2440:340 with a grade of C or better. Deployment, building and running an NSM operation using open source software and vendor neutral tools with the Linux Operating System

450 APPLIED DATA MINING 3 credits

Prerequisite: 2030:345 and Junior/Senior standing. This course is designed to introduce the student to the central issues in business data mining.

SENIOR  
451 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.

CIS SENIOR  
490 NETWORKING PROJECTS 3 credits

Prerequisites: 2440:388; and at least two of: 2440:310, 2440:400, 2400:401 or 2440:402 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.

## 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 6600:205. 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 MARKETING PROJECTS 3 credits  
Prerequisite: 2520:203. Students will prepare marketing projects by applying knowledge and skills learned in previous marketing courses.
- 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: 2520:212. 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.

## 2530

- 240 MEDICAL CODING - DIAGNOSTIC 3 credits  
Corequisite: 2740:120. Designed to instill the fundamental knowledge and practice needed to understand ICD-10-CM coding classification, the course helps develop essential basic-level diagnostic coding skills.
- 241 HEALTH INFORMATION MANAGEMENT 3 credits  
This course provides a general understanding of health information management including the effective collection, analysis, and dissemination of quality data to support individual, organization, and social decisions related to disease prevention and patient care.
- 242 MEDICAL OFFICE ADMINISTRATION 3 credits



Prerequisite: 2740:120. This course focuses on the health care workplace and emphasizes tools (including a computer-simulated office management program) to perform all front office responsibilities.

243 MEDICAL CODING II - PROCEDURAL 3 credits

Prerequisites: 240, 2740:120. This course will cover the statistical classification systems used to describe medical procedures in the health care field including Current Procedural Terminology (CPT), Health Care Procedure Coding System (HCPCS), and International Classification of Disease (ICD).

244 MEDICAL INSURANCE BILLING 3 credits

Prerequisite: 243. Third-party reimbursement and the completion of the standard health insurance claim form. Credit and collection policies and procedures related to the medical facility. Designed primarily to teach billing from an outpatient setting; however, basic hospital (inpatient) billing will also be covered.

255 HLTH CARE OFFC MGMT & MED ISSU 3 credits

Prerequisites: Completion of 32 credit hours. This course will assist the student in developing knowledge and skills to manage a medical office practice including the fundamentals of personnel management, revenue management, practice enhancement, health information management, and medical law and ethics.

257 HEALTH CARE OFFICE FINANCE 3 credits

Prerequisites: 2420:211 & 2440:125. The purpose of the course is to help the student attain a sufficient level of understanding of the financial aspects of medical practice management. It will cover basic accounting practices including comparative income statements and balance sheets, revenue cycle management, relative value units, budgeting, ratio analysis, and financial management and reporting.

258 INTERN ORIENTATION & CAREER DE 3 credits

Prerequisite: permission. For students planning their first internship in the Health Care office Management or Medical Billing program. Students will complete a self-assessment; demonstrate workplace competencies; develop a resume, letter of introduction, and professional portfolio; and practice job search strategies. Successful completion of the course culminates in a confirmed internship for the following semester.

259 INTERNSHIP ORIENTATION 1 credits

Prerequisite: Permission. Prepares student for internship in Health Care Office Management and Health Care Administrative Assistant programs. Students will complete a self-assessment, demonstrate workplace competencies, and practice job search strategies.

260 HEALTH CARE OFFICE MGMT INTERN 3 credits

Prerequisite: permission. Health Care Office Management training within an appropriate health care facility for actual work experience and observation.

282 MEDICAL TRANSCRIP & EDITING 3 credits

Prerequisites: 2540:119, 2540:144, 2740:120. Corequisites: 2740:121, 2740:230. Instruction on interpreting and transcribing medical language and healthcare documentation. Emphasis on medical terminology, pronunciation, punctuation, spelling, word usage, and English grammar skills.

284 MEDICAL OFFICE TECHNIQUES 3 credits

Prerequisite: 2740:120. This course provides the students with an understanding of the clinical aspects of a medical practice to ensure safety for both the employee and the patient.

290 ST: HEALTH CARE OFFICE MGMT 1-4 credits

Prerequisite: permission. Selected topics or subject areas of interest in health care office management.

## 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 and personal computers as a tool 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.	

100	BASIC ELECTRONICS FOR TECHNCNS	5 credits
	Corequisites: 2030:151 and 152. Fundamentals of electrical/electronic operations, linear devices and instrumentation essential to electrical/electronics maintenance and troubleshooting. Laboratory.	
125	DIGITAL ELEC FOR TECHNCNS	4 credits
	Prerequisite: 2600:100. Mathematical principles of electronic switching for logic-based systems and examination of methods of switching syntheses.	
160	PERSONAL COMPUTER SERVICING	4 credits
	Prerequisite: 2600:100, 2440:145. Techniques for isolating and correcting faults in personal computers including the use of software diagnostic routines and electronic test equipment.	
180	MICROPROCESSOR SERVICE PRACTIC	2 credits
	Corequisite: 2600:160. Work experience in the repair of microprocessor-based equipment using failed or malfunctioning equipment.	
185	MICROPROCESSOR SERV PRACT SEM	1 credits
	Corequisite: 2600:180. Integrates on-the-job technical experience acquired in 2600:180 with the fundamental concepts and skills acquired through course work.	
245	NETWORK OPERATING SYSTEMS	3 credits
	Prerequisite:270. Examination of contemporary network operating systems. Provides skills to competently install and perform entry level management tasks. Includes troubleshooting TCP/IP, DHCP, DNS, WINS, and Network Access. Laboratory.	
252	MICROSOFT ACTIVE DIRECTORY	3 credits
	Prerequisite:245.Provides the knowledge and skills to plan, implement, and troubleshoot Microsoft Windows Server Active Directory service infrastructure including domain structure, site replication, and account strategies. Laboratory.	
254	MICROSOFT NETWORKING VI	1-4 credits
	Prerequisite:240 or 242.Provides the knowledge and skills to design a Microsoft Active Directory service and network infrastructure for a Microsoft Windows Server environment.	
256	MICROSOFT NETWORKING VII	1-4 credits
	Prerequisite:240 or 242.Provides the knowledge and skills to analyze business requirements for security and to design a security solution that meets those requirements in a Windows network environment.	
261	NETWORK SECURITY	1-4 credits
	Prerequisite:270 or permission.Provides the knowledge and skills to identify, troubleshoot, and implement network security, such as: general security concepts, communications security, infrastructure security, cryptography, and operational/organizational security.	
262	LINUX NETWORKING	1-4 credits
	Prerequisite:270 or permission.Provides the knowledge and skills needed to install, configure, administer, and troubleshoot Linux network operating systems including: licenses, administration, network configuration, and network protocol and security management.	
270	INTRODUC TO NETWORK TECHNOLOGY	3 credits
	Prerequisite: 2440:145.Provides students with an excellent foundation upon which to build their network training. Covers basic terms and concepts of computer networking.	
272	NETWORK HARDWARE I	3 credits
	Corequisite: 270.Study of contemporary networking hardware used in Local Area Networks and Wide Area Networks. Emphasis on routers and routing protocols. Use of simulation software encouraged. Laboratory.	
274	NETWORK HARDWARE II	3 credits
	Prerequisite:272. A second course in contemporary networking hardware. Emphasis on switches used in LANs and routers used in WANs. Use of simulation software is encouraged. Laboratory.	
276	ADVANCED NETWORK TECHNOLOGIES	3 credits

Prerequisite: 274. Examination of convergence technologies and the integration into LAN/WAN environments. Wireless networking and Voice over IP (VoIP) will be studied. Use of simulation software is included.

Laboratory.

280 FIELD EXP IN NTKWG & COMP SUPP 1-3 credits

Prerequisites: Permission. Paid field work activity in data processing or computer networking applications related to an occupational objective. One credit requires 180 hours of work. May be repeated up to 3 credits maximum.

290 ST: COMPUTER SERV & NETWORKING 1-5 credits

Prerequisite: Permission. This course is designed to allow for special topics and subject areas of particular interest to students.

## 2650

210 AUTISM 2 credits

Corequisite: 5610:225 or permission. Study of school-age children with autism spectrum disorders. Instructional strategies, accommodations, modifications, data collection techniques, and interventions discussed and practiced through class activities and projects.

290 ST: PARAPROFESSIONAL EDUCATION 1-3 credits

Special topics in subject area of interest for paraprofessional education (may be repeated for a total of six credits).

295 FLD EXP: EDUC PARAPROFESSIONAL 1-3 credits

Prerequisite: Permission of program coordinator. Supervised field experience in school and/or community settings. One hour per week seminar required. May be repeated to acquire minimum of 300 hours.

## 2670

250 INTERN: EXERCISE SCIENCE TECH 3 credits

Prerequisites: Completion of 32 credits, including 5550:201, 220, 330, and permission. Corequisite: 5550:352. Supervised observation and work experience in a fitness organization or environment in which students apply theories, concepts and skills to practical situations.

290 ST: EXERCISE SCIENCE TECH 1-3 credits

Prerequisite: Permission. Special topics in subject area of interest for Exercise Science Technology.

## 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 3 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 3 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.

## 2750

200 HEALTH RECORD CONTENT 3 credits

Prerequisites: 2740:127 and 2440:105. Introduction to the contents and design of health records (paper and electronic) and discussion of how clinical documentation facilitates the function of the delivery system.

302 CLINICAL INFORMATION SYSTEMS 3 credits

Prerequisite: 2740:127. Discussion of clinical systems including history of EHR and EMR, the theories behind systems, implementation, evaluation pathways, Meaningful Use and the architecture in different settings.

310 HEALTHCARE FINANCE 3 credits

Prerequisite: 2420:211, 2420:213, 2740:128, 2740:228. Integration of principles learned in accounting, coding, and insurance prerequisites into an exploration of financial management in the sector of the economy that is healthcare.

# 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

Prerequisite: 281. Competency level skills are refined in all radiologic areas.

291 PATHOPHYSIOLOGY 2 credits

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

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.

## 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 TECHNOLGY 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 TECHNOLGY 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.		

## 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.		

## 2790

100	CONCEPTS IN RESPIR THERAPY	3 credits
Prerequisites: 2030:152 and 2030:153. Introductory concepts regarding the practice and application of the theories employed in respiratory therapy, including career information, 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 & PHYSGLY	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 THERPY 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 THERPY 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 THERPY	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
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
Prerequisite:443.Rotation to a variety of health care facilities to practice specialty procedures from each institution. Clinical (total of 300 hours).		

200	INTERNET: PHYSICS ENVIRON TECH	1 credits
	Online course utilizing aspects of the Internet introducing various topics of physics important to Environmental Technicians including mechanic energy, heat, sound, fluid flow, and radioactivity.	
210	OCCUPATNL SAFETY & RISK	3 credits
	Introduction to the field of health and safety as related to business and industrial operations. Emphasis is placed on hazard/risk analysis and the regulatory environment.	
220	ENVIRONMNTL LAW & REGULATIONS	3 credits
	Introduction to the legal system and to the laws and regulations dealing with water, air, land, noise and other sources of pollution.	
221	ENVIRNMTL LAW & REGULATION II	3 credits
	Prerequisites: 220 or permission. Designed to provide students the opportunity to apply common regulatory reporting mechanisms in a practical manner utilizing a variety of software programs recognized in the environmental field.	
230	WATER & ATMOSPHERIC POLLUTION	3 credits
	Prerequisite: 3100:104, 105. Basic concepts of aquatic and atmospheric systems and the processes which pollute them. Emphasis on control and monitoring of cultural, industrial, and agricultural pollution sources. Laboratory.	
232	ENVIRONMENTAL SAMPLING LAB	2-3 credits
	Corequisite: 2800:230. Field experience with a wide range of environmental sampling techniques and equipment.	
250	INTERN: ENVIRON HLTH & SAFETY	3 credits
	Prerequisite: Students must have permission of program coordinator, completed at least 30 hours of course work, and have completed at least one of the following courses pertinent to internship: 2230:250; 2230:257; 2800:210; 2800:220; 2800:230 and 232. A supervised work experience in environmental health and/or safety to increase student understanding of the practical application of health and safety training.	
290	ST: ENVIRONMENTL HLTH & SAFETY	0.5-4 credits
	Prerequisite: permission. Special topics and subject areas of particular interest to students.	

## 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 TECHNICNS	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.

160 TECHNICAL PHYSICS: MECHANICS 4 credits

Corequisite: 2030:154. Applications of mechanics which include one and two dimensional motion, vectors, forces, equilibrium, work, power, conservation of energy, rotational motion & torque. 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: MECHANICS 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 & MAGNETISM 2 credits

Prerequisites: 2820:160 & 2030:154 (C- or better in both). Principles and applications of electricity and magnetism. Electrostatics, DC circuits, magnetism, electromagnetism, and AC circuits. Laboratory.

164 TECH PHYSICS: HEAT & LIGHT 2 credits

Prerequisites: 2820:160 and 2030:154 with a C- or better in 160. Principles and applications of heat and light: heat energy, thermodynamics, electromagnetic waves, geometric and physical optics, introduction to quantum mechanics, and radiation.

290 ST: GENERAL TECHNOLOGY 1-4 credits

Prerequisite: Permission. Selected topics of subject areas of interest in General Technology. (May be repeated for a total of eight credits.)

310 PROGRAMMING FOR TECHNOLOGISTS 2 credits

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.

## 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. 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.

## 2850

100 INTRODUCTION TO CORROSION TECH 2 credits

Prerequisite: 2030:151 or 3450:100 or higher. Analysis of material selection and environmental conditions on corrosion; review of corrosion types, environments and characteristics of structural materials; economic impact, control methods are explored.

120 CORROSION ENGIN TECH FUND I 3 credits

Corequisite: 2820:111. Introduction to corrosion engineering topics including economic impacts of corrosion, types of corrosion, their recognition and prevention, parameters affecting corrosion, and methods of corrosion control.

121 CORROSION ENGIN TECH FUND II 4 credits

Prerequisite: 2850:120. Basic understanding of steps and methods required for combating corrosion including proper design, material selection, protective coating application, inhibitors use, and cathodic and anodic protection.

200 ADVANCED CORROSION TECHNOLOGY 3 credits

Prerequisite: 2850:100. Study of corrosion control methods through design, materials selection, protective coatings, cathodic and anodic protection; corrosion testing and monitoring; diagnosis of corrosion failures; selection of treatment options; corrosion data analysis

220 STRAT FOR CORROSION PREVENTION 4 credits

Prerequisite: 2850:121. Corequisite: 2820:163. This course focuses on the control of corrosion by applying coatings and cathodic protection.

221 CORROSION ENGIN TECH PROJECTS 4 credits

Prerequisite: 2850:220. Course focuses on corrosion/failure analysis and corrosion mitigation, and discussion of regulatory compliance and resource acquisition and allocation.

## 2860

120 CIRCUIT FUNDAMENTALS 4 credits

Prerequisite: 2030:152 or permission. 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.		
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: 2860:123. 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.		
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	3 credits
Prerequisites: 350, 2030:356. Introduction to calculus based circuit analysis. Emphasizing Laplace transforms in operational circuit analysis, transfer functions, impulse function, Bode diagrams, Fourier Series.		
360	VIRTUAL INSTR & DATA ACQUISITION	3 credits
Prerequisites: 2860:122 and 2860:370. An introduction to instrumentation, data acquisition (DAQ) and graphical programming used in manufacturing and laboratory environments.		
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.

455 SENIOR PROJECT 2 credits

Capstone experience consisting of Electrical or Electronic Project emphasizing creative technical analysis or design and presentation.

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.

## 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

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

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

Prerequisite: permission. Group studies of special topics in manufacturing engineering technology.

## 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.

101 INTRO ADVANCED MANUFACTURING 2 credits

This course defines advanced manufacturing and provides students with an overview of the knowledge, skills, and abilities necessary to succeed in an advanced manufacturing career.

110 MANUFACTURING PROCESSES 3 credits

Study of the machines, methods, and processes used in manufacturing.

130 WORK MEASUREMENT & COST ESTIM 3 credits

Prerequisite: 2030:152. Time and motion study. Development of accurate work methods and production standards, and their relationship to manufacturing cost estimates.

140 COMPUTER AIDED DRAWING 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.

151 INDUSTRIAL 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	
211			MANUFACTURING 3 OPERATIONS credits
	A study of all functions involved in a manufacturing production system. Areas covered include product design, forecasting, capacity planning, scheduling, materials management, and project management.		
225	COMPUTER AIDED TOOL DESIGN	3 credits	
	Prerequisites: 2880:140 or 2920:121. The study of standard tool design practices and procedures utilizing industry-standard computer-aided design software.		
230	3-D MODELING & DESIGN	3 credits	
	Prerequisite: 2940:210. This course covers advanced topics in the use of AutoCAD. These topics include 3-D modeling. Laboratory.		
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.		
248	INTRO CNC AND ADDITIVE MANUFAC	3 credits	
	Prerequisites: 2030:153 and [2880:140 or 2920:121] or permission. This course provides an overview of CNC manual programming utilizing the G-code programming language along with an introduction to additive manufacturing processes.		
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.		

## 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: 2920:121; 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.		
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.		
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: 2820:160, 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: 2030:255 & [2880:110 or 2920:142] or permission. 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  
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  
(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  
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).

## 2940

- 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.
- 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.
- 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: 2920:121, 2940:210 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: 2920:121. 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.

# 2980

- 100 INTRODUCTION TO GEOMATICS 2 credits  
An introductory course into the field of surveying and mapping technology. Integrated topics include: types of surveys, cartography, and geographic information systems.
- 101 BASIC SURVEYING 3 credits  
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.
- 102 TOPOGRAPHIC SURVEYING 2 credits  
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.
- 122 ELEMENTARY SURVEYING 3 credits  
Elementary surveying for non-surveying and construction majors. Basic tools and computations. Field practice.
- 123 SURVEYING FIELD PRACTICE 2 credits  
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.
- 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.
- 222 CONSTRUCTION SURVEYING 3 credits  
Prerequisite: 2980:101; Corequisite: 2940:210. Methods and procedures for establishing line and grade for construction. Circular and parabolic curves. Cross-sectioning methods and earthwork., communication and plan reading.
- 223 FUNDAMENTALS OF MAP PRODUCTION 3 credits  
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.
- 225 ADVANCED SURVEYING 3 credits  
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.
- 228 BOUNDARY SURVEYING 3 credits  
Prerequisites: 2980:101 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.
- 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: 2980:101.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

421 SUBDIVISION 3  
DESIGN 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  
Prerequisite: permission. Special lecture/laboratory courses offered once or only occasionally in areas where no formal course exists. (May be repeated for a maximum of six credits.)
- 490 W: SURVEYING 1-3 credits  
Prerequisite: permission. Group study of special topics in surveying. May not be used to meet undergraduate major requirements in surveying. May be used for elective credit only. (May be repeated for a maximum of six credits.)
- 495 INTERNSHIP: SURVEYING & MAPPING 3 credits  
Prerequisite: 64 hours in program and permission from program director. Supervised work experience in surveying and mapping to increase student understanding of surveying and mapping technology.
- 497 SURVEYING HONORS PROJECT 3 credits  
Prerequisites: Senior Studies as an honor student. Provides opportunities to research and develop a specific surveying project within chosen area of surveying. Oral, written, and geographical presentation of completed projects.
- 498 INDEPENDENT STUDY 1-3 credits  
Prerequisites: permission of instructor. Directed study in a special field of interest chosen by student in consultation with instructor (may be repeated for a total of six credits).

## 2985

- 101 INTRO TO GEOG & LAND INFO SYST 3 credits  
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  
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  
Prerequisite: 101. Continued instruction in the hands-on technical applications of Geographic and Land Information Systems. Laboratory.
- 205 BUILDING GEODATABASES 3 credits  
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 3 credits

Prerequisites:101.Practical application and presentation techniques using the principles and concepts of cartography and geographic information systems. Laboratory.

280 TOPICS: PROFESSIONAL PRACTICE 2 credits

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

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

Prerequisite:Permission of Program Director.Supervised professional experience in GIS/LIS agencies or related setting.

295 WORKSHOP: GEOG & LAND INFO SYS 1-3 credits

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

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

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.

## 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.

129 COMPUTER APPLS IN CONSTR 3 credits

This course introduces students to important computing skills for construction managers including software for estimating, scheduling, presentations, general business administration and graphics.

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.

226 CONSTRUCTION SUPERVISION 3 credits

Introduction to topics on construction supervision including planning, directing and coordinating onsite activities to build quality defined by drawings and specifications.

234 ELEMENTS OF STRUCTURES 3 credits

Prerequisite: 125 and 225.Principles of stress and structural analysis, concepts of steel, timber design, and reinforced concrete.

235 CONSTRUCTION INSPECTION 3 credits

Prerequisite: 2990:131. Fundamentals of total quality management and construction inspection.

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: 2990:131 The content includes study of the development of a site including surveying, excavation, soil treatment, heavy equipment requirements, storm water management, pavement design, and construction of roadways.	
248	CONSTRUCTION GRAPHICS	3 credits
	Introduction to terminology and drawing basics with a focus on civil/site plans, architectural and structural drawing.	
254	BUILDING CODES	3 credits
	Prerequisite: 2990:131. Students learn fundamental concepts for construction related to the residential building code.	
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.	
356	SAFETY IN CONSTRUCTION	3 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.

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.

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

Prerequisite: 2030:255. Introduction to hydrology. Flow in closed conduits and open channels, distribution, systems, storage requirements and basic concepts of hydraulic structures. Basic concepts of seepage and working knowledge of pumps.

468 CONSTRUCTION MANAGEMENT 3 credits

Prerequisites: 352, 358. Construction Management takes established construction practices, current technological advances, and latest management methods and makes them into an efficient, smooth working system.

469 CONTRACTS AND SPECIFICATIONS 2 credits

Prerequisite: Admission to BSCET program or permission. This course studies the principles and applications of construction specifications, contracts, processes for managing professional risk and increasing economic performance of the construction process.

471 UNDERSTANDING LEED GUIDELINES 3 credits

Prerequisite: 2990:371 or permission of instructor. Provides an understanding of LEED guidelines and requirements and help prepare the student for the LEED associate exam.

479 CPC SEMINAR 3 credits

Prerequisite: Must be of senior level status towards a B.S. Degree in Construction Engineering Technology or permission of instructor. This course prepares students for the content and format of the Certified Professional Constructor's Examination.

489 ST: CONSTRUCTION 1-3 credits

Prerequisite: permission of instructor. (May be repeated for up to six credits.) Special lecture/laboratory courses



offered once or only occasionally in areas where no formal courses exist.

490 W: CONSTRUCTION 1-3 credits

Prerequisites: permission of instructor. (May be repeated for up to six credits.) Group studies of special topics in construction. May not be used to meet undergraduate major requirements in construction. May be used for elective credit only.

497 HONORS PROJECT 1-3 credits

Prerequisite: Senior standing in Honors College and permission of supervising faculty in student's degree field and pursuit of major in CET. Individual Senior Honor's Project relevant to student's major field of study. Specific projects are approved and supervised by a designated member of the faculty in the student's degree field.

498 INDP STUDY: CONSTRUCTION 1-3 credits

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

## 3000

200 JOB SEARCH STRATEGIES-A&S MAJ 2 credits

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

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

## 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.

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.		

## 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.		

## 3004

201	INTRO:INTERNATIONAL DEVELOPMNT	3 credits
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
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.		

## 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

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

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

(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

(May be repeated) Prerequisite: permission. Supervised experience in research or community agency work.

## 3030

31 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.

32 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.

33 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.

34 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.

41 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.

42 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.

43 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.

44 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.

45 ESL SPEAKNG: DEV SPEAKNG PROF 0 credits

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

51 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.

52 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.

53 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.

54 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.

96 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.

99 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.

## 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.

106 EXPLORING BIOLOGY 3 credits

Exploration of how science works and the cellular organization, genetic inheritance and diversity of living things. Not available for credit toward a degree in biology.

108 INTRO TO BIOLOGICAL AGING 3 credits

Prerequisite: 3100:103. Survey of normal anatomical and physical changes in aging and associated 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.

312 NEUROSCIENCE IN HEALTH/DISEASE 3 credits

Prerequisite: 3100:112 with a C or better or 3100:202 with a C or better or 3750:320 with a C or better. Discover how neurons communicate and explore how the brain functions under conditions of normal health, as well as conditions of disease.

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 FOUNDATIONS OF PHYSIOLOGY I 3 credits

Prerequisite: 3100:112 with a grade of C- or better. Fundamentals of physiology including integrating systems (neurophysiology, sensory processes, and endocrinology), movement, and muscle. For all pre-professional students and Biology majors.

364	FOUNDATIONS PHYSIOLOGY LAB I	2 credits
Prerequisite: 3100:112 with a grade of C- or better. Corequisite: 3100:363. 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.		
401	HUMAN ANATOMY BIOLOGY MAJORS	4 credits
Prerequisite: 3100:112 with a C- or better. Organizing principles and patterns found in human organs and systems. Laboratory integrates creative, analytical and virtual approaches to translate concept into practical application of anatomy.		
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	MEDICAL MICROBIOLOGY	4 credits
Prerequisite: 3100:331. Pathogenic microorganisms, including bacteria, viruses, fungi, helminthes, and how they cause disease; host-pathogen interactions and the function of the immune response in controlling disease. 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 birdsevolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.		
460	MEDICAL HISTOLOGY	4 credits
Prerequisite: 3100: 311 or permission.100% online course.Structure of human cells and tissues and their identification.Functional organization of the human cell and tissues.		
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 3 credits  
Prerequisite: 112 with a grade of C- or better. Lectures focus on development of model vertebrate organisms, and cellular and molecular mechanisms underlying animal development.
- 467 COMP VERTEBRATE MORPHOLOGY 4 credits  
Prerequisite: 112 with a grade of C- or better. An introduction to the comparative morphology of major vertebrates. The laboratories consist of dissections of representative vertebrates.
- 468 THE PHYSIOLOGY OF REPRODUCTION 3 credits  
Prerequisites: 112 with a grade of C- or better or 202. Study of the physiological mechanisms of reproduction throughout the animal kingdom with emphasis upon mammalian endocrinological control. Controversial issues and current research will be examined.
- 469 RESPIRATORY PHYSIOLOGY 3 credits  
Prerequisite: 202 or 363 or 473. Study of mechanisms determining gas exchange including mechanics, ventilation, blood flow, diffusion, and control systems. Emphasis is given to normal human lung function. (Clinical aspects are not considered in detail.)
- 470 LAB ANIMAL REGULATIONS 1 credits  
Required of anyone working with animals, and covers government regulations, care of animals and a lab to teach basic animal handling and measurement techniques.
- 471 PHYSIOLOGICAL GENETICS 4 credits  
Prerequisite: 211 or equivalent. 202 or 363 or 473. The integrative study of how genetics and physiology influence complex systems from molecular to behavioral in plants and animals. Laboratory.
- 472 BIOL MECHANISMS OF STRESS 3 credits  
Prerequisite: 202 or 363 or 473. Study of mechanisms from molecular to behavioral of how stress influences body systems and signals. The latest research and experimental issues are discussed.
- 473 FOUNDATIONS OF PHYSIOLOGY II 3 credits  
Prerequisite: 3100:363. Continuing fundamentals of physiology including metabolism and temperature, respiration and circulation, and osmoregulation. Adaption to extreme environments is emphasized.
- 474 FOUND OF PHYSIOLOGY LAB II 1 credits  
Prerequisite: 364; corequisite 473. Laboratory experiments in animal physiology (respiration, circulation, metabolism, osmoregulation). Presentation of results in scientific format and as oral reports.
- 475 COMPARATIVE BIOMECHANICS 3 credits  
Prerequisite: 112 with a grade of C- or better, or equivalent. Investigation of how physical constraints on biological materials, structural mechanics and locomotion relate to the survival and evolution of living organisms.
- 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.

- 483 RESEARCH TECH IN NEUROSCIENCE 3 credits  
Prerequisite: 3100:112 with a C or better or 3100:202 with a C or better or 3750:320 with a C or better. Discover how the most cutting edge neuroscience research techniques are designed and implemented to further our understanding of the brain and visual system.
- 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 2 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 experiento 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.

## 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
	Prerequisite: 266. An integrated laboratory experience covering the isolation, characterization and analysis of enzymes and DNA, protein synthesis and purification, enzyme kinetics, biochemical databases and statistical treatment of data.	
380	ADVANCED CHEMISTRY LAB I	2 credits
	Prerequisite: 266. A laboratory experience that focuses on the synthetic and spectroscopic techniques of modern	

inorganic chemistry, including bio-inorganic and organometallic compounds.

- 381 ADVANCED CHEMISTRY LAB II 2 credits  
Prerequisite 266: corequisite: 314 or 305 or permission. Integrated laboratory experience covering the areas of quantitative analysis, physical chemistry, and instrumental techniques.
- 399 INTERNSHIP IN CHEMISTRY 1-3 credits  
Prerequisites: minimum GPA of 2.5; permission of the Department. Work experience focused on career applications of the discipline of Chemistry. (May repeat for a maximum of six credits.)
- 401 BIOCHEMISTRY LECTURE I 3 credits  
Prerequisite: 264. Biochemistry of amino acids, carbohydrates, lipids, and nucleic acids: structure/function relations. Enzymes as catalysts: kinetics and regulation. Cofactors.
- 402 BIOCHEMISTRY LECTURE II 3 credits  
Prerequisite: 401. Overview of metabolism; thermodynamics; carbohydrate, fatty acid, amino acid, and nucleoside anabolism and catabolism; hormonal control of metabolism. Photosynthesis.
- 406 BIOCHEM OF GENE EXPRESSION 3 credits  
Prerequisites: 3100:311, 3150:401, or permission of the department. DNA, RNA, and protein synthesis, translation and transcription. Gene function and expression, cell cycle and cancer, genetic engineering, gene silencing, gain of function studies.
- 423 ANALYTICAL CHEMISTRY I 3 credits  
Prerequisite: 154, 263. Theoretical principles of quantitative and instrumental analysis.
- 424 ANALYTICAL CHEMISTRY II 3 credits  
Prerequisite: 154 and 263. Instrumental analysis with emphasis on newer analytical tools and methods.
- 463 ADVANCED ORGANIC CHEMISTRY 3 credits  
Prerequisite: 264. Introduction to study of mechanisms of organic reactions.
- 472 ADVANCED INORGANIC CHEMISTRY 3 credits  
Prerequisites: 314 or 305 or permission. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.
- 480 ADVANCED CHEMISTRY LAB III 2 credits  
Prerequisites: 381 or 305 or permission. Integrated laboratory experience covering the areas of quantitative analysis, physical chemistry, instrumental techniques, and inorganic chemistry.
- 490 W: CHEMISTRY 1-3 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  
(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  
Special Topics in Chemistry.
- 499 RESEARCH PROBLEMS IN CHEMISTRY 1-2 credits  
(May be repeated for a total of eight credits) Prerequisite: permission. Assignment of special problems to student, designed as an introduction to research problems.

## 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.

## 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

## 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 covering the archaeological remains and historical texts in translation of the ancient Near East.

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.)

## 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 INDUSTRIAL 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.

## 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
- Prerequisites: completion of 111, 112 or their equivalents, 64 credits or permission of instructor. Analysis of literary texts and their film adaptations. Emphasis on genre, structure, and visual elements as counterparts to written texts.
- 466 LINGUISTICS AND LANGUAGE ARTS 3 credits
- Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits including 111 and 112 or permission of the instructor. Foundation course in linguistics with pedagogical implications for second language learners. Fundamental topics (morphology, syntax, semantics, phonetics, pragmatics) and related topics (sociolinguistics, contrastive analysis) covered.
- 467 MODERN EUROPEAN FICTION 3 credits
- Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Representative European writers from about 1850 to present, in translation. Focus on fiction of such writers as Dostoyevsky, Gide, Camus, Mann, Kafka and Kundera.



- 468 INTERNATIONAL POETRY 3 credits  
Prerequisite: Completion of 112 or equivalent, 64 credits or permission of the instructor. This survey of world poetry focuses on the stylistic concerns and social consequences of literature from Latin America, Africa, Asia, Europe, and beyond.
- 469 EROS & LOVE IN EARLY WEST LIT 3 credits  
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. An analysis of the use of sex and love in the literature of the Western World from Greco- Roman times to 1800, with special emphasis on how sexuality and romantic love are used as allegorical, satiric, fantastic or realistic devices.
- 470 HISTORY OF ENGLISH LANGUAGE 3 credits  
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Development of English language, from its beginnings: sources of its vocabulary, its sounds, its rules; semantic change; political and social influences on changes; dialect origins; correctness.
- 471 U.S. DIALECTS: BLACK & WHITE 3 credits  
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Study of differences in pronunciation, vocabulary and grammar among U.S. language varieties. Origins, regional and social dimensions are explored. Correctness, focusing on black English and Appalachian speech, explored.
- 472 SYNTAX 3 credits  
Prerequisites: 371, and 111 and 112 or their equivalents, 64 credits or permission of the instructor. Principles of syntactic description. Sentence structures are investigated from a variety of languages, with emphasis on English.
- 473 THEORE FOUND AND PRIN OF ESL 3 credits  
Prerequisite: 3300:111, 3300:112 and 3300:371 or 3300:466/566, or their equivalents; also could be taken concurrent with 3300:371 or 3300:466/566. 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 MANAGEMENT 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.

## 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 PROGRAMMING & 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

Prerequisite: permission. (May be repeated for a total of six credits.) Supervised professional experience in planning agencies or related settings. Only three credits can be used toward a degree in Geography and Planning.

489 ST: GEOGRAPHY 1-3 credits

(May be repeated) Selected topics of interest in geography.

490 W: GEOGRAPHY 1-3 credits

(May be repeated for a total of six credits) Group studies of special topics in geography.

495 SOIL & WATER FIELD STUDIES 3 credits

Properties, origins and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.

496 FIELD RESEARCH METHODS 3 credits

Prerequisite: 12 credits in Geography & Planning. Field work enabling student to become competent in collecting, organizing and analysis of data while carrying out field research projects.

497 REGIONAL FIELD STUDIES 1-3 credits

Off-campus intensive study of geographic features of a region or regions through direct observations and travel using appropriate field study methods.(repeatable up to 6 credits)

498 HONORS RESEARCH IN GEOGRAPHY 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 contemporary geography. Selection of research topic and writing of research paper in proper scholarly form under direction of faculty member.

499 CAREER ASSESSMENT SEMINAR 2 credits

Prerequisites: 24 credits in department or permission. Students demonstrate knowledge and skills acquired as geography majors through assessment testing and semester project, evaluate career options, and prepare resume and portfolio.

## 3370

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, and evaluation of environmental problems related to geology through laboratory exercises and demonstrations which apply concepts discussed in introductory geoscience courses. 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 3100:111Introductory 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: SEDIMENTRY BASIN ANALYS 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 OPTCL MNRLGY, 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 ENVIRON AND ENG 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.		

## 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, or 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, or 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, or 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, or 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, or 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, or 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, or 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).

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 EASTERN 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: RENAISSANCE RELIGIOUS 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: ABSOLUTE/REVOLUTION 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: REVOLUTION 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.		
330	MODERN AFRICA	3 credits
This course will introduce major themes in modern African history, from the trans-Atlantic, slave trade, through the colonial and post-independence periods.		
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. The rise of Japanese militarism, Japan's drive to create an empire in East and Southeast Asia, 1895-1945, and its role in the Pacific War, 1937-45.

404 STUDIES IN ROMAN HISTORY 3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. Concentrated investigation of selected topics, such as imperialism in middle and late Republic, the age of Augustus, or the fall of western Empire.

409 IMPERIAL SPAIN, 1469-1700 3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. This course examines the rise and fall of Spain as the first world power. It will cover Spanish political, cultural, and social history, 1469-1700.

410 HISTORY AND FILM 3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. Repeatable once with permission. Examines films as historical experiences, historical events, and artifacts of history. Themes and foci will vary.

416 MODERN INDIA 3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. History of the Indian subcontinent from c. 1500 with emphasis on India society and culture, British imperialism, and the emergence of Indian nationalism.

417 LATIN AMERICA AND THE US 3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. Inter-American relations viewed from Latin American and U.S. perspectives; U.S. policy, imperialism, economic and cultural influences.		
418	HISTORY OF BRAZIL SINCE 1500	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Survey of the economic, political, social and cultural history of Brazil since 1500.		
424	THE RENAISSANCE	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. The age of transition from the Middle Ages to modern times (1350-1600). Special emphasis on intellectual trends, the development of humanism, and the fine arts.		
425	THE REFORMATION	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Europe in 16th century; its religious, cultural, political and diplomatic development, with special emphasis on Protestant, Anglican and Catholic reformations.		
429	EUR: FRENCH REV ERA-1789-1815	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.		
483	HISTORY IN VIDEO GAMES	3 credits
Prerequisite: Sophomore standing or permission of instructor. Examines the presentation of history in video games analyzing them for accuracy, bias, structural limitations, and utility as teaching tools.		
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.

## 3450

- 100 INTERMEDIATE ALGEBRA 3 credits  
Prerequisite: Completion of 2010:052 or 2010:057 or 2010:084 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 MATHEMATICS FOR EVERYDAY LIFE 3 credits  
Prerequisites: Completion of 2010:052 or 2010:057 or 2010:084 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 3450:100 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  $\frac{1}{2}$  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 223 with a grade of C- or better or permission of instructor. Study of vector spaces, linear transformations, matrices, determinants, inner products, the eigenvalue problem, quadratic forms and canonical forms.

331 MODELING WITH CALCULUS 4 credits

Prerequisite: Completion of 231 with a grade of C- or better. Introduction to limits, continuity, differentiation with applications, integration with applications, sequences and series. These topics will be enhanced by the use of CAS.

335 INTRO TO ORDINARY DIFF EQUATNS 3 credits

Prerequisite: Completion of 223 with a grade of C- or better or permission of instructor. Basic techniques for solving ODEs and systems of ODEs. Analysis of models involving differential equations of first order and simple equations of second order.

341 GEOMETRY AND MEASUREMENT 3 credits

Prerequisites: Completion of 209 with a grade of C- or better, or 307 with a grade of C- or better and be admitted to the College of Education. Basic Constructions, Polygons, Similarity, Pythagorean Theorem, Circles, Congruence, Perimeters and Areas of Plane Figures, Surface and Volume of Solids, Rigid Motions and Symmetry, Coordinate geometry.

401 HISTORY OF MATHEMATICS 3 credits

Prerequisite : Completion of 307 with a grade of C- or better. Origin and development of mathematical ideas.

410 ADVANCED LINEAR ALGEBRA 3 credits

Prerequisite: Completion of 312 with a grade of C- or better. Study of vector spaces, linear transformation, canonical and quadratic forms, inner product spaces.

411 ABSTRACT ALGEBRA I 3 credits

Prerequisite: Completion of 307 with a grade of C- or better or permission of instructor. Study of groups, rings, fields, integral domains.

412 ABSTRACT ALGEBRA II 3 credits

Prerequisite: Completion of 411 with a grade of C- or better or permission of instructor. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.

413 THEORY OF NUMBERS 3 credits

Prerequisite: Completion of 222 with a grade of C- or better or permission. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.

415 COMBINATORICS & GRAPH THEORY 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 3 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.

## 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 3460:209 and 3460:210 with grades of C- or better, and permission of a faculty supervisor. Placement in industry for experience related to computer science. (May be repeated to a maximum of 12 credit hours. 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 3460:316 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.

## 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: 3470:451. 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 permission.Applications of the techniques of regression and multifactor analysis of variance.	
465	DESIGN OF SAMPLE SURVEYS	3 credits
	Prerequisite: 461or 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.	
470	BIostatISTICS AND EPIDEMIOLOGY	3 credits
	Prerequisite: 261 and 262 or 461, or equivalent.Biostatistics and Epidemiological methods for biological and medical studies, including ANOVA, analysis of repeated measures, disease-related measures, log-linear models, and clinical trials.	
471	ACTUARIAL SCIENCE I	3 credits
	Prerequisite: 451or 461or 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.

477 TIME SERIES ANALYSIS 3 credits

Prerequisite: 450, or 451, or 561. Stationarity. ARIMA modeling with seasonality. Parameter estimation, model diagnostics and forecasting. Regression with autocorrelated errors. Cointegration and multivariate ARMA models. Heteroscedasticity and long-memory models

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.

483 ADVANCED STATISTICAL COMPUTING 3 credits

Prerequisite: 3470:461 or equivalent. Topics include data management, random number generation, resampling methods, numerical optimization, Markov Chain Monte Carlo, smoothing methods, data mining: clustering and classification.

485 APPL ANALYTICS-DECISION TREES 3 credits

Prerequisite: 461 or permission. Selected topics in predictive modeling using CHAID, Classification and Regression Trees, Logistic Regression and Neural Networks

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: 3470:462 or 3470:480 or permission. Students will learn about various aspects of statistical consulting and will work on current projects of the Center for Statistical Consulting. May be repeated for a total of 4 credits.

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.

## 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.

## 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 3 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

Prerequisite: 202 or equivalent. Enhancement of communicative skills in Arabic with a focus on development of the ability to read, appreciate and discuss Arabic writing. (Conducted in Arabic).

311 ARABIC CULTURAL EXP ABROAD 1-8 credits

Prerequisite: Permission of Department Chair. Residence and study abroad in an Arabic-speaking country. May be repeated once with different content. Only 8 credits allowable for minor in Arabic.

422 ST: ARABIC 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. (Conducted in Arabic.) (May be repeated once with different topic for a maximum total of 8 credits.)

497 INDIV READING: ARABIC 1-4 credits

Prerequisite: 202 and permission of the instructor and department chair. Individual study under the guidance of professor. May be repeated once with departmental permission for a total of 8 credits.

## 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 3 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.

## 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)

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)

## 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 FRANCO 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. May be repeated for a total of six credits.

### 302 FRENCH COMPOSITION

3 credits

Sequential. Prerequisite: 202 or equivalent. Development of writing skills beyond intermediate level.

### 303 FRENCH CULTURE & CIVILIZATN I

3 credits

Prerequisite: 202 or equivalent. History of France and French cultural heritage from its origins to mid-20th century.

### 304 FRENCH CULTURE & CIVILIZATN 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.

## 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

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

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

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

Prerequisite: 202 and permission of department chair.

498 INDIVIDUAL READING IN GERMAN 1-3 credits

Prerequisite: 202 and permission of department chair.

## 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.

## 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 3 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.

## 3570

101 BEGINNING RUSSIAN 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 RUSSIAN 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 RUSSIAN 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 RUSSIAN 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.

497 INDIVIDUAL READING IN RUSSIAN 1-3 credits

Prerequisite: 202 and permission of the department chair.

## 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.

103 INTSV FIRST YR SPANISH-HYBRID 4 credits

Prerequisites: Permission of Department of Modern Languages.First year elementary Spanish in hybrid format for those who have some experience learning Spanish.

104 BEGINNING MEDICAL SPANISH I 3 credits

Development of basic Spanish medical oral expression by studying health terminology and practicing

conversational skills. Development of an awareness of Hispanic cultures. Conducted in Spanish.

105 BEGINNING MEDICAL SPANISH II 3 credits

Prerequisites: Completion of 3580:104 with a C+ or better. Development of basic Spanish medical written expression by studying health terminology and practicing writing. Development of an awareness of Hispanic cultures. Conducted in Spanish.

106 BEGINNING MEDICAL SPANISH III 3 credits

Prerequisites: Completion of 3580:105 with a C+ or better. Development of Spanish medical written expression by studying health terminology and practicing writing. Development of an awareness of Hispanic cultures. Conducted in Spanish.

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 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.

250 HISPANIC LIT IN TRANSLATION 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 Hispanic authors. Texts and discussion in English.

301 SPANISH CONVERSATION 3 credits

Prerequisite: 202 or equivalent. Development of oral expression, listening comprehension and conversational ability. May be repeated for a total of six credits.

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. May be repeated for a total of six credits.

- 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.
- 307 SPAN CONV: HEALTH PROFESSIONS 3 credits  
Prerequisites: Spanish 202 and permission of instructor. Students will gain intermediate to advanced level oral competency in Spanish in order to conduct interviews and communicate in Spanish with Spanish-speakers
- 308 SPAN COMP: HLTH PROF/FIRST RES 3 credits  
Prerequisites: Spanish 202 and permission of instructor. Students will gain intermediate to advanced level written competency in Spanish, write and translate documents so to communicate with Spanish-speaking patients in the medical setting.
- 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.
- 330 SPANISH UNDERGRAD PROF INTERN 1-6 credits  
Prerequisites: Completion of 3580:202 or equivalent with a minimum 3.0 GPA in Spanish and students will need to notify a faculty advisor in the Spanish section to seek permission and approval for the enrollment in the internship course the semester prior to the experience. Students will participate in cooperating local, regional, national and international professions of community organizations to apply their proficiency in Spanish in a real-world setting.
- 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.
- 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.
- 360 HISPANIC CULTURE THROUGH FILM 3 credits  
Prerequisite: Two of the group 301, 302 and 303 or permission of instructor. An articulation and analysis of important themes in contemporary Hispanic culture presented through film. An introduction to film criticism. 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. Repeatable for up to 6 credits.
- 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. Repeatable for up to 6 credits.
- 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
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
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
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
Prerequisite: 407 or 408 and departmental permission.		

## 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.		
150	CRITICAL THINKING	3 credits
Examination of good and bad reasoning patterns.Topics may include rational and persuasive arguments, deductive and inductive inference, causal and basic statistical inference, logical fallacies, and moral arguments.		
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 PHILOSPHY 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 higher, 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

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

(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.

## 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.

## 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.

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.

301 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.

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.

313 INTERNATIONAL LAW 3 credits

Prerequisite: 3700:150 or 3700:310. This course explores law at the international level and will focus on diplomacy, treaties, covenants, laws of war, and the legal role of international organizations.

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.

333	SOCIAL ENTREPRENEURSHIP	3 credits
	Scholarly analysis of successful social and political entrepreneur's efforts to address real world problems and an interdisciplinary analysis of the strategies and skills they deploy.	
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.	
406	COMPARATIVE CONSTITUTIONAL LAW	3 credits
	This course will explore the essential principles and theories of law and constitutionalism and then apply them, comparatively, to several different constitutional traditions from various regions of the world.	
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 UNDSTND 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.

428 OHIO POLITICS 3 credits

Prerequisite: 3700: 100. This course focuses on factors that make Ohio economically competitive. Material focuses on recent election results, public opinion polling and influence of socioeconomic factors.

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.		

## 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.		
330	EMOTION ACROSS THE LIFESPAN	4 credits
Prerequisites: 3750:100 & 3750:230. We read and discuss primary writings on theoretical and empirical research in emotional development in adulthood. Topics include emotion perception and emotion regulation.		
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.

## 3800

100 INTRO 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: 3800:100. 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: 3800:100. Introduction to history and goals of institutional and community corrections.

104 EVIDENCE & CRIM LEGAL PROCESS 3 credits

Prerequisite: 3800:100. Study of evidence law, constitutional perspectives and law enforcement officer's relationship thereto. Court procedures from arrest to incarceration.

105 INTRO TO POLICE STUDIES 3 credits

Prerequisite: 3800:100. 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: 3800:100. Examination of juvenile justice system, functions of its various components; adolescent subculture, legislation, causative factors, prevention and treatment methodologies and programs.

120 CRIME PREV: THEORY, PRACT, 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: 3800:100. 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: 3800:100 and permission. Academic refresher course of basic police academy. Completion (C or better) and 3800:100 qualifies a commissioned police officer to test out of certain courses (see adviser).

226 INTRVS, INTER & HOSTAGE NEGOT 3 credits

Prerequisite: 3800:100. An overview of the legal, theoretical, and applied aspects of conducting interviews, interrogations, and hostage negotiations within the field of law enforcement.

231	PHYS SECUR: SYST, DSGN & CTRL	3 credits
	Prerequisite: 3800:101. 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	SECUR INVESTGTNS: PRIN & 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: 3800:101. 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 & VIOLENCE PREV	3 credits
	Prerequisites: 3800:101, 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: 3800:100 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 SECURITY: PRIN & PRAC	3 credits
	Prerequisite: 3800:101. 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: 3800:100, 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: 3800:100. 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: 3800:100, 2820:105. Introduction to the science, technology and application of forensic methods in the investigation of crime.	
255	INTR TO FORENSIC INVESTIGATION	3 credits
	Prerequisite: 3800:100. 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 INTERVENTION	3 credits
	Prerequisite: 3800:100. 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: 3800:100. 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.	

286	COURTROOM COMMUNICATION	3 credits
Prerequisite: 3800:100. 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: 3800:100. 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: 3800:100. 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: 3800:100 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.		
302	THEORY OF CRIMINAL LAW	3 credits
Prerequisite: 3800:102. Criminal law is built on a number of core issues. This course examines the principles and doctrines that shape and limit criminal liability and punishment.		
307	FOUNDATIONS OF CRIME ANALYSIS	3 credits
Introduction to the profession of crime analysis. Provides an overview of crime analysis techniques.		

## 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 SOC EFFECTS OF CRIME IN MEDIA 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: 3850:100 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.

490 ORGS,COMMUNITY,& SOCIAL ACTION 3 credits

Survey of organizational and community issues that affect the achievement of shared goals.Emphasis on the evidence-based approaches at both the organizational and community levels.

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.

## 3980

375 INTRO TO PUBLIC SECTOR MGMT 3 credits

Prerequisite: 30 credit hours or Sophomore standing.Introduces the principles, structures and people in the public sector.Addresses responsibilities and management of public services by government and civic non-profit agencies.

380 BUDGET POLITICS 3 credits

(Prerequisite: 30 credit hours or sophomore standing.)Introduces the politics and history of public budgeting for federal, state and local governments. Considers legislative and executive practices and democratic aspects of budgeting.

412 NATIONAL URBAN POLICY 3 credits

Prerequisite: 42 credit hours or Sophomore s tanding.Examines major federal policies that relate to urban problems in regard to policy-making processes, implementation, and impact on local governments.

416 PERSONNEL MGMT IN THE PUB SECT 3 credits

Prerequisite: 42 credit hours or Sophomore standing. Fundamental issues and principles of public sector personnel administration, including recruitment, selection, training, motivation, supervision, evaluation, labor relations and affirmative action.

417 LEADERSHIP AND DECISION-MAKING 3 credits

Prerequisite: 42 credit hours of Sophomore standing.Examines the context of public sector management including relevant organizational theories, strategic management and planning for leading local government and non-profit organizations.

418 CITIZEN PARTICIPATION 3 credits

Prerequisite:42 credit hours or Sophomore standing.This course considers the fundamental theory background,



techniques and issues of citizen participation in urban management and policy making.

419 COMMUNITY ORGANIZING 3 credits

Prerequisite: 42 credit hours or Sophomore standing. The course examines the evolution and influence of neighborhood, community and grass-roots organizations on public policy-making in urban areas.

426 GRANTSMANSHIP 3 credits

Pre-requisite: 42 credit hours or Sophomore standing. Considers the process and techniques of the grant-seeking and awarding processes. Emphasizes public funding opportunities for local government and nonprofit agencies.

427 CULT COMPIN THE PUB SECTOR 3 credits

Prerequisite: 42 credit hours or Sophomore standing. Considers how public and non-profit managers can effectively communicate and provide services to culturally diverse individuals. Addresses management issues related to social stratification system.

443 INTRODUCTION TO PUBLIC POLICY 3 credits

Prerequisite: 42 credit hours or Sophomore standing. Considers how public managers need to understand models of public policy formulation. Covers major policy issues and the analysis of policy implementation and policy impacts.

451 INTRODUCTION TO CITY MGT 3 credits

Prerequisite: 42 credit hours or Sophomore standing. Examines the historic role of city management in professionalizing local government operations; examines current responsibilities and trends in the practice of city management and leadership.

462 FUNDRAISING & RESOURCE MGMT 3 credits

Prerequisites: 3980:463; and 42 credit hours or sophomore standing. Examines alternative methods of fundraising and unique resource management challenges and opportunities of non profit organizations.

463 NON-PROFIT MANAGEMENT 3 credits

Prerequisite: 42 credit hours or Sophomore standing. Examines fundamental principles of non-profit organizations. Considers unique concerns of their operation environment, resource development, leadership, and management processes and aspects of volunteerism.

473 COMPUTER APPL IN PUBLIC ORGS 3 credits

Prerequisite: 42 credit hours or Sophomore standing. Introduces microcomputer applications used in public organizations and includes data bases, data entry, web pages, report writing, graphical presentation and spreadsheets.

480 SPECIAL TOPICS IN PUBLIC MGMT 3 credits

Prerequisite: 42 credit hours or sophomore standing. Opportunity to study current issues and specialized topics in public management, non-profit management or public policy analysis. May be repeated with change in topic for a total of 9 credits.

## 4100

101 TOOLS FOR ENGINEERING 3 credits

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.

110 WOMEN IN ENGR SEM & PEER GROUP 1 credits

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.

120 IDEA ENGINEERING SEMINAR 1 credits

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.

180 ENGINEERING DESIGN 1 credits

See department for course description.

200 FRESHMAN INTERNSHIP 0 credits

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.

201 ENERGY & ENVIRONMENT 2 credits

Interactions between energy production, consumption and environment. Case studies. Not for engineering, chemistry or physics major.

202 ATMOSPHERIC POLLUTION 2 credits

Causes of atmospheric pollution and technical economic and social problems. Technical solutions. Case studies. Not for engineering, chemistry or physics majors.

203 ENVIRONMENTAL SCI & ENGINEERING 3 credits

Science and engineering fundamentals required to understand environmental issues and alternative solutions. Not for engineering, chemistry, or physics majors.

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

Prerequisite: Admission to the College of Engineering. 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

Prerequisite: Admission to the College of Engineering. 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

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

Prerequisite: Admission to the College of Engineering. Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered summer after fourth year.

## 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: 4200:101 or 4250:101. 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: [4200:121 or 4250:105], 3150:151 and 3450:221. 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: 4200:200 or 4250: 200 and 3450:223. Second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids. Phase and chemical equilibrium, 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. Corequisite: 3650:292. Structure, processing and properties of metals, ceramics and polymers. Special topics, such as composites, corrosion and wear.

308 INTRO TO BIO-BASED POLYMERS 3 credits

Prerequisite: 3150:263 and junior standing. This course introduces basic concepts of polymer science: building blocks, structure, elementary reactions and polymerization mechanisms, through seven natural polymers.

310 PROJECT MGMT & TEAMWORK III 1 credits

Prerequisite: 4200: 210 and admission to the College of Engineering.. Corequisite: 4250: 300 or 4200: 353. 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: [4200:200 or 4250:200], 3450:335 and admission to the College of Engineering. 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: 3450:335, 4200:225 and admission to the College of Engineering. Nonequilibrium processes including chemical reaction mechanisms, rate equations and ideal reactor design applied to homogeneous and heterogeneous systems.

341 PROCESS ECONOMICS 2 credits

Prerequisite:[4200:200 or 4250:200] and admission to the College of Engineering. 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: 4200:321 and admission to the College of Engineering. 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: 4200:225 and [C- or above in 4200:200 or 4250:200] and admission to the College of Engineering. 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

Prerequisites: 4200:310 and admission to the College of Engineering. Corequisites: 4200:441 or 4250:440. 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: 4200:330, 4200:353 and admission to the College of Engineering. 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: 4200:330, 4200:341, 4200:351, 4200:353 and admission to the College of Engineering. 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

Prerequisites: 4200:441 and admission to the College of Engineering. 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

461 SOLIDS 3  
PROCESSING 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

(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

(May be repeated for a total of six credits) Prerequisite: permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required.

## 4250

101 TOOLS FOR CORROSION ENGR 2 credits

Corequisites: 3450:149 and 4200:110. Introduction to corrosion engineering. Basic concepts of engineering practice. Introduction to professional level software needed for later studies.

105 CORROSION ENGR COMPUTATIONS 2 credits

Prerequisite: 4200:101 or 4250:101. 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: [4200:121 or 4250:105], 3150:151 and 3450:221. 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: 4200:225 and [4200:305 or 4600:380] and admission to the College of Engineering. Corequisites: 4250:301. 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 I 1 credits

Prerequisites: 3150:154 and admission to the College of Engineering. Corequisite: 4250:300. Laboratory exercises will reinforce the fundamentals of aqueous corrosion.

305 AQUEOUS CORROSION PREVENTION 3 credits

Prerequisite: 3150:263, 4250:300 and admission to the College of Engineering. Corequisite: 4250:306, 4300:202 and 4400:307. 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 II 1 credits

Prerequisite: 4250:301 and admission to the College of Engineering. Corequisite: 4250:305. Laboratory exercises will reinforce the fundamentals of aqueous corrosion.

310 FUNDAMENTALS OF DRY CORROSION 3 credits

Prerequisite: 4250:300 and admission to the College of Education. Corequisite: 4250:311. 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: 4250:306 and admission to the College of Engineering. Corequisite: 4250:310. 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 I 3 credits

Prerequisite: 4250:305 and admission to the College of Engineering. 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 II 3 credits

Prerequisites: 4250:440 and admission to the College of Engineering. 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.

450 ENG PRINCIPLES OF CORROSION 3 credits

Prerequisite: Junior level standing or permission. Engineering principles for understanding corrosion and corrosion mitigation methods. Case studies of corrosion management to reliability and reduce corrosion. Multidisciplinary engineering enrollment encouraged.

494 1-3 credits

Prerequisite: Senior Standing. Individual design project in Corrosion Engineering that is supervised by a faculty member.

496 SPEC TOP IN CORR ENGINEERING 1-3 credits

Prerequisite: Permission. (May be repeated for a total of six credits). Topics selected from new and developing areas of corrosion engineering.

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.

## 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.

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: 4300:201. Axial force, bending moment diagrams, axial stress and deformation; stress-strain diagrams; torsion; flexural stress; flexural shearing stress; compound stresses; indeterminate beams; columns.

306 THEORY OF STRUCTURES 3 credits

Prerequisite: 4300:202 and admission to the College of Engineering. 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: 4300:202 and admission to the College of Engineering 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: 4300:313 and admission to the College of Engineering. 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: 4300:321 and admission to the College of Engineering. 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

Prerequisites: 4600:310 and admission to the College of Engineering. 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

Prerequisites: junior standing and admission to the College of Engineering. 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

Prerequisites: 4300:202 and admission to the College of Engineering. Fundamentals and applications of materials science, mechanics of solids and study of laboratory instrumentation and standard techniques in testing of engineering materials.

401 STEEL DESIGN 3 credits

Prerequisites: 4300:306 and admission to the College of Engineering. Tension, compression members; open web joists; beams; bearing plates; beam-columns; bolted, welded connections.

403 REINFORCED CONCRETE DESGN 3 credits

Prerequisites: 4300:306 and admission to the College of Engineering. 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

Prerequisites: 4300:341 and admission to the College of Engineering. 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

Prerequisites: senior standing and admission to the College of Engineering 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 ENGINEER 3 credits

Prerequisites: senior standing and admission to the College of Engineering. A civil engineering design project that emphasizes interdisciplinary teamwork to solve a substantial, currently relevant problem.

497 HONORS PROJECT 1-3 credits

(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.

## 4400

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

Prerequisites: 4400:230, 4400:231, 4400:330, 4400:332, 4450:220, [4400:101 or 4450:101] with a combined average grade of 3.0 or higher, admission to the College of Engineering, 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

Prerequisites: 4400:301 or 4450:301, admission to the College of Engineering and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.

303 UG RESEARCH III: ELEC ENGR 1 credits

Prerequisites: 4400:302 or 4450:302, admission to the College of Engineering 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

Prerequisites: junior standing, admission to the College of Engineering 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.

330 CIRCUITS II LABORATORY 1 credits

Corequisite: 332. Computation, computer aided circuit analysis, circuit theorem confirmation, report writing to include data analysis and reduction, intermediate electrical measurements.

332 CIRCUITS II 3 credits

Prerequisite: 231; Corequisite: 330, 3450:335. Coupled magnetic circuits. Transient and frequency domain analyses of linear circuits. Bode plots, Laplace transforms, transfer functions, resonance, passive and active filters.

340 SIGNALS & SYSTEMS 4 credits

Prerequisites: [4450:208 or 3460:209], 3450:335, 4400:332 and admission to the College of Engineering. Linear systems theory and transform analysis techniques for continuous and discrete systems. Convolutions, Laplace transforms, continuous and discrete Fourier transforms. Difference equations and Z transforms.

341 INTRO: COMMUNICATION SYSTEMS 3 credits

Prerequisites: 4400:340 and admission to the College of Engineering. Introduces analog and digital communication systems and signal processing. Time-sampling and filtering. Modulation and demodulation techniques. Noise and bandwidth requirements. System design and performance analysis.

353 ELECTROMAGNETICS I 4 credits

Prerequisite: 4400:231 and admission to the College of Engineering. Corequisite: 3450:335. Vector analysis. Electrostatics: electrostatic field, scalar potential, dielectrics, boundary-value problems. Magnetostatics: magnetic circuits. Maxwell's equations: Faraday's law, time-harmonic fields. Introduction to plane waves.

354 ELECTROMAGNETICS II 3 credits

Prerequisites: 4400:353 and admission to the College of Engineering. Theory and application of transmission lines: transient and steady-state waves. Plane EM waves: propagation, reflection, and refraction. Waveguides open and closed-boundary guiding structures.

360 PHYSICAL ELECTRONICS 3 credits

Prerequisites: 4400:332, 4450:220 and admission to the College of Engineering. PN junction, diffusion, tunneling, FET and BJT device physics, equivalent circuits for electronic devices, time and frequency analysis, biasing and logic families.

361 ELECTRONIC DESIGN 4 credits

Prerequisites: 4400:340, 4400:360 and admission to the College of Engineering. Power amplification, feedback, oscillators, linear integrated circuits, modulation and demodulation circuits.

371 CONTROL SYSTEMS I 4 credits

Prerequisites: 4400:340 and admission to the College of Engineering. 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: 4400:332 and admission to the College of Engineering. Corequisite: 4400:353. 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: 4400:309, senior standing, admission to the College of Engineering and 4400:341, 4400:354, 4400:361, 4400:371, and 4400:381 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: 4400:401 and admission to the College of Engineering. 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: 4400:341. Introduction to digital communication theory and systems; sampling, formatting and baseband communications; digital modulation techniques, optimal receivers, error performance analysis and error control.

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
	See department for course description.	
488	CONTROL OF MACHINES	4 credits
	See department for course description.	
489	ELECTRIC AND HYBRID VEHICLES	3 credits
	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
	(May be taken more than once) Prerequisite: permission of department chair. Special topics in electrical engineering.	

## 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
	Prerequisites: completion of [4400101 or 4450:101], 4400:230, 4400:231, 4400:330, 4400:332 and 4450:220 with a combined average grade of 3.0 or higher, admission to the College of Engineering 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
	Prerequisites: [4400:301 or 4450:301], admission to the College of Engineering 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
	Prerequisites: [4400:302 or 4450:302], admission to the College of Engineering 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, admission to the College of Engineering 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

Prerequisites: 4400:360 and admission to the College of Engineering. 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: 4450:309, senior standing, admission to the College of Engineering, and completion of 4450:325, 4450:367, 4450:420, 4450:427 and 4450:440 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

Prerequisites: 4450:401 and admission to the College of Engineering. 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 and 4400:340. 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: [3460:209 or 4450:208] and admission to the College of Engineering. 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

Prerequisite: 320; 325 or 3460:426. Network architecture and protocol layering. Network design principles, communication protocols, and performance measures. Socket programming, routing, error detection and correction, access control, multimedia networking.

440 DIGITAL SIGNAL PROCESSING 3 credits

Prerequisites: 4400:340 and admission to the College of Engineering. Signal sampling and reconstruction; data-converter models. Unilateral and bilateral z transforms. Discrete Fourier Transform (DFT); Fast Fourier Transform (FFT). Digital filter structures and design methods.

462 ANALOG INTEGRATED CIRCUIT DESG 3 credits

Prerequisite: 4400:360. CMOS processes and layout; amplifiers, current mirrors, and comparators; current, voltage, and bandgap references; switched capacitor circuits. Frequency and noise analysis techniques.

465 PROGRAMMABLE LOGIC 3 credits

Prerequisite: 4450:220, 3460:209 or 4450:208. Digital design with programmable devices. PLD and FPGA architectures. Logic design and technology mapping tools.

467 VLSI CIRCUITS & SYSTEMS 3 credits

Prerequisite: 367. High performance adders and multipliers for very large scale integration (VLSI) systems.

Architectural synthesis. Design for high performance, low power, and testability.

498 ST: COMPUTER ENGINEERING

1-3 credits

(May be taken more than once) Prerequisite: permission of department chair. Special topics in computer engineering.

## 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

Prerequisites: 3450:223 and admission to the College of Engineering. 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: 3450:335, 4600:300 and admission to the College of Engineering. Absorption refrigeration. Gas cycles. Thermodynamics of state, gas mixtures and gas-vapor mixtures. Combustion.

305 THERMAL SCIENCE

2 credits

Prerequisite: 3450:223 and admission to the College of Engineering. 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: 3450:335, 4600:203 and admission to the College of Engineering. 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: 4600:310 and admission to the College of Engineering. 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: 4600:300, [4600:310 or 4800:360], [4600:360 or 4800:220] and admission to the College of Engineering. Fundamentals of heat transfer by conduction, convection and radiation.

321 KINEMATICS OF MACHINES

2 credits

Prerequisites: 4600:165, 4600:203 and admission to the College of Engineering. 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 and admission to the College of Engineering. 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: 4600:336 and admission to the College of Engineering. 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: 3450:335, 4600:203 and admission to the College of Engineering. 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: 3450:335, 4600:260 and admission to the College of Engineering. Numerical methods of solution of mechanical engineering problems.		
380	MECHANICAL METALLURGY	2 credits
Prerequisites: 3150:153 and admission to the College of Engineering. 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: 4600:301, 4600:311, 4600:315 and admission to the College of Engineering. 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
Prerequisite: Admission to the College of Engineering. Corequisites: 4600:400, 4600:441, 4600:460 and [4600:401 or 4600:461 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: 4600:301, 4600:310 and admission to the College of Engineering. 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
Prerequisites: 4600:311 and admission to the College of Engineering. Introduction to basic aerodynamics, airplane performance, stability and control, astronautics and propulsion. Design considerations are emphasized.		
413	INTRODUCTION TO AERODYNAMICS	3 credits
Prerequisites: 4600:311 and admission to the College of Engineering. 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
Prerequisites: 4600:311 and admission to the College of Engineering. 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

Prerequisites: 4300:202, 4600:315 and admission to the College of Engineering. 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: 4600:203 and admission to the College of Engineering 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: 4600:340 and admission to the College of Engineering 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 OPTIMIZATION 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: 4600:337 and admission to the College of Engineering. Design process. Creativity and inventiveness. Tools of decision making, engineering economics, reliability, optimization. Case studies.

461 ME SENIOR DESIGN PROJECT I 2 credits

Prerequisite: Admission to the College of Engineering. Corequisites: 4600:400, 4600:441 and 4600:460. Detailed senior design project. Design, feasibility, and cost analysis.

462 PRESSURE VESSEL DESIGN 3 credits

Prerequisite: 336 or permission. Introduction to modern pressure vessel technology. Topics include basic

structural considerations, materials and their environment and design-construction features.

463 COMPUTER AIDED DESIGN & MANUFA 3 credits

Prerequisites: 165 or permission, 360 or permission. The use of computer systems to assist in the creation, modification, analysis, or optimization of engineering designs, and to plan, manage, and control manufacturing plants.

471 ME SENIOR DESIGN PROJECT II 2 credits

Prerequisites: 4600:461 and admission to the College of Engineering. Detailed senior design project. Final design and implementation.

483 MECHANICAL ENGR MEASURMTS LAB 2 credits

Prerequisites: 4600:300, 4600:310 and admission to the College of Engineering. Corequisite: 4600:340. Development of methods to measure temperature, pressure, flow rate, viscosity and motion. Includes both lecture and laboratory experience and emphasizes calibration and accuracy of appropriate instruments.

484 MECHANICAL ENGINEERING LAB 2 credits

Prerequisite: 4600:301, 4600:311, 4600:315, 4600:380, 4600:431, 4600:483 and admission to the College of Engineering. Corequisite: 4600:441. Laboratory experiments in area of dynamics, vibrations, thermodynamics, fluids, heat transfer and controls.

486 ST: MECHANICAL ENGINEERING 1-3 credits

Prerequisite: permission. Brief description of current content to be announced in schedule of classes.

497 HONORS PROJ IN MECHANICAL ENGR 4 credits

Prerequisite: senior standing in Honors Program. Individual creative project in thermal science, mechanics or design relevant to mechanical engineering, supervised by faculty member of the department.

498 EXPER INVESTG IN MECHANIC ENGR 1-2 credits

Individual independent laboratory investigations in areas relevant to mechanical engineering. Student suggests a project and makes appropriate arrangements with faculty for supervision.

## 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
Prerequisite: Senior standing and permission. Corequisite: 4600:400. Analysis and design of mechanical polymer systems.		

## 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.		
220	BIOMEDICAL COMPUTING	3 credits
Prerequisites: 3450:223, 4800:101 and admission to the College of Engineering. 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: 4800:101, [4400:231 or 4400:307] and admission to the College of Engineering. 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
Prerequisites: 3450:335 and admission to the College of Engineering. Modeling and simulation of physiological systems and their interactions with therapeutic devices, such as the artificial kidney.		

325	DESIGN OF MEDICAL DEVICES	3 credits
Prerequisites: Junior/senior standing in the College of Engineering, the College of Polymer Science and Engineering or the College of Arts and Sciences. Design of Medical Devices, design criteria, human factors, patient care and monitoring devices, surgical devices, bench testing and legal liability.		
360	BIOFLUID MECHANICS	3 credits
Prerequisites: 3450:335, 3150:133, 3650:292, and 4600:203. Introduction to the fundamentals of fluid mechanics and their application to biological, cardiovascular, respiratory and other biofluid systems.		
362	TRAN FUND FOR BIOMED ENGIN	3 credits
Prerequisite: 3450:335, 4600:203 and admission to the College of Engineering. Introductory topics in fluid, heat, and mass transfer including both integral and differential analysis as it applies to biological and biomedical systems.		
365	MECHANICS OF BIOLOG TISSUES	3 credits
Prerequisites: 3450:335, 4300:202 and admission to the College of Engineering. The mechanical properties of musculoskeletal tissues are presented along with modeling techniques and testing procedures. Tendons, ligaments, muscles, cartilage and bone will be addressed.		
370	BIOMECH OF HUMAN MOVEMENT	3 credits
Prerequisites: 3100:202 and 4600:203. The application of engineering mechanics and anatomy to study and analyze human movement. Lectures and in-class labs will introduce students to experimental and theoretical techniques.		
400	BIOMATERIALS	3 credits
Prerequisite: Admission to the College of Engineering. Properties of Materials used in medicine and their interaction with biological materials will be discussed. Biocompatibility issues, material degradation, biomaterials testing will also be discussed.		
409	INTRO: BIOMED ENGINEERING RSCH	3 credits
Application of engineering principles to local area medical research. Includes biomaterials, orthopedics, artificial organs, biostereometrics, biometrics, biological signal and image analysis, biomechanics and computers in medicine.		
420	BIOMD SIGNAL & IMAGE PROC	3 credits
Prerequisites: 4400:163, 4400:343 and admission to the College of Engineering. Introduction to the basic problems associated with biological signal and image processing applications, and appropriate approaches to dealing with them.		
422	PHYSIOLOGICAL CONTROL SYSTEMS	3 credits
Prerequisites: 3100:202, 3450:335. The basic techniques employed in control theory, systems analysis and model identification as they apply to physiological systems.		
430	DESIGN OF MED IMAGING SYS	3 credits
Prerequisites: 3100:200, 3650:292, 4400:343, 4400:353, 4800:305 and admission to the College of Engineering		

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
Prerequisites: 4800:400 and admission to the College of Engineering. 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 and admission to the College of Engineering 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
Prerequisite: Admission to the College of Engineering. 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 1-3 ENGINEERING	1-3 credits
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
Prerequisite: 4800:111 and admission to the College of Engineering. Corequisite: 4800:305. The design process will be further discussed utilizing case studies and detailed biomedical engineering design projects.			
492		BIOMEDICAL ENGR DESIGN II	2 credits
Prerequisites: 4800:491 and admission to the College of Engineering. The design process will be furtherdiscussed utilizing detailed biomedical engineering design projects. Projects will be required to be interdisciplinary in nature.			
498		INTRODUCTION TO BME RESEARCH	2 credits
Prerequisites: permission of instructor. Directed individual or group study in research in biomedical engineering. Course is credit/no credit. May not be repeated.			
499		BME RESEARCH PROJECT	1-3 credits
Prerequisites: 4800:498, permission of instructor. Directed individual or group study in research in biomedical engineering. May be repeated.			

## 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: 4600:340, 4900:240 and admission to the College of Engineering. 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
Prerequisites: 4400:307 and admission to the College of Engineering. 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, 3150:152, 4300:202 and admission to the College of Engineering 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

Prerequisites: 4900:320 and admission to the College of Engineering. 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

Prerequisites: 4600:412, 4900:340 and admission to the College of Engineering. Communication and control for aircraft applications. Fourier analysis, AM and FM principles, modulators demodulators, communication systems. aircraft system dynamics, classical control system principles and applications.

450 AEROSPACE COMPUTATIONS 3 credits

Prerequisites: 4300:202, 4600:315, 4600:360, 4600:411 and admission to the College of Engineering or permission of instructor. Introduction to finite element and finite volume methods in aerospace engineering; fundamental principles of FEM and FVM discussed and illustrated through structural, and aerodynamic applications.

460 AEROSPACE SYSTEM MANUFACTURING 3 credits

Prerequisites: 4600:360 or equivalent and admission to the College of Engineering or permission of instructor. Using computer systems to assist in creation, modification, analysis, or optimization of engineering designs, planning, management and control of manufacturing, CAD software with manufacturing applications.

490 AEROSPACE DESIGN PROJECT 2 credits

Prerequisites: Senior standing and admission to the College of Engineering or permission. Detailed senior design project. Design, feasibility and cost analysis, final design and implementation; engine, airframe and aerodynamic testing.

497 AEROSPACE HONORS PROJECT 2 credits

Prerequisite: Senior standing in Honors College or permission. Individual creative project in Aerospace Systems, supervised by faculty member of the department. Includes design, feasibility and cost analysis, final design and implementation.

## 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.

## 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 of 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.

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&LEADRSH 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.

# 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
Focus on theories of language acquisition, models of instruction suited to teaching foreign languages and cultures in the elementary school (K-8), and strategies that promote appropriate levels of language proficiency and competency for young learners.		

325	EARLY CHILDHOOD PRACTICUM	3 credits
Prerequisites: 7400:265, 5200:319, 5500:245 and corequisite: 5500:370. This field-based course emphasizes developmental domains of preschool children. Candidates design appropriate activities for culturally and linguistically diverse population of typically and atypically developing children.		
331	KINDERGARTEN METHODS & MATER	4 credits
Prerequisites: 330 and 7400:265. Scope and sequence of kindergarten curricula, with emphasis on developmentally appropriate methods and materials. This course is not part of the new teacher licensure program.		
334	TEACHING ART IN ELEMENTARY SCHOOL	3 credits
Prerequisite: Admission to Teacher Education Program, Art K-12. Visual arts in elementary schools. Art education concepts with studio orientation including history of art education, developmental stages, curriculum and organization, methods, evaluation and research, and practical participation.		
340	DVLP WRITING/DIGITAL LITERACY	3 credits
Prerequisite: 5500:245; prerequisite or corequisite: 5500:370. 5610:448. This course focuses on theoretically grounded developmental writing and communication using digital literacy in the information age specifically for children age 3 to third grade.		
342	TEACHING MATH- YOUNG CHILDREN	3 credits
Prerequisites: 3450:140, 240. Prerequisite or corequisite: 5500:370. Trends in mathematics instruction in early childhood/middle level classrooms. Procedures for the development of mathematics concepts and skills.		
395	FIELD EXPERIENCE	1-3 credits
Prerequisites: permission of adviser and department head. Independent field work in area selected by student's adviser, based on student's needs.		
420	INTEGRATED PRIMARY CURRICULUM	4 credits
Prerequisite or corequisite: 5500:370. Course models an inquiry-based format that integrates math, science, social studies, and technology standards where students learn how to create, implement, manage, and evaluate student-centered learning environments. (25 hours field and 35 clinical hours).		
425	ADV INTEGRATED PRIMARY CURRICULUM	4 credits
Prerequisite: Admission to teacher education program; 420. This course further explores an inquiry-based format that integrates math, science, social studies, and technology standards by having the students implement, manage, and evaluate their own and their students' learning. (25 field and 35 clinical hours).		
430	HONORS RES PROJ: EARLY CHILDHOOD	1-6 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).

453	BUILD UNDER IN EARLY CHILD SET	3 credits
Prerequisites: 5500:245 and 360. Corequisite: 5610:448. This course prepares teachers to work in inclusive programs, able to meet the needs of children; exceptional, cultural and linguistic diverse, and typically.		
454	INQUIRY LEARN EARLY CHILDHOOD	3 credits
Prerequisites: 5610:448 and 5500:370. Pre/Corequisite: 4200:453. Anchored in the authentic work of teacher and students, this capstone methods class utilizes action research strategies in field based settings to inform teaching practice. 30 field hours and 5 clinical hours.		
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.

499 STUDENT TEACHING: K-3 11 credits

322 Clinical Hours. Prerequisite: Approval of the Student Teaching Committee, based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Co-requisite: 5200:498. Planned 16-week experience in schools selected and supervised by the Office of Field Experiences.

## 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 and 5500:360. A methods course to examine the school social studies curriculum and strategies for effective teaching. (15 field hours)

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. (15 field hours)

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. (15 Field Hours)

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 news writing.

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

Prerequisite: permission of instructor. (May be repeated with change of topic.) Group study of special topics in middle childhood of critical contemporary concern in professional education.

490 W: MIDDLE LEVEL 1-3 credits

Elective workshop for Middle Childhood majors who would like to pursue further refinement of teaching skills. Emphasis in demonstrations of teaching techniques and development.

495 STUDENT TEACHING: GRADES 4-6 5 credits

Planned teaching experience in schools selected and supervised by the Office of Field Experience.

- 496 STUDENT TEACHING: GRADES 7-9 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; senior status. Corequisite: 498.Planned teaching experience in schools selected and supervised by the Office of Field Experiences.
- 497 INDEPENDENT STUDY 1-3 credits  
Prerequisite: permission of advisor and department head.Specific area of curriculum investigation pertinent to middle level education as determined by student's academic needs.
- 498 STU TEACH COLLOQ: MID GRADES 1 credits  
Corequisite: 495 and 496. Prepares learner for final phase of becoming a decision maker. Explores problems encountered in the classroom, initiates reflective practice and concepts of other research.
- 499 STU TEACH:MIDDLE LEVEL EDUC 11 credits  
Corequisite:5250: 498.322 Field Hours.Planned teaching experience in schools selected and supervised by the Office of Field Experiences.

## 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.
- 303 GLOBAL EDUCATION & TECHNOLOGY 3 credits  
This course focuses on theories, materials, and methods for teaching global education through e-learning and web-based tools.
- 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.
- 320 INTRO TO TCHNG IN CONTENT AREA 3 credits  
Prerequisite: 5500:360.This course introduces secondary teacher candidates to trends, issues, and challenges as it relates specifically to curriculum and instruction in the content areas in secondary schools.
- 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 3 credits

Prerequisites: 5300:420 and 5300:430. Co-requisite: 5500:431. Continuation of teaching strategy and assessment implementation based on research and theory.

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 6-11 credits

Prerequisites: Approval of the Student Teaching Committee, considered based upon approved application to student teaching, and passing state licensure exam(s). 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.

## 5400

400 ADULT LEARNING 3 credits

Describes characteristics of the adult learner and examines issues, factors, and strategies pertinent to successful facilitation of learning in a variety of training environments.

401 LEARNING WITH TECHNOLOGY 3 credits

Application of learning technologies to situations encountered by academic and professional learners.Addresses foundational concepts of computer literacy, ethics. security, collaboration, and learning design.

413 INSTRUCTIONAL DESGN PROFESSION 3 credits

Examination of the Instructional Design profession, its history, trends, issues and impact on Instruction Design's future. Research on best practice in the field are explored.

415 TALENT DEVELOPMENT & TRAINING 3 credits

Prerequisites: 401 or permission from instructor. Examine the training function within talent development from a global perspective. Explore best practices for today's workforce. Identify emerging trends and training solutions.

420 ELEARNING BY DESIGN 3 credits

Experiences in using, developing and evaluating learning technologies and media used for instructional design and training.

430 PROGRAM PLANNING 3 credits

Process of program planning and evaluation for instructional design and training for a variety of adult learning organizations.

435 SYS INST DESIGN IN POSTSEC ED 3 credits

Prerequisites or corequisites: 401, 420, 430, admission to program, or permission of instructor. Examination of instructional design models with particular emphasis of the ADDIE model. Study of applications to Instructional Design Technology.

475 INSTRUCTIONAL DELIVERY 3 credits

Prerequisite: Permission of department. Implementation of instructional design principals in the proposal, design, development, implementation, assessment and evaluation (ADDIE) of eLearning and other delivery of training courses.

480 GLOBALLY DIVERSE WORKFORCE 3 credits

Study of cultural pluralism and disability in the workplace and the best practices, as related to training in adult learning organizations.

481 ST: TECHNICAL EDUCATION 1-4 credits

See department for course description.

490 W: TECHNICAL EDUCATION 1-3 credits

Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in a totally on-line format and face to face format with web enhancements.

495 POSTSEC EDUCATION PRACTICUM 3 credits

Prerequisites: 400, 401, 405, 415, 420, 430, 435, and admission to the Postsecondary Technical Education program with a C or better in each 5400 course and a 2.5 or better overall GPA in 5400 courses, and an overall GPA of 2.5 or better. Directed instruction under the supervision of directing instructor and university supervisor, and development of instructional portfolio.

497 INDP STUDY: TECHNICAL EDUC 1-3 credits

Area of study determined by student's need.

## 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)



251	TEACHING PERSNL FIN PK-12	3 credits
	Teacher candidates learn best practices in planning and implementing standards-based personal finance and economic instruction.	
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.	
308	INSTRUCTIONAL DESIGN/ASSESSMNT	6 credits
	Prerequisites: 5100:220 and 5610:225. Theoretical and practical foundations for standards-based instruction and assessment; including instructional design, assessment development, and classroom practice for all learners in diverse and inclusive settings.	
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)	
352	TCHNG MATH TO INCL EARLY CHILD	3 credits
	Pre-requisite: 5500:370. To examine and to know the standards-based mathematics curriculum and the instruction appropriate for inclusive early childhood ecologies.	
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.	
430	CLINICAL TEACHING I	3 credits
	Prerequisite: 5500:360. Corequisite: 5300:420. Observe and apply education methodologies and theories in a school/classroom field-based environment. (50 clinical hours)	
431	CLINICAL TEACHING II	3 credits
	Prerequisites: 5300:420 and 5500:430. Corequisite: 5300:421. Course following Clinical Teaching I - Apply education methodologies and theories in a classroom environment in a full-time school environment. (640 clinical hours)	
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.	
456	SCAFF LANG/CONT LEARN ENGL LEA	3 credits
	Prerequisite: 3300:473. This course prepares students to use quality, research-based sheltered instruction for improving teaching effectiveness and accelerating academic achievement achievement for English learners.	
458	INCLUSIVE FIELD EXPERIENCE	1 credits
	Corequisite: 5610:457. In this inclusive field experience, teacher candidates explore the challenges and best practices in providing quality educational services for all learners. (20 field hours)	
475	INSTRUCTIONAL TECHNOLOGY APPL	3 credits
	Prerequisite: 5500:230 and 5500:360. 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.

## 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  
 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).\*\*

130 HANDBALL 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).\*\*

131 INDOOR 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).\*\*

132 KARATE 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.

133 LIFEGUARD TRAINING 2 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). Two credits each.

134 MODERN 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).\*\*

135 RACQUETBALL 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).

136 RUGBY 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).\*\*

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
	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).	
149	TEAM HANDBALL	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).**	
150	TENNIS (BEGINNING)	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).	
151	VOLLEYBALL	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).	
152	WATER POLO	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).**	
153	WATER SAFETY	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.	
154	WRESTLING	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).**	
155	BASIC KAYAKING	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.	
170	VARSITY BASEBALL	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). Varsity sports are one credit each.	
171	VARSITY BASKETBALL	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). Varsity sports are one credit each.	
172	VARSITY CROSS COUNTRY	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). Varsity sports are one credit each.	
173	VARSITY FOOTBALL	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). Varsity sports are one credit each.

174 VARSITY 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). Varsity sports are one credit each.

175 VARSITY SOCCER 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). Varsity sports are one credit each.

176 VARSITY SOFTBALL 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). Varsity sports are one credit each.

177 VARSITY SWIMMING 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). Varsity sports are one credit each.

178 VARSITY TENNIS 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). Varsity sports are one credit each.

179 VARSITY TRACK 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). Varsity sports are one credit each.

180 VARSITY WRESTLING 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).\*\* Varsity sports are one credit each.

181 VARSITY VOLLEYBALL 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). Varsity sports are one credit each.

182 VARSITY RIFLERY 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). Varsity sports are one credit each.

183 VARSITY CHEERLEADING 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). Varsity sports are one credit each.

190 ST: GENERAL STDS PHYSICAL EDUC 0.5-2 credits

Weight training, self-defense for the blind, water safety instruction, beginning yoga, tai chi, billiards, intermediate and advanced bowling, intermediate and advanced golf, advanced self-defense.

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.

## 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  
Concepts analysis of games and play and application of these concepts to the teaching/learning process in physical education at all ages.
- 200 AQUATIC FACILITY MANAGEMENT 3 credits  
This course is designed to explore, acquire, and discuss knowledge and techniques of aquatic facility operation and management.
- 201 KINESIOLOGY 3 credits  
Prerequisites: 3100:200, 201 or 202, 303. Application of basic principles of anatomy and mechanics to human movement. Three hours lecture with practical application and demonstrations.
- 202 DIAGNOSIS OF MOTOR SKILLS 3 credits

This course introduces athletic trainers and physical education majors to the sciences of diagnosing motor skills.

203 MEASUREMENT & EVAL IN PHYS ED 3 credits

Statistical procedures needed for analysis and interpretation of tests. Evaluation procedures, testing instruments, and techniques for administering tests are discussed and practiced. Three hours lecture.

204 INDIVIDUAL & TEAM SPORTS 2 credits

Intro to individual and team sports that are commonly taught in schools. Course presents knowledge, fundamental skill development, psychomotor skills analysis for the content areas.

205 TEAM SPORTS 2 credits

The purpose of this course is to teach students how to teach team sports.

206 COACHING BASKETBALL 3 credits

An introduction to coaching basketball. Discussion of the important technical and tactical elements of coaching basketball.

207 COACHING TRACK AND FIELD 3 credits

An introduction to coaching track and field. Discussion of the important technical, tactical and psychological elements of coaching track and field.

208 COACHING FOOTBALL 3 credits

An introduction to coaching football. Discussion of the important technical and tactical elements of coaching football.

209 COACHING BASEBALL 3 credits

An introduction to coaching baseball. Discussion of the important offensive, defensive, and technical and tactical elements of coaching baseball.

211 FIRST AID & CPR 2 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 3 credits

Prerequisites: Students must be accepted into the Clinical Athletic Training Education Program (ATEP). This course will address principles and techniques used in initial evaluation of musculoskeletal injury as defined by CAATE standards and guidelines.

255 EMERGENCY CARE FOR ATH TRAIN 3 credits

Prerequisite: Accepted into ATEP Clinical Education program. This course will teach knowledge and skills in handling emergency situations or life-threatening sudden illness or injuries which an athletic training may encounter.

275 ADV ATHLETIC INJURY MGT:LO EXT 3 credits

Prerequisites: 242, 243; corequisite: 276. This course is designed to meet CAATE standards and guidelines to display knowledge and psychomotor skills in injury evaluation and recognition lower extremity.

276 ATHLETIC TRAINING LAB II 1 credits

Prerequisites: 242, 243; corequisite: 275. This course will meet CAATE standards and allow the students to learn and practice psychomotor skills and clinical proficiencies. Includes clinical rotation.

300 PHYS OF EXER FOR OLDER ADULT 3 credits

Prerequisite: 302. Analysis of physiological effects of exercise on the elderly. Exercise programs adaptable for use by persons working with elderly. Three hours lecture.

302 PHYSIOLOGY OF EXERCISE 3 credits

Prerequisites: 3100:206/207 or 3100:208/209. A course designed to study the physiological effects of exercise relative to physical education activities, athletics and athletic training. Two hours lecture, two hours laboratory. Students must be in the Sport Science and Wellness Program to take 300/400 level courses.

305 CLINICAL EXPERIENCE I 2 credits

Prerequisite: by permission only. Improves the student's psychomotor skills in the following domains of athletic training: injury prevention, injury recognition/evaluation and management, therapeutic exercise and rehabilitation.

306 PE ACT IV: BADMINTON/GOLF 2 credits

Course presents knowledge, fundamental skill development, and psychomotor skill analysis for the content areas of badminton and golf. One hour lecture, two hours lab. Students must be in the Sport Science and Wellness Program to take 300/400 level courses.

307 PHYSICAL EDUCATN ACTIVITIES V 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program to take 300/400 level courses.

400 MUSCULOSKEL ANATOMY I:UP EXTR 3 credits

Prerequisite: 3100:200, 3100:202. This course includes lecture/laboratory activities to provide the student a comprehensive learning experience in lower extremity musculoskeletal anatomy.

401 MUSCULOSKEL ANATOMY II:LO EXTR 3 credits

Prerequisites: 3100:200, 201, 202, 203 and 5550:201. This course includes lecture laboratory activities to provide the student a comprehensive learning experience in lower extremity musculoskeletal anatomy.

403 EXERCISE TESTING 3 credits

Prerequisite: 302. This course will cover basic knowledge of exercise testing and interpretation of results. Cardiovascular and muscular fitness aspects will be measured. Students must be in the Sport Science and Wellness Program to take 300/400 level courses.

404 EXERCISE PRESCRIPTION 3 credits

Prerequisites:403 or instructor's permission.This course focuses on how to appropriately prescribe exercise for various populations (young, middle-aged, elderly, pregnant, diseased-states). Students must be in the Sport Science and Wellness Program to take 300/400 level courses.

405 CLINICAL EXPERIENCE I 2 credits

Prerequisite:Accepted into ATEP Clinical education program. Enroll by advisor permission only.This course will allow for athletic training students to master CAATE proficiencies and clinical proficiencies associated with the course.

406 ADV STRENGTH & CONDITIONING 3 credits

Prerequisite: 352. Strength and conditioning programs for heterogeneous populations. The course covers high-level sport specific exercise prescriptions that aids injury prevention and performance enhancement.

409 SPORT BEHAVIOR 3 credits

The focus of this course is the behavior of athletes and sport participants studied within the context of play, games, and sport.

410 INTRO: SPORT SOCIOLOGY 3 credits

Provides information to students about the sociological aspects of sport. Delivered in a totally online format, web-based format, or in a face-to-face format.

412 GENERAL MEDICAL ASPECTS 3 credits

Prerequisites: 3100:200/201 or permission.Covers various topics related to sports medicine and general medical conditions. Students will gain perspectives and exposure to a variety of allied health care professionals.

415 SEMINAR IN ATHLETIC TRAINING 2 credits

Prerequisites: 3100:200, 201, 202, 203.To meet CAAHEP standards and guidelines and incorporate an even distribution of competencies and proficiencies throughout all athletic training for sports medicine courses.

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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 neuro-developmental model and alternate methods. Three hours lecture. Students must be in the Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 INJURY PATHOLOGY & THERAPEUTIC 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

Prerequisites: 302, 403. Designed to familiarize students with current issues in exercise physiology. Students will be expected to obtain a professional certification during this course.

490 W: PHYSICAL EDUCATION 1-3 credits

Practical, intensive and concentrated involvement with current curricular practices in areas related to physical education. Students must be in the College of Education to take 300/400 level courses.

494 STU TEACH: COLLOQ PHYS&HLTH ED 2 credits

Prerequisites: Core courses, program studies courses; corequisite: Student Teaching, 495. Students meet during student teaching to discuss concerns about student teaching and analyze previous learning as it relates to their future as a professional educator. Students must be in the Sport Science and Wellness Program to take 300/400 level courses.

495 STU TEACH: PHYSICAL & HLTH ED 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 5550:494.Planned teaching experience in schools selected and supervised by the Office of Extended Field Experiences.

497 INDP STUDY: PHYSICAL EDUCATION 1-6 credits

Prerequisite: permission of adviser.Corequisite: permission of adviser.Analysis of specific topic related to a current problem in physical education or sport and exercise science.May be repeated for a maximum of 12 credits.\*Students must be in the Sport Science and Wellness Program to take 300/400 level courses.

## 5560

430 SR HONORS PROJ: OUTDOOR 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.

450 APPL OUTDOOR ED TO SCH CURRIC 4 credits

Provides knowledge, skills and techniques useful in application of outdoor education to school curriculum.

452 RESRC & RESRC MGT TCH OUTDR ED 4 credits

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.

454 RESIDENT OUTDOOR EDUCATION 2 credits

Skills, program considerations, and organizational techniques unique to an extended, overnight, resident outdoor education program. Off-campus location for four days and three nights.

456 OUTDOOR PURSUITS 4 credits

Investigation and participation in practical experiences in outdoor pursuits.

460 OUTDOOR EDUCATION PRACTICUM 2 credits

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.

464 WLDRNSS EDUC ASSC OUTDR LDRSHP 3 credits

This is the Wilderness Education Association Standard Program for Outdoor Leadership Certification.

497 INDEPENDENT STUDY 1-3 credits

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.

## 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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 Sport Science and Wellness Program 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.		

## 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 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  
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  
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.
- 494 COUNSELING INSTITUTE 1-4 credits  
In-service programs for counselors and other helping professionals.

## 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



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.		
439	COLLAB W/FAMILIES AND PROFESS	3 credits
This course prepares early childhood professionals for engaging in collaborative home/school consultation and teamwork in serving the educational needs of young children.		
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. 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  
Corequisite: 5610:458. Special educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age students with mild/moderate educational needs.
- 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)
- 462 COLLABORATION W/FAML/PROFESSIO 3 credits  
Prerequisite: 5610:225.This course provides pre-service teacher candidates with the knowledge, skills, and dispositions in communication, collaboration and team processes that facilitate a collaborative culture in schools.
- 463 ASSESSMENT IN SPECIAL EDUC 3 credits  
Prerequisite:225.Prepare 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.
- 469 INCL EDUC FOR ENGL LEARNERS 2 credits  
This class prepares teachers to use evidence based strategies, accommodations, and instruction to enhance the curriculum for the English Learners with special education needs.
- 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 FieldExperience.
- 486 STU TEACH: MILD/MOD EDUC NEEDS 9 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  
Prerequisites:Approval of the Student Teaching Committee, considered based upon approved application to

student teaching, passing PRAXIS II subject test, and approved portfolio. Corequisites:403 and 470.Planning teaching experience in schools selected and supervised by the office of Field Experience.

488 STU TCHG: EARLY CHLD/EARLY INT 6 credits

Approval of the Student Teaching Committee, based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Corequisites: 5200:495, 5610:403, 5610:470. Planned teaching experience in schools selected and supervised by the Office of Field Experience.

490 W: SPECIAL EDUCATION 1-3 credits

(May be repeated for a total of six credits) Designed to explore special topics in in-service or preservice education on a needs basis.

491 W: SPECIAL EDUCATION 1-3 credits

(May be repeated for a total of six credits) Designed to explore special topics in in-service or preservice education on a needs basis.

492 W: SPECIAL EDUCATION 1-3 credits

(May be repeated for a total of six credits) Designed to explore special topics in in-service or preservice education on a needs basis.

493 W: SPECIAL EDUCATION 1-3 credits

(May be repeated for a total of six credits) Designed to explore special topics in in-service or preservice education on a needs basis.

497 INDP STUDY: SPECIAL EDUCATION 1-3 credits

Specific area of investigation determined in accordance with student's needs.

## 5620

490 W: SCHOOL PSYCHOLOGY 1-2 credits

Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

491 W: SCHOOL PSYCHOLOGY 1-3 credits

Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

492 W: SCHOOL PSYCHOLOGY 1-3 credits

Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

494 SCHOOL PSYCHOLOGY INSTITUTES 1-4 credits

Prerequisite: permission of instructor. Specifically designed learning experience for program graduate focusing on critical topics.

## 5700

480 ST: EDUCATIONAL ADMINISTRATION 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.

492 W: EDUC FOUNDATNS & LEADERSHIP 1-3 credits

Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

493 W: EDUC FOUNDATNS & 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 & LDRSHP 1-4 credits

Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

## 5800

492 W: READING 1-3 credits

Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

493 W: EXCEPTIONAL CHILDREN 1-3 credits

Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

494 INTERNATIONAL SCHOOL STUDY 3-6 credits

On-the-scene study of education in foreign countries, usually by concentrating on the study of schools in one restricted geographical area.

## 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.

## 6100

100 CAREER PLANNING IN BUSN ADMN 1 credits

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.

101 BUS ISSUES IN A CONNECTED WRLD 3 credits

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.

110 CBA SUCCESS SEMINAR 1-3 credits

This course is designed to help new CBA students transition from high school or work to the college environment and begin the career development process.

200 PERSONAL LEADERSHIP SKILLS 1 credits

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.

201 INTRODUCTION TO E-BUSINESS 3 credits

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.

220	GLOBAL CULT AND BUSN FIELD EXP	1-3 credits
Prerequisite: 30 credits or permission of instructor.Students travel on faculty led trips and study international business practices.Global business practices are examined and aspects of local culture are explored.		
350	ST: BUSINESS	1-3 credits
Opportunity to study special topics and current issues in business. May be repeated with a change of subject.		
495	INTERNSHIP IN BUSINESS ADMN	3 credits
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.		
497	HONORS PROJECT IN BUSINESS ADM	1-3 credits
Prerequisite:senior standing in Honors Program.Individual directed research relevant to the student's major. Group integrated symposium or an individualized study format available.		
499	INDP STUDY: BUSINESS ADMN	3 credits
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.		

## 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: 6200:201. 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. In-depth study of spreadsheet applications and databases to support decision-making and problem-solving in business and accounting.		
290	SPECIALIZED STUDY	1-3 credits
Prerequisite: Grade ofC or better in 6200:201 or permission.Opportunity to study a specialized area in accounting at the sophomore or junior level (may be repeated with change of subject).		
301	COST MANAGEMENT AND CONTROL	3 credits
Prerequisites: Admission to College of Business; 3250:200, and grades of not less than C in 6200:201, 6200:202, and 6200:250. Product cost accumulation, cost management strategies, performance evaluation, and application of cost in business decisions.		
305	COOPERATIVE EDUCATION IN ACCT	0 credits
Prerequisites: 6200:201, 6200:202, 6200:250. Approved work experience in accounting and taxation. Performance evaluation and written report required.		
316	FINANCIAL APPLICATIONS DEVLPMT	3 credits
Prerequisite: 6200:201, 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 6200:201 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 6200:321 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.

330 CONTEMPORARY FEDERAL TAXATION 3 credits

Prerequisite: Admission to College of Business Administration and a grade of not less than a C in 6200:201 and concurrent enrollment in 6200:321. Examines current federal tax practices with an emphasis on individual taxes.

405 EXPERIENTIAL LEARNING IN ACCT 3 credits

Corequisite: 6200:305. Approved experiential learning in accounting. Instructor approval required.

408 INTERNTL FIN REPORT & ANALYS 3 credits

Prerequisites: Admission to the College of Business Administration, a grade of not less than a C in 6200:201 and 6200:202, 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 6200:322. 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.

431 BUSINESS ENTITY TAXATION 3 credits

Prerequisite: Admission to College of Business Administration and 6200:330 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, 6200:320, 6200:322 and 6200:330. 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, 6200:440 and 6200:454 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

Prerequisites: Admission to the College of Business Administration, 6200:202, 6200:250, 6200:322, 6400:301 and 6500:304 or permission. Study advanced topics in spreadsheet modeling and decision analysis in the context of accounting and finance, including security, control and quality assurance of spreadsheets.

454 INFORMATION SYSTEMS SECURITY 3 credits

Prerequisites: Admission to College of Business Administration and, 6200:320 or 6500:310. Focus on information systems risk and security in distributed business environments; develop policies, practices and



	FINANCE	credits
Prerequisites: 3450:145 and 3250:200 or 3250:244. Studies the sources and uses of funds for business. Students cannot get credit for this class and 6400:301. (For non-College of Business Administration students).		
301	PRINCIPLES OF FINANCE	3 credits
Prerequisites: 3250:200 or 244; 3450:145; 6200:201; and completed one of the following: 6200:250 or admitted to the College of Engineering with 48 credit hours completed. 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.		
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: 6400:321 and completion of 60 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
Prerequisites: 6400:301 or 300, or permission of instructor. Studies the flows of funds. Analyzes major financial intermediaries. Money and capital markets reviewed with emphasis on interest rates and their impact upon administration of specific financial intermediaries.		
341	CONTEMPORARY INVESTMENTS	3 credits
Prerequisites: 6400:300 or 6400:301. Fundamentals of investing for the individual investor. Students cannot get credit for this class and 6400:343. (For non-College of Business Administration students.)		
343	INVESTMENTS	3 credits
Prerequisites: 6400:300 or 6400:301, 3250:426 or 6500:304 or permission of instructor. Range of security investment media explored, alternative investment programs considered and role of securities markets through which goals can be achieved studied.		
390	REAL EST PRINC: VALUE APPROACH	3 credits
A study of real estate: the profession, the process, and the product. Emphasis is on real estate as a product and the valuation process. The measurement of value requires tool abilities in accounting, statistics and finance.		
402	INCOME	3



	PROPERTY APPRAISAL	credits
Prerequisites: at a minimum must have been admitted to a four year degree granting college; 301 or 6140:300; or permission of instructor. Advanced course in real property appraisal and valuation. Techniques and concepts will be covered along with the theory underlying such techniques.		
403	REAL ESTATE FINANCE	3 credits
Prerequisites: at a minimum must have been admitted to a four year degree granting college; 301 or 6140:300; or permission of instructor. Advanced course in real estate covering financing of and investment in real property. Included are investment techniques, methods, institutions, instruments, valuation, appraisal and policy issues.		
414	RISK MGMT: PROPERTY & CASUALTY	3 credits
Prerequisite: admission to a four year degree granting college; 6400: 300 or 301, or permission of instructor. Addresses tools for managing risk, legal concepts of insurance contracts, personal insurance and commercial property and casualty insurance policies as well as other risk issues.		
415	RISK MGT: LIFE & HLTH INSURANCE	3 credits
Prerequisites: at a minimum must have been admitted to a four year degree granting college; 6400:300 or 6400:301; or permission of instructor. Concepts of life and health insurance and risk management are addressed.		
416	ENTERPRISE RISK MANAGEMENT	3 credits
Prerequisite: admission to a four year degree granting college; 6400:300 or 6400:301 or permission of instructor. Explores risk issues at the firm level with emphasis upon identification and management of risk to enhance firm value.		
417	RETIREMENT PLANNING	3 credits
Prerequisites: at a minimum must have been admitted to a four year degree granting college; 6400:300 or 6400:301; or permission of instructor. An in-depth examination of retirement and estate planning objectives, methods, and strategies including the study of employee benefits plans, public and private pension funds, and lifetime strategies for maximization of estate assets.		
418	INSURANCE OPERATIONS	3 credits
Prerequisites: 6400:414 or 6400:415 or permission. This course provides a detailed examination of the composition, financial structure, and operation of the property-casualty insurance industry.		
424	LEGAL CONCEPTS OF REAL ESTATE	3 credits
Prerequisite: at a minimum must have been admitted to a four year degree granting college. Study of concepts of law governing the many interests in real estate including acquisition, encumbrance, transfer, rights and obligations of parties, and the various state and federal regulations. The legal concepts of the business of real estate are likewise examined. Emphasis is on a managerial approach utilizing the case method.		
432	SEM: FINANCIAL PLANNING	3 credits
Prerequisites: at a minimum must have been admitted to a four year degree granting college; 6400:300 or 6400:301. 6400:341 or 6400:343, 6200:330, 6200:410, or permission of the instructor. Corequisites: 6400:415. Explores financial planning function, including contact, data acquisition, plan development		

and implementation; addressing planning techniques and financial planning ethical issues.

436 COMMERCIAL BANK MANAGEMENT 3 credits

Prerequisites: at a minimum must have been admitted to a four year degree granting college; 6200:250, 6400:301 or 6400:300 and 6400:338; or permission of instructor. Study of administrative policy determination and decision making within the commercial bank. Analysis of policy making in areas of liquidity, loan and security investment and sources of funds.

437 INTERNATIONAL BUSINESS FINANCE 3 credits

Prerequisite: at a minimum must have been admitted to a four year degree granting college; 6400:300 or 6400:301; or permission of instructor. Theory and practice of financial wealth maximization in the international business enterprise.

438 INTERNATIONAL BANKING 3 credits

Prerequisite: admission to a four year degree granting college; 6400:437 and 6400:300 or 301 or permission of instructor. Examination of recent trends in the expansion of international banking activities and associated revenue maximizing strategies.

448 ADVANCED PORTFOLIO MANAGEMENT 3 credits

Prerequisite: 343. Advanced Portfolio Management is a semester long case course. The case is the management of the UA Student-Managed Investment Fund. This course's primary activity will be the active management of the Fund. Current and selected topics relating to investments and financial markets will be discussed as needed in the rapidly changing world economy. The course will give the student practical experience in portfolio construction, management and evaluation by managing real money on a real time basis.

473 FINANCIAL STATEMENT ANALYSIS 3 credits

Prerequisites: at a minimum must have been admitted to a four year degree granting college; 6200:201 and 6400:301 or 6400:300 or 6140:300; or permission of instructor. Analysis and interpretation of the financial position and performance of the business firm from the perspective of the credit and financial analyst. Emphasizes mechanics and art of financial analysis.

485 FINANCIAL STRATEGY 3 credits

Prerequisites: at a minimum must have been admitted to a four year degree granting college; senior standing; 302, 343, 338 and 473. Capstone course with applications of financial management theories and tools to make decisions in capital budgeting, capital structure, and working capital management.

489 ADVANCED FINANCIAL ANALYTICS 3 credits

Prerequisites: 6400:302, 6400:338, 6400:343 and 6500:305 or 3250:426. Analysis of financial models using advanced spreadsheet techniques. Models from personal finance, corporate finance and investments are incorporated, with applications in financial planning, forecasting, portfolio theory and security valuation, option valuation, capital investment and cost of capital.

490 SEL T: FINANCE 1-3 credits

Prerequisites: at a minimum must have been admitted to a four year degree granting college; 6200:250 and 301;



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: 315. 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 32 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 DATA NETWORKS AND SECURITY 3 credits

Pre-requisites: Must be admitted to a 4-year degree granting college; 6500: 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 be admitted to a 4-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.

441 TRAINING AND DEVELOPMENT 3 credits

Prerequisite: Admission to a 4-year degree granting college and 6500:341. Comprehensive study of employee training and development methods and practices including performance analysis, design, development, implementation and evaluation

442 COMP MGMT & REWARD SYS 3 credits

Prerequisite: Must be admitted to a 4-year degree granting college; 64 completed credit hours and 6500:341. This course focuses on the development, implementation, and assessment of a business firm's compensation and reward system.

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 MGMT CONSULTING 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\*\*. Students develop skills in field-based management problem solving, project management, and requirements analysis under conditions of uncertainty in a collaborative interdisciplinary team environment.

475 SUPPLY CHAIN OP STRATEGIES 3 credits

Prerequisite: Admission to College of Business Administration and 6500:302, 310, 333, 390, 433. Co-requisite: 6500:433 and 476.. Capstone course integrating supply chain concepts to solve real world supply chain problems primarily using a case study approach.

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 have completed 301 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 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.

486 INTERNSHIP IN SUPPLY CHAIN/OPS 3 credits

Prerequisite: permission of department chair or designated faculty member. On the job experiences with public or private sector organizations.

487 INTERNSHIP IN HUMAN RESOURCES 3 credits

Prerequisite: permission of department chair or designated faculty member. On the job experiences with public or private sector organizations.

- 488 INTERNSHIP IN INFO SYSTEMS 3 credits  
Prerequisite: permission of department chair or designated faculty member. On the job experience with public or private sector organizations.
- 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; 6600:205; 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.

## 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: 205, 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: 205. 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 COMMUNCTN 3 credits  
Prerequisite: Must be admitted to a four-year, degree granting college and 205 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 MARKETING 3 credits  
Prerequisites: Must be admitted to a four-year, degree granting college and 205, 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 205, 355, 375. This course explores the growing role of E-commerce in firm's 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 205 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 205 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 205. 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 205. 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.		
486	INTERNSHIP IN MKTG MANAGEMENT	3 credits
Prerequisite: permission of department chair. On-the-job experience with public or private sector organizations in the field of marketing. On-the-job learning objectives are established by the sponsoring organization and approved by the department chair. Field experiences are augmented by a weekly diary and a term paper, which are supervised and evaluated by the department chair.		
487	INTERNSHIP IN SALES MANAGEMENT	3 credits
Prerequisite: permission of department chair. On-the-job experience with public or private sector organizations in the field of marketing. On-the-job learning objectives are established by the sponsoring organization and approved by the department chair. Field experiences are augmented by a weekly diary and a term paper, which are supervised and evaluated by the department chair.		
488	INTERN: INTEGRATED MKT COMM	3 credits
Prerequisite: permission of department chair. On the job experience with public or private sector organizations in the field of marketing. On the job learning objectives are established by the sponsoring organization and approved by the department chair. Field experiences are augmented by the weekly diary and term paper, which are supervised and evaluated by the department chair.		
491	PROFESS WORKSHOPS IN MARKETING	1-3 credits
Prerequisites: Junior status and be admitted to a 4 year degree granting college. 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.)

493 PROF INSIGHTS: SALES MGMT 1 credits

Prerequisite: Accepted into the College of Business Administration and senior status. Professional Insights: Sales Management is designed to link sales management majors' academic learning to professional practice. Guest speakers, recognized experts in their field, share important lessons in professional selling and sales management and challenge students to address key issues in their profession.

494 PROF INSIGHTS: MARKETING MGMT 1 credits

Prerequisite: accepted into the College of Business Administration and senior status. Professional Insights: Marketing Management is designed to link marketing management majors' academic learning to professional practice. Guest speakers, recognized experts in their field, share important lessons in marketing management and challenge students to address key issues in their profession.

495 PROFESSIONAL INSIGHTS: IMC 1 credits

Prerequisite: Accepted into the College of Business Administration and senior status. Professional Insights: IMC is designed to link Integrated Marketing Communication majors' academic learning to professional practice. Guest speakers, recognized experts in their field, share important lessons in IMC and challenge students to address key issues in their profession.

496 ST: MARKETING 1-3 credits

Prerequisite: Must be admitted to a four-year, degree granting college and 205. (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

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.

## 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 DISTAN 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.

492 INTERNSHIP IN INTL BUSINESS 3 credits  
Prerequisite: permission of department chair. On-the-job experience with public or private sector organizations in the field of marketing. On-the-job learning objectives are established by the sponsoring organization and approved by the department chair. Field experiences are augmented by a weekly diary and a term paper, which are supervised and evaluated by the department chair.

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.

## 7000

100 INTRO NEW MEDIA: CREATIVE MIND 3 credits  
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.

300 NEW MEDIA II: CREATIVE PRACTICE 3 credits  
Prerequisite or Corequisite: 100. Students practice various New Media technologies. No prior art or digital media experience is required.

400 NEW MEDIA III: CREATIVE PROJ 3 credits  
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  
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.

## 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.

110	INTRODUCTION TO NEW MEDIA	3 credits
Students learn state of the art knowledge and activities of New Media. This course will be in addition or cross-listed with the 7000:100 course.		
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
	Prerequisite: 145, 144. Studio experience in which student is introduced to properties of metals, processes of silversmithing and design and production of jewelry.	
267	INTERMEDIATE JEWELRY	3 credits
	Prerequisite: 7100:266.This class builds on acquired in Introduction to Metalsmithing.Emphasis will be placed on fine jewelry techniques including working with silver.	
268	COLOR IN METALS	3 credits
	Prerequisite: 266. Introduction to a variety of techniques to achieve and/or combine color in metals. Techniques such as anodizing aluminum, enameling and the application of color resins and plastics will be explored.	
273	INTRO: DIGITAL PHOTOGRAPHY	3 credits
	Prerequisites: 131, 144; or permission. An introductory digital photography course covering technical, aesthetic and conceptual issues. Digital camera with manual exposure controls required. No credit for photography majors.	
274	PHOTOGRAPHY I - NON-ART MAJORS	3 credits
	Film-based black and white photography including camera control, film processing, and darkroom printing. 35mm camera with full manual control required. No credit toward art major.	
275	INTRODUCTION TO PHOTOGRAPHY	3 credits
	Prerequisites: 131, 144. Film-based black and white photography including camera control, film processing and darkroom printing. 35mm film camera with full manual control required.	

- 276 INTRO: COMMERCIAL PHOTOGRAPHY 3 credits  
Prerequisite: 274 or 275. Corequisite: 280. Students are introduced to the numerous commercial applications of studio and location photography while working through a series of advertising related photographic projects.
- 280 DIGITAL IMAGING 3 credits  
Prerequisites: 276 or 289. An exploration of contemporary digital image capture, manipulation, output and distribution, emphasizing digital image concepts, aesthetics and production.
- 281 DESIGN FOR THE WEB & DEVICES I 3 credits  
Prerequisite: 280. This course introduces the process of planning designing and producing XHTML and CSS standard sites with an emphasis on the creative aspects of web development.
- 282 DESIGN FOR WEB AND DEVICES II 3 credits  
Prerequisite: 281. Building on knowledge from 7100:281 Designing for the Web and Devices I students will review IA, JavaScript, XML and advanced Dreamweaver for web distribution on computer screens and handheld devices.
- 283 DRAWING TECHNIQUES 3 credits  
Prerequisites: 131 and 132. Includes advanced drawing and presentation techniques commonly used in graphic design. Various presentation and design problems will be encountered stressing use of selected drawing methods and processes.
- 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 I 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 C.E.
- 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.
- 330 NEW MEDIA II 3 credits  
Prerequisite or Corequisite: 7100:110 or 7100:100. Students practice various New Media technologies. No prior art experience is required. This course will be in addition or cross-listed with the 7000:300 course
- 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  
(May be repeated for a total of six credits, but limited to a maximum of three credits in a given medium) Prerequisite: 243. Development of personal concepts and imagery through investigation of historical and contemporary styles and issues.
- 350 PAINT/DRAWING PORTFOLIO REVIEW 0 credits  
Prerequisite: Two courses in 7100:348 Intermediate Painting. A committee of full-time faculty review portfolio of student work completed in prerequisite courses.
- 353 THROWING 3 credits  
Prerequisite: 254. Emphasis on making pottery using the potter's wheel as well as organization and planning skills needed to make glazes and fire kilns.
- 356 HISTORY OF CRAFT 3 credits  
This course is designed to illuminate selected aspects of the history of the making of things as these apply to current practice in the crafts.
- 366 METALSMITHING II 3 credits

(May be repeated for a total of six credits) Prerequisite: 266. Continuation of experiences presented in 266 with further development of skills and expansion of technical knowledge.

368 COLOR IN METALS II 3 credits

(May be repeated for a total of 12 credits.) Prerequisite: 268. Continuation of 268. Advanced projects designed to develop the student's aesthetic values in color in metals. Emphasis on individual approach and experimentation.

369 PRODUCTION FOR JEWELRY 3 credits

Prerequisite: 266. This class will investigate ways of producing artwork and jewelry in multiples and limited production runs. Attention will also be given to packaging, display, and marketing the work.

370 HISTORY OF PHOTOGRAPHY 3 credits

Prerequisite: 102. A lecture course studying the history of photography from its invention to contemporary issues.

374 PHOTOGRAPHY II NON-ART MAJORS 3 credits

Prerequisite: 274. Projects designed to expand the student's awareness of technical conceptual and aesthetic issues in photographic images. 35mm film camera with full manual control required.

375 PHOTOGRAPHY II 3 credits

Prerequisite: 275. Projects designed to expand student's awareness of technical, conceptual and aesthetic issues in photographic images. 35mm film camera with full manual control required.

377 MEDIUM AND LARGE FORMAT PHOTOGRAPHY 3 credits

Prerequisite: 374 or 375. A technical course using medium and large format film cameras, which are furnished for the course's duration. Topics include camera movements, advanced exposure and development techniques.

378 ALTERNATIVE PHOTOGRAPH PROCESS 3 credits

Prerequisites: 374 or 375. Exploration in alternative photographic processes using hand-coated Cyanotype, Van Dyke Brown and Platinum emulsions, with digitally created large-format negatives.

381 DIGITAL IMAGING II 3 credits

Prerequisite: 280. Advanced digital imaging development and manipulation with an emphasis on preparation and use of digital images in print, multimedia and web applications.

382 GRAPHIC DESIGN JUNIOR REVIEW 1 credits

Prerequisites: 250 and 288; Corequisites: 387 and 384. Junior level review by graphic design faculty. Students present a portfolio of work from specified courses that exemplify creative and technical competencies.

383 MULTIMEDIA PRODUCTION 3 credits

(May be repeated for a total of six credits.) Prerequisite: 285. Introduction to the theory and methods of contemporary multimedia production. Exploration of the hardware/software employed in the organization, development and production of multimedia presentations.

384 PROFESSIONAL DESIGN PRACTICES 2 credits

Prerequisite: 288; corequisite: 387 and 382. Comprehensive overview of standard business practices specific to the design field. Prepares students to work as interns in professional creative environments.

385 COMPUTER 3-D MODEL/ANIMATION 3 credits

Prerequisites: 145, 185 or permission. Advanced computer imaging course with an emphasis in three-dimensional modeling and animation. Can be repeated for a total of 9 credits.

387 TYPOGRAPHY 3 3 credits

Prerequisite: 288. Corequisite: 384. Integration of typography, photography, copywriting and other visual elements into advertising and design. Students also build a junior level portfolio.

388 PRODUCTION 2 3 credits

Prerequisite: 276, 387. More complex projects with emphasis given to mechanical preparation of finished art for various printing processes.

401 ST: HISTORY OF ART 1-3 credits

(May be repeated for credit when a different subject or level of investigation is indicated) Prerequisites: 101 or

permission of instructor. Lecture course in which subject is specified each time course is offered. Focuses upon an art movement, time period, the production of a single artist or a specific art medium.

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

Prerequisites: 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.
- 440 NEW MEDIA III 3 credits  
Prerequisite or corequisite: 7100:110 and 7100:330 (or 7000:100 and 7000:330) Students create their original New Media projects through proposals, productions, and a show. This course will be in addition or crosslisted with the 7000:400 course.
- 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, 250 or permission of instructor.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.
- 457 PROFESSIONAL PRACTICES 3 credits  
Prerequisite: Junior or Senior status.This course covers business, marketing and professional development

practices, while also introducing students to issues and strategies in contemporary art.

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).

## 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.	
375	TEACHING IN THE EARLY CHILDHOO	2 credits
	Prerequisites: 7400:265, 270, 280.An integrated practical experience in child development centers under the direction of experienced early childhood professionals	
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
	The study of nineteenth- and twentieth-century furnishings, interiors, and architecture, with emphasis on the social-cultural influences shaping their development.	
421	SP: FAMILY & CONSUMER SCIENCES	1-3 credits
	Additional study or apprentice experience in specialized field or preparation; group and individual experimentation.	
422	TEXTILES FOR INTERIORS	3 credits
	Prerequisite:225.Evaluation of physical, aesthetic, comfort, care and durability properties of textile products and testing procedures to determine suitability for interiors.	
425	TEXTILES FOR APPAREL	3 credits
	Prerequisite: 225, 226.Evaluation of physical, aesthetic, comfort, care, and durability properties of textile products and testing procedures to determine suitability for desired end uses.	
427	GLOBAL ISSU TEXTILES & APPAREL	3 credits
	Prerequisite: 139. Examines the global structure and scope of the textile and apparel industries emphasizing an economic perspective.	
431	PROF PRESENTATN SKILLS IN FCS	3 credits
	Prerequisites: 7760:141 or 250.Emphasis on development of abilities and strengths in coordination of equipment, materials, motion, speech, and presentation delivery relating to education and industry in Family and Consumer Sciences.	
433	SENIOR DESIGN STUDIO I	3 credits
	Prerequisites:334,335,336,337,422.A comprehensive study of residential design with emphasis on conceptual, analytical and graphic skills.	
434	SENIOR DESIGN STUDIO III	3 credits
	Prerequisites:334,335,336,337,422.Advanced space planning and problem solving experiences for application in nonresidential design.	
435	DECORATIVE ELEMNTS INTER DESIGN	1 credits
	Prerequisites:334,335,337,418,419,422.The selection and application of decorative elements in the built environment.	
436	TEXTILE CONSERVATION	3 credits
	Prerequisites: 123, 225. Principles and practices of textile conservation with emphasis on procedures appropriate for collectors and small historical agencies.	
437	HISTORIC COSTUME	3 credits
	Study of costume and textiles from antiquity through the 18th century, with emphasis on social/cultural influences.	
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 STRATEGIS 3 credits

Prerequisites: 241, 5100:200, 5100:220. Organization of Career-Technical Family and Consumer Sciences programs in schools grades 4-12. Emphasis on strategies, compliance with state career-technical directives, student organizations, program planning, workplace replication and classroom observations.

494 INTERN: FAMILY & CONSUMER SCI 1-6 credits

Prerequisite: permission of the instructor. In depth field experience in business, industry, or community agencies relating to the student's area of specialization.

496 PARENT EDUCATION 3 credits

Prerequisite: 265, comparable course or permission of instructor. Practical application that reviews and analyzes parent education methods with major emphasis on the evaluation of parent education programs. Online section available.

497 INTERN: FAMILY & CONSUMER SCI 2-6 credits

Prerequisite: permission of instructor. In-depth field experience in business, industry or community agencies related to student's area of specialization.

498 STUDENT TEACHING SEMINAR 1 credits

Corequisite: 5300:495. Seminar for students currently enrolled in Family and Consumer Sciences student teaching. Emphasis on block and lesson plan development, licensure, portfolio development, Praxis III, professional development, and student teaching reflections.

499 SR HONORS PROJ: FAM & CONS SCI 1-3 credits

(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.

## 7500

100 FUNDAMENTALS OF MUSIC 2 credits

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.

101 INTRO TO MUSIC THEORY 2 credits

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.

102 INTRO TO MUSIC EDUCATION 2 credits

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.

103 TRENDS IN JAZZ 2 credits

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.

104 CLASS PIANO I 2 credits

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.

105 CLASS PIANO II 2 credits

Prerequisite: 104 or permission of instructor. Continuation of work begun in 104.

107	CLASS VOICE I	2 credits
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.		
108	CLASS VOICE II	2 credits
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.		
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.		
200	SEMINAR IN MUSIC	1-3 credits
Exploration of special topics in music for the non-music major ( may be repeated for a total of 9 credits)		
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: 7500:142 and 7500:152. Corequisite: 7500:251. Modulation; chromatic harmony; mixed meters.		
242	EAR TRAINING/SIGHT READING IV	1 credits
Prerequisites: 7500:241 and 7500:251. Corequisite: 7500:252. 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

Prerequisites:346, 352, acceptance into Music Education Program. A comprehensive approach to the pedagogy

and performance of the percussion instruments for the instrumental education major in preparation for teaching music.

463 REPERTOIRE & PED: STRING INSTR 3 credits

Prerequisite: permission of instructor. Study in depth of the four bowed string instruments, their teaching and close relationship. Despite obvious difference in physical application of cello and bass from violin and viola, methods of bowing, sound production and coloring are closely related. Application of the instruments to solo, chamber and orchestral playing.

465 VOCAL PEDAGOGY 2 credits

Prerequisite: 300 or above with permission of instructor. In depth study of subjects dealing with teaching voice: physiology of the vocal instrument, principles governing vocal production and application of vocal pedagogy.

467 GUITAR PEDAGOGY 2 credits

Prerequisite: permission of instructor. A systematic analysis of prevailing schools of guitar pedagogy. Sound production physiology, method books and special problems in teaching addressed.

468 GUITAR ARRANGING 2 credits

Prerequisite: permission of instructor. After comparative analysis of selected examples, students make original solo guitar arrangements of works written for other solo instruments and ensembles.

469 HISTORY & LIT: GUITAR & LUTE 2 credits

Prerequisite: permission of instructor. Study of plucked, fretted, string instruments from the 14th Century to the present: construction, notation, literature and performance practices. Modern editions and recordings evaluated.

471 COUNTERPOINT 2 credits

Prerequisite: permission of instructor. Designed to give student of theory-composition necessary knowledge and skills for understanding contrapuntal practices and procedures; emphasis on 20th-Century techniques.

472 ADVANCED ORCHESTRATION 2 credits

Prerequisite: 454. Study of techniques of orchestral style as found in major works from classical orchestra of Haydn and Mozart through modern orchestra of Stravinsky, Bartok, Berg and Schoenberg.

490 W: MUSIC 1-3 credits

Prerequisite: permission of instructor. Investigation of topics not offered in regular curriculum. Graduate student must fulfill additional requirements.

492 STUDENT TEACHING COLLOQUIUM 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

(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

(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.

## 7510

101 UNIV SYMPH: YOUTH ORCHESTRA 1 credits

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

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

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

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

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

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

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

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

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.

150 CHAMBER CHOIR 1 credits

Membership by audition. Premiere and flagship choral ensemble. Highest level of musicianship, vocal technique, and professionalism required. Performs classical literature of all periods and genres.

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.

## 7520

21 PERCUSSION 2-4 credits

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.

22 CLASSICAL GUITAR 2-4 credits

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.

23 HARP 2-4 credits

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.

24 VOICE 2-4 credits

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.

25 PIANO 2-4 credits

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.

26 ORGAN 2-4 credits

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.

27 VIOLIN 2-4 credits

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.

28 VIOLA 2-4 credits

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.

29 CELLO 2-4 credits

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.

30 STRING BASS 2-4 credits

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.

31 TRUMPET OR CORNET 2-4 credits

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.

32 FRENCH HORN 2-4 credits

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.

33 TROMBONE 2-4 credits

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.

34 BARITONE 2-4 credits

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.

35 TUBA 2-4 credits

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.

36 FLUTE OR PICCOLO 2-4 credits

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.

37 OBOE OR ENGLISH HORN 2-4 credits

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.

38 CLARINET OR BASS CLARINET 2-4 credits

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.

39 BASSOON OR CONTRABASSOON 2-4 credits

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.

40 SAXOPHONE 2-4 credits

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.

41 HARPSICHORD 2-4 credits

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.

42 COMPOSITION 2-4 credits

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.

61 JAZZ PERCUSSION 2-4 credits

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.

62 JAZZ GUITAR 2-4 credits

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.

63 JAZZ ELECTRIC BASS 2-4 credits

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.

## 64 JAZZ PIANO

2-4 credits

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.

## 65 JAZZ TRUMPET

2-4 credits

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.

## 66 JAZZ TROMBONE

2-4 credits

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.

## 67 JAZZ SAXOPHONE

2-4 credits

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.

## 68 JAZZ COMPOSITION

2-4 credits

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.

## 69 JAZZ VOCAL STYLES

2-4 credits

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.

## 121 PERCUSSION

2-4 credits

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.

## 122 CLASSICAL GUITAR

2-4 credits

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.

## 123 HARP

2-4 credits

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.

## 124 VOICE

2-4 credits

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.

## 125 PIANO

2-4 credits

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.

## 126 ORGAN

2-4 credits

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.

## 127 VIOLIN

2-4 credits

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.

128 VIOLA 2-4 credits

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.

129 CELLO 2-4 credits

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.

130 STRING BASS 2-4 credits

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.

131 TRUMPET OR CORNET 2-4 credits

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.

132 FRENCH HORN 2-4 credits

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.

133 TROMBONE 2-4 credits

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.

134 BARITONE

2-4 credits

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.

135 TUBA

2-4 credits

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.

136 FLUTE OR PICCOLO

2-4 credits

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.

137 OBOE OR ENGLISH HORN

2-4 credits

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.

138 CLARINET OR BASS CLARINET

2-4 credits

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.



139 BASSOON OR CONTRABASSOON

2-4 credits

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.

140 SAXOPHONE

2-4 credits

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.

141 HARPSICHORD

2-4 credits

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.

142 COMPOSITION

2-4 credits

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. (May be repeated) Prerequisites: 7500:252 and permission of instructor; 7500:452 recommended. Private instruction in composition. Primarily for student whose major is theory-composition.

161 JAZZ PERCUSSION

2-4 credits

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.

162 JAZZ GUITAR

2-4 credits

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.

163 JAZZ ELECTRIC BASS 2-4 credits

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.

164 JAZZ PIANO 2-4 credits

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.

165 JAZZ TRUMPET 2-4 credits

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.

166 JAZZ TROMBONE 2-4 credits

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.

167 JAZZ SAXOPHONE 2-4 credits

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.

168 JAZZ COMPOSITION 2-4 credits

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.

169 JAZZ VOCAL STYLES

2-4 credits

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.

221 PERCUSSION

2-4 credits

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.

222 CLASSICAL GUITAR

2-4 credits

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.

223 HARP

2-4 credits

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.

224 VOICE

2-4 credits

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.

225 PIANO

2-4 credits

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.

226 ORGAN

2-4 credits

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.

227 VIOLIN

2-4 credits

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.

228 VIOLA

2-4 credits

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.

229 CELLO

2-4 credits

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.

230 STRING BASS

2-4 credits

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.

231 TRUMPET OR CORNET 2-4 credits

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.

232 FRENCH HORN 2-4 credits

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.

233 TROMBONE 2-4 credits

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.

234 BARITONE 2-4 credits

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.

235 TUBA 2-4 credits

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.

236 FLUTE OR PICCOLO 2-4 credits

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.

237 OBOE OR ENGLISH HORN 2-4 credits

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.

238 CLARINET OR BASS CLARINET 2-4 credits

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.

239 BASSOON OR CONTRABASSOON 2-4 credits

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.

240 SAXOPHONE 2-4 credits

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.

241 HARPSICHORD 2-4 credits

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.

**242 COMPOSITION**

2-4 credits

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. (May be repeated) Prerequisites: 7500:252 and permission of instructor; 7500:452 recommended. Private instruction in composition. Primarily for student whose major is theory-composition.

**261 JAZZ PERCUSSION**

2-4 credits

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.

**262 JAZZ GUITAR**

2-4 credits

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.

**263 JAZZ ELECTRIC BASS**

2-4 credits

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.

**264 JAZZ PIANO**

2-4 credits

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.

**265 JAZZ TRUMPET**

2-4 credits

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.

266 JAZZ TROMBONE 2-4 credits

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.

267 JAZZ SAXOPHONE 2-4 credits

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.

268 JAZZ COMPOSITION 2-4 credits

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.

269 JAZZ VOCAL STYLES 2-4 credits

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.

321 PERCUSSION 2-4 credits

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.

322 CLASSICAL GUITAR 2-4 credits

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.

323 HARP

2-4 credits

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.

324 VOICE

2-4 credits

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.

325 PIANO

2-4 credits

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.

326 ORGAN

2-4 credits

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.

327 VIOLIN

2-4 credits

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.

## 328 VIOLA

2-4 credits

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.

## 329 CELLO

2-4 credits

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.

## 330 STRING BASS

2-4 credits

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.

## 331 TRUMPET OR CORNET

2-4 credits

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.

## 332 FRENCH HORN

2-4 credits

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.

## 333 TROMBONE

2-4 credits

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.

334 BARITONE

2-4 credits

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.

335 TUBA

2-4 credits

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.

336 FLUTE OR PICCOLO

2-4 credits

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.

337 OBOE OR ENGLISH HORN

2-4 credits

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.

338 CLARINET OR BASS CLARINET

2-4 credits

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.

339 BASSOON OR CONTRABASSOON

2-4 credits

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.

340 SAXOPHONE 2-4 credits

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.

341 HARPSICHORD 2-4 credits

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.

342 COMPOSITION 2-4 credits

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. (May be repeated) Prerequisites: 7500:252 and permission of instructor; 7500:452 recommended. Private instruction in composition. Primarily for student whose major is theory-composition.

361 JAZZ PERCUSSION 2-4 credits

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.

362 JAZZ GUITAR 2-4 credits

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.

**363 JAZZ ELECTRIC BASS**

2-4 credits

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.

**364 JAZZ PIANO**

2-4 credits

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.

**365 JAZZ TRUMPET**

2-4 credits

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.

**366 JAZZ TROMBONE**

2-4 credits

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.

**367 JAZZ SAXOPHONE**

2-4 credits

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.

**368 JAZZ COMPOSITION**

2-4 credits

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.

369 JAZZ VOCAL STYLES

2-4 credits

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.

421 PERCUSSION

2-4 credits

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.

422 CLASSICAL GUITAR

2-4 credits

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.

423 HARP

2-4 credits

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.

424 VOICE

2-4 credits

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.

425 PIANO

2-4 credits

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.

426 ORGAN

2-4 credits

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.

427 VIOLIN

2-4 credits

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.

428 VIOLA

2-4 credits

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.

429 CELLO

2-4 credits

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.

430 STRING BASS

2-4 credits

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.

## 431 TRUMPET OR CORNET

2-4 credits

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.

## 432 FRENCH HORN

2-4 credits

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.

## 433 TROMBONE

2-4 credits

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.

## 434 BARITONE

2-4 credits

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.

## 435 TUBA

2-4 credits

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.

## 436 FLUTE OR PICCOLO

2-4 credits

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.

437 OBOE OR ENGLISH HORN 2-4 credits

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.

438 CLARINET OR BASS CLARINET 2-4 credits

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.

439 BASSOON OR CONTRABASSOON 2-4 credits

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.

440 SAXOPHONE 2-4 credits

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.

441 HARPSICHORD 2-4 credits

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.

442 COMPOSITION 2-4 credits

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. (May be repeated) Prerequisites: 7500:252 and permission of instructor; 7500:452 recommended. Private instruction in composition. Primarily for student whose major is theory-composition.

461 JAZZ PERCUSSION

2-4 credits

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.

462 JAZZ GUITAR

2-4 credits

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.

463 JAZZ ELECTRIC BASS

2-4 credits

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.

464 JAZZ PIANO

2-4 credits

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.

465 JAZZ TRUMPET

2-4 credits

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.

**466 JAZZ TROMBONE**

2-4 credits

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.

**467 JAZZ SAXOPHONE**

2-4 credits

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

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

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.

**7600****101 INTRODUCTION TO COMMUNICATION**

3 credits

Survey of the field of communication. Topics will focus on the history, as well as the theories, constructs, and career opportunities of all sub disciplines.

**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.

**209 PRINCIPLES OF SOCIAL MEDIA**

3 credits

This course provides students with a thorough understanding of social media as it relates to the tools, history, theories, ethics and practice of communication.

210 MULTIPLATFORM PRODUCTION 3 credits

A basic introduction to theory and practice of single camera, photography, graphic and web production.

219 INTRO TO PUBLIC RELATIONS 3 credits

Introduction to public relations is a survey course that provides students with foundational information related to the study and practice of public relations.

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.

260 THEORIES OF RHETORIC 3 credits

Prerequisite: 7600:101. Theories of Rhetoric exposes students to 2,000 years of thought on rhetoric and meaning. Students explore the relationship between knowledge, truth and rhetoric.

274 INTRO TO THE MEDIA INDUSTRIES 3 credits

An introduction to the media industries concentrating on industry structure and business models with a particular emphasis on media convergence and distribution.

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.

300 NEWSWRITING ACROSS THE MEDIA 3 credits

Prerequisite: completion of General Education English Composition Requirement with a grade of C or better or

permission. Concentration on what constitutes news, legal and ethical aspects of what to print/broadcast and writing news stories for print and broadcast media.

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.

303 PUBLIC RELATIONS WRITING 3 credits

Prerequisite or Corequisite: 7600:219. Introduction of writing skills required by public relations practitioners emphasizing different approaches for specific publics and specific media.

304 INFORMATION GATHERING/EDITING 3 credits

Prerequisite: Ability to type. Editing stories and photographs and writing headlines for print and online. Gathering information from primary and secondary sources.

305 COMMUNICATION THEORY 3 credits

Prerequisite: 7600:101. Examination of the theoretical foundations of the communication discipline. Historical roots, major theory building perspectives and a review of contemporary theories and applications in communication contexts.

309 PUBLIC RELATIONS PUBLICATION 3 credits

Preparation of publications used as communication tools in public relations, advertising and organizations. Emphasis upon design, layout and technology.

317 TOPICS IN MEDIA PRODUCTION 3 credits

Variable topics in media production including audio, video, digital. Repeatable with a change in topic, maximum 9 credits.

325 INTERCULTURAL COMMUNICATION 3 credits

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 SMALL GROUP COMMUNICATION 3 credits

Prerequisite: Junior level or a better standing. This course explores the dynamics of small group communication. Students will learn how to become effective members of groups by practicing course concepts and theories in assignments.

345 ADV PRESENTATIONAL COMMUNICATI 3 credits

Prerequisite: 7600:105 or 106 and 245. Continued development of audience analysis, research, style, and delivery to improve oral communication skills for a variety of civic and organizational purposes.

355 FREEDOM OF SPEECH 3 credits

Prerequisite: Admitted to a four year degree granting college except CAST. Discussion and analysis of the Constitution's free speech guarantee; contemporary issues in freedom of communication; role of the media in free speech issues.

356 RHETORICAL CRITICISM 3 credits

Prerequisite: 7600:260. Identifies principal textual and contextual elements of public discourse and presents various theories and models to be applied in studying rhetorical acts.

368 BASIC AUDIO & VIDEO EDITING 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. A basic practical introduction to audio and video editing and the Avid Editing system in the MediaNet environment.

372 VIDEO PRODUCTION 3 credits

Prerequisite or Co-requisite: 7600:368. Theory and practice of digital video; development of professional skills in lighting, use of lenses, visual composition and sound recording for Single Camera applications

378 T: MEDIA HISTORY 3 credits

Prerequisite: Admitted to a four year degree granting college, except for CAST. 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:7600:101 (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.
- 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.
- 404 PUBLIC RELATIONS CASES 3 credits  
Prerequisite or corequisite: 7600:219. Continuation of 219. Application of principles of public relations profession in an actual organizational setting.
- 405 MEDIA COPYWRITING 3 credits  
Prerequisite: 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 ADV. PUBLIC RELATIONS THEORY 3 credits  
Prerequisite: 7600:219.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. From a professional journalism perspective, this course provides historical analysis of diversity in the newsroom and the news.Students produce new content that addresses diversity.
- 409 PUB REL STRATEGIC CAMPAIGNS 3 credits  
Prerequisite: 7600:219.This course allows students to apply knowledge of public relations practice, history, theories, ethics and strategic planning to create real-world public relations campaigns.
- 435 ORGANIZATIONAL COMMUNICATION 3 credits  
Prerequisites:7600:101. 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: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: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.
- 444 COMMUNICATION & CONFLICT 3 credits  
Prerequisite: 7600:101 or permission. Explores roles of communication & conflict in personal and work relationships. Emphasis placed on application of theories and strategies for conflict resolution from a

communication perspective.

450 ST: COMMUNICATION 3 credits

(May be repeated for a total of nine credits) Special interest topics in mass communication, journalism, or communication, supplementing courses listed in University Bulletin. See department for current listing of offerings.

457 RHETORIC CONTEMPORARY CULTURE 3 credits

Prerequisite: 7600:260 & 7600:356. Rhetoric in Contemporary Culture serves as an advanced course in rhetorical criticism. Students apply critical methods to contemporary issues surrounding political, popular, and vernacular discourses.

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.

468 ADVANCED AUDIO & VIDEO EDITING 3 credits

Prerequisite: 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.

474 MEDIA THEORY 3 credits

Prerequisites: 101. A review of mass communication theories and their applications in addressing major issues relevant to media content, media audience and media effects.

475 POLITICAL COMMUNICATION 3 credits

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 3-6 credits

Prerequisites: 24 credits in Communication, 3.0 GPA in Communication and permission. Supervised experience and on-the-job training. Written permission prior to the semester enrolled is necessary. Repeatable up to a maximum 6 credits.

481 FILM AS ART: INTR TO FILM FORM 3 credits

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, approval of honors preceptor. Independent study project leading to completion of honors research, creative or service project.

486 MEDIA MANAGEMENT & LEADERSHIP 3 credits

Prerequisite: 384 An intensive overview of media management and leadership principles and applications of these principles in addressing issues related to entrepreneurship, ethics, globalization and media convergence.

487 ADV TOPICS IN MEDIA WRITING 3 credits

Prerequisite: 7600:300. Advanced study in media writing. Topics include: script writing, broadcast newswriting, new media writing, etc. Repeatable with a change in topic, maximum 9 credit hours.

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.

499 CAPSTONE IN COMMUNICATION 3 credits

Prerequisites: 7600: 101, 384 and Senior Standing. Capstone in communication integrates theories, concepts, and skills: provides interdisciplinary work, and applied focus; and culminates in a project, paper, or production. Topics vary.

# 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  
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.
- 300 THE RESILENT CHILD 3 credits  
Corequisite 7700:301.Course content includes typical and atypical development in children affected with health related issues in a variety of clinical settings.
- 301 THE RESILENT CHILD LAB 1 credits  
Prerequisite 7700:300.Course content applies typical and atypical development in children affected with health related issues in a lab setting.
- 302 ASSESS/PLAY/THERA INTER W/CHIL 3 credits  
An overview of the theoretical framework of play and assessment of children's developmental and emotional needs.Therapeutic interventions and activities explored.
- 303 NATL HLTH & SAFETY PERF STDS 1 credits  
Course content includes safety and performance standards for health care providers working with children in a clinical setting.



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: 3100:200, 3100:201, 3100:202 and 3100:203. 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.	
401	PROF PRAC/COMMUNIC CHILD LIFE	1 credits
	Provide knowledge in the area of child life professional practice.Exploration of the tenets of the child life profession and identify essential professional concepts and attributes.	
403	PROF PRACTICE/COMM CHILD LIFE	3 credits
	Provide the knowledge of child life professional practice,standards of clinical practice, competencies and ethics.Skills related to therapeutic communication with patients, families and staff will be explored and practiced.	
422	ORGANIC DISORDERS OF COMMUN	4 credits
	Prerequisites: 7700:230 and 7700:365, 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
	(Not open to speech-language pathology and audiology majors) Introduction to acquisition and development of comprehension and production of languagephonologically, semantically and syntactically. Relates language acquisition to perceptual development of child and looks at function of language in individual, family and school.	
445	MCULT CONS AUD & SP-LANG PATH	3 credits
	Prerequisites: 110 or graduate standing. This course introduces the multicultural considerations faced by audiologists and speech-language pathologists providing services to families and individuals with communication disorders.	
446	OBSERVATION & CLINICAL TECHNQ	4 credits
	Prerequisites: 110, 210, 215, 230, B average in 235, 321, and 330 AND overall GPA of at least 3.2.Introduction to concepts and processes of clinical practice in speech-language pathology and audiology. Includes clinical observation and case study.	
452	CHILD, ILLNESS AND LOSS	3 credits
	Prerequisite:senior level standing.This course examines the phenomena of illness, loss and bereavement in modern society with a special emphasis on children and families.	
453	FACILITATING SUPPORT GROUPS	3 credits

Prerequisite: senior level standing. Theories, strategies and skills needed to facilitate support groups for children and for adults are studied using a variety of approaches including participation in a support group.

454 CHILD IN THE HOSPITAL 6 credits

Prerequisite: 7400:265, comparable course or permission of instructor. Seminar dealing with special needs and problems of hospitalized/ill child and family. Literature related to effects, separation, illness and stress. Examination of strategies for coping.

455 PRACT: EXPERNC CHILD-LIFE PROG 3 credits

Prerequisite: 454. Field experience in a child-life program and classroom activities including critical analysis of a currently functioning program and program administration.

480 SEM: SPCH-LANG PATH/AUDIO 2 credits

Prerequisite: senior standing. Provides a vehicle for detailed study and discussion of various communicative disorders.

481 SPEC PRO: SP-LANG PATH/AUD 1-3 credits

(May be repeated for a total of four credits) Prerequisite: permission of instructor. Individual or group projects related to any of the problems of communicative disorders.

484 HOSPITAL SETTINGS, CHILD & FAM 5 credits

Prerequisite: 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.

## 7750

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.

240 SUBSTANCE 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.

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: 7750:260. 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.

263 GROUP PRINCIPLES IN ADDICTION 3 credits

Prerequisite: 7750 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.	
267	ADDIC ASSESS & TREAT PLAN	3 credits
	Prerequisite: 7750 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	DIVERSITY AND SOCIAL WORK	3 credits
	Introductory course explores issues related to poverty and minority issues as they relate to at-risk populations.	
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.	
272	RELAPSE PREVENTION	3 credits
	A study of the concepts, evidence-based practices and strategies for relapse prevention with addictive behaviors.	
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.	
286	ADDICTION SERVICES INTERNSHIP	2 credits
	Prerequisites: permission of instructor. Integrates counselor assistant experience with fundamental concepts and skills from academic studies. Students are required to complete 200 hours of supervised field experience.	
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 DEVLMENTAL DISABIL 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

This course is the second in a series of two child welfare courses. Child Welfare II, addresses the developmental and permanence needs of children in the welfare system.

473 SOCIAL WORK WITH ADOLESCENCE 3 credits

This course provides students with an in-depth knowledge of adolescent development and an understanding of how the biological, psychological, social, cultural, and spiritual aspects of an adolescent impact their overall functioning and quality of life issues.

475 ADDICTION & SOCIAL WORK PRACTI 3 credits

Prerequisites: 401 or permission of instructor. Provides students with the essential knowledge and skill for successful social work practice with people involved in substance abuse.

480 ST: SOC WORK & SOC WELFARE 1-3 credits

Prerequisite: permission of instructor. Analysis of current social work and social welfare theory and policy, settings, innovative interventions, and trends in delivery systems in relation to selected areas of concern. Topics and credits variable.

493 FLD EXP: SOCIAL AGENCY I 3 credits

Prerequisites: 401, 402, 427, and permission of instructor. Corequisite: 421. First of two consecutive courses of supervised internship in a social service setting. Facilitates acquisition of generalist practice skills. Student must receive permission to take the course with the Field Coordinator during early part of semester preceding enrollment. For senior social work majors.

494 FLD EXP: SOCIAL AGENCY II 3 credits

Prerequisites: 493, 421 and permission of instructor; corequisite: 422. Second of two consecutive courses of supervised internship in a social service setting. Facilitates the continued acquisition of generalist practice skills. For senior social work majors only.

497 I.I.: SOCIAL WORK 1-3 credits

Prerequisites: permission and prearrangement with instructor. Individual readings, research or projects in area

of interest in social welfare theory or institutional operations or in social work practice under guidance of social work faculty member. Preparation of report paper appropriate to nature of topic. For social work major.

499 SR HONORS PROJECT: SOCIAL WORK 1-3 credits

(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and approval of honors preceptor in department. Open only to social work major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work resulting in writing of research paper in proper scholarly form, supervised by student's honors project adviser within the department.

## 7760

120 CAREER DECISIONS IN NUTRITION 1 credits

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.

132 EARLY CHILDHOOD NUTRITION 3 credits

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.

133 NUTRITION FUNDAMENTALS 3 credits

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.

141 FOOD FOR THE FAMILY 3 credits

Prerequisite: Permission of instructor. Application of nutrition to meal planning; problems in selecting, budgeting and preparing food; meal service.

228 INTRO TO MED. NUTR THERAPY 3 credits

Prerequisites 7760:133, 3150:110, 111, 112, 113 Introduction to Medical Nutrition Therapy will review basic metabolic and pathological conditions with emphasis on medical nutrition therapy strategies.

250 FOOD SCIENCE LECTURE 3 credits

Prerequisites: 133, 320, 3150:110, 111, 112, 113. Study of the chemical and physical structure of food. Scientific and aesthetic principles involved in the selection, storage and preparation of foods.

251 FOOD SCIENCE LAB 1 credits

Prerequisites 7760: 133, 320, 3150:110, 111, 112 and 113. Corequisite 7760: 250. Application of the scientific and sensory principles involved in the selection, storage and preparation of foods.

310 FOOD SYSTEMS MANAGEMENT I 4 credits

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.

314 FOOD SYSTEMS I FLD EXPERIENCE 2 credits

Development of quantity food preparation in community and health care agencies; identification of functions and resources involved in the food service systems.

315 FOOD SYSTEMS MGMT I CLINICAL 2 credits

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.

316 SCIENCE OF NUTRITION 4 credits

In-depth characterization of composition, metabolism, physiological functions and interrelationships of nutrients. Analysis and interpretation of current literature; assessment of nutrition counseling techniques.

- 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 3 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 MED NUTR THERAPY I CLINICAL 2 credits  
Prerequisites: 133 or 316, 426, 443 or permission; corequisite: 328. Analysis of therapeutic health-care concepts. Consideration of nutritional implications of pathological conditions; construction of diets for specific disorders.
- 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: 228. and 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.
- 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, 228, 3100:202, 203, 3150: 112, 113. Application of principles nutrition, metabolism and assessment. Analyses and interpretation of current literature. Open to dietetics majors only.
- 428 MEDICAL NUTRITION THERAPY II 3 credits  
Prerequisite: 328. Continuation of 328. Medical Nutrition Therapy I with emphasis on more complex metabolic and pathological conditions with nutrition therapy strategies.
- 429 MED NUTR THERAPY II CLINICAL 3 credits  
Prerequisites: 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, 228,3100:202, 203, 3150:112,113 or instructor permission.Application of principles of nutrition and assessment. Analysis and interpretation of current literature. Open to dietetics majors only.		
444	MED NUTRI THERAPY IN LT CARE	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	SENIOR SEMINAR	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, grants manship, 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.		
484	HEALTH AND WELLNESS CLINICAL	4 credits
Prerequisite: (CP Students only)7760: 481.Corequisite: 7760 413 and 482.A field placement in agencies or facilities offering health and wellness services as they related to nutrition.Credit/Noncredit.		
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, 7760:426 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
	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
	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
	(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.	

## 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: VIS ARTS WORLD THEATRE	3 credits
	Introduction to the theories and styles of scenic, costume, and lighting design from around the world, including the application of these principles to various media.	
145	ENSEMBLE THEATRE LAB	3 credits
	An introduction to the techniques of collaborative creation and physical theatre especially space awareness, movement training, and storytelling.	
151	VOCAL DYNAMICS	3 credits
	This course is concerned with the various techniques and principles of vocal production in their practical application providing a structure to discover your vocal potential.	
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.	
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.	
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	COSTUME DESIGN FOR PERF ARTS	3 credits
	Prerequisites:7800:108. Costume design and construction techniques, organization and maintenance of wardrobe for stage performance and other types of production. 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 PER ARTS & MEDIA	3 credits
	Prerequisites: 7800:108. The theory, principles, and practice of scene design for the theatre and other media. Lab required.	
351	ADVANCED ENSEMBLE THEATRE LAB	3 credits
	Prerequisites: 7800:145. Advanced training in the techniques and principles of collaborative creation and physical theatre leading toward performance of a devised solo and/or group performance.	
355	LIGHTING DESIGN AND TECHNOLOGY	3 credits
	Prerequisites: 7800:108 The art and technique of lighting design for the stage and other media: light plotting, color theory, and special effects. Lab required.	
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	1-3 credits
	Prerequisite: permission. Traditional and nontraditional topics in theatre arts. (May be repeated, only 3 credits may apply to Theatre major and on 9 credits toward B.A degree).	
433	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.	
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 PER AR	3 credits
	Prerequisite: 7800:336. Theatrical and practical exploration of the styles and periods of production design and designers for stage and media. Lab required.	
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	MULTI-CULTURAL THEATRE	3 credits
	A detailed examination of contemporary performances, performance texts, and theoretical writings that reference the history and experience of diverse communities of America and the world.	
471	SENIOR SEMINAR	1 credits
	Prerequisites: 7800:274, upper class standing, and permission from the theatre advisor. A forum to develop professional skills to make the transition to a theatre career: artistic, academic, business and professional.	
476	THEATRE AND COMMUNITY ACTION	3 credits

This course will explore civic engagement strategies and situations linking theatre and community in which students tackle community issues and concerns utilizing various performative techniques.

480 INDP STUDY: THEATRE 1-3 credits

Practice, study, and/or research in selected elements of theatre arts and production including preparation and presentation of creative and technological projects..

490 W: THEATRE ARTS 1-3 credits

(May be repeated for a total of 6 credits) Prerequisite: advanced standing or permission. Group study or group projects investigating particular phases of theatre arts not covered by other courses in curriculum.

495 HONORS RESEARCH PROJ: THEATRE 1-3 credits

Prerequisites: Approval of department preceptor. Creative project or research supervised by theatre preceptor.

## 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.

## 7900

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 122 or 125 or 219 or 220 or 222 or 224 or 225 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	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.	
104	DANCE SOMATICS: GYROKINESIS	1 credits
	Prerequisite: 7900:120 or 122 or 125 or 219 or 220 or 222 or 224 or 225 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.	
105	DANCE SOMATICS: ALEXANDER TECH	1 credits
	Prerequisite: 7900:120 or 122 or 125 or 219 or 220 or 222 or 224 or 225 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.	
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.	
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 DANCE II	2 credits
	Prerequisite: 116. Support systems, conditioning injury prevention, rehabilitation, nutrition for dancers.	
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.	
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.	
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.	
JAZZ DANCE I	2 credits	
	(May be repeated for a total of four credits.) Basic jazz dance technique and jazz dance origins.	
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.

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.

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.

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)

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.

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.

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 7900:222 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 7900:229 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.		

## 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.

# 7915

## 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.

# 7920

## 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.

# 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.

# 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.

## 106 PRENURSING CAPSTONE COLL PREP

1 credits

The Pre-Nursing Capstone prepares students to define, explain and demonstrate the role of the Nursing Assistant in the long-term care facility, in-home care, and the hospital setting.

## 211 FOUND OF NURSING PRACTICE I

5 credits

Prerequisite: Admission to the School of Nursing. 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.

216	TRANSITION TO BACC NURSING	3 credits
	Prerequisite: Admission to School 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 School 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 School of Nursing. 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 School 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.	
341	PROFESSIONAL ROLE DEVELOPMENT	3 credits
	Prerequisites: Admission to the School of Nursing and all sophomore level courses in the program of study. A professional engagement course designed to expose students to the essentials of the professional role of the baccalaureate generalist nurse.	
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.	
401	RN TRANSITION	1 credits
	Pre-requisites are completion of the junior level in the nursing program. Courses include 8200:350, 8200:360, 8200:370, 8200:380 and 8200:341. Co-requisites: any two, including 8200:410, 8200:430, 8200:435, 8200:440 and 8200:450. Prepares the Senior nursing student for the professional role by developing a resume, test taking strategies for the NCLEX RN exam and a resume.	
405	NURSING CARE HEALTHY INDIVIDUAL/FAMILY	3 credits
	Prerequisites: 336. 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: A grade of C or better 8200:341, 8200:350, 8200:360, 8200:370, 8200:380. 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 CMPLX CARE AGING FAMLS/RN ONLY 3 credits

Prerequisites: 336, 405, 406. 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 CMPLX/CRTCL SITUATIONS 5 credits

Prerequisite: Completion of 8200:341, 8200:350, 8200:360, 8200:370, 8200:380. 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: Completion of 8200:341, 8200:350, 8200:360, 8200:370, 8200:380. 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: Completion of 8200:341, 8200:350, 8200:360, 8200:370, 8200:380. 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

Corequisite: 8200:445. 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

Corequisites: 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

Corequisite: 8200:446. This clinical course offers the opportunity to implement leadership and management skills in a health care setting.

448 PROFESSIONAL NURSING CAPSTONE 3 credits

Corequisites: 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 8200:341, 8200:350, 8200:360, 8200:370, 8200:380. 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 1-4 credits  
Prerequisites: Honors Program Student, 8200:435 (Honor's Designated Section) 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.

## 9821

- 281 POLYMER SCIENCE FOR ENGINEERS 2 credits  
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  
Prerequisites: 281, 3150:151, 3650:292. Fundamental understanding of solid structure, crystallography and morphology, processed polymers, co-polymers and their blends.

## 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.

## 9871

401 INTRODUCTION TO ELASTOMERS 3 credits

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

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

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

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

Prerequisite: permission. Faculty-supervised undergraduate research problems in polymer science, culminating in a written report.

# Appendix D

## Addendum to 2016-2017 Undergraduate Bulletin

### 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.

The following new or modified curriculum and information was approved after the publishing of the 2016-2017 Undergraduate bulletin.

### Effective January 17, 2017:

- Course information changes:
  - 1900:302 Museums and Archives II: Prerequisite change to 1900:301
  - 2280:121 Fundamentals of Food Preparation I changes to 2280:121 Fundamentals of Food Preparation
  - 2280:256 Hospitality Law changes to 2280:256 Hospitality Law: Legal and Ethical Issues
  - 2530:255 Health Care office Management & Medicolegal Issues: Prerequisite changes to completion of 32 credit hours
  - 2530:257 Health Care Office Finance: Prerequisites 2530:240, 2530:243, and 3740:250 are removed leaving 2420:211 and 2440:125 as the remaining prerequisites
  - 2920:347 Production Machinery & Processes: Prerequisites change to 2030:255 and [2880:110 or 2920:142]
  - 3100:433 Pathogenic Bacteriology changes to 3100:433 Medical Microbiology
  - 3460:477 Introduction to Parallel Processing: Prerequisites change to 3460:316 with a grade of C- or better and knowledge of C
  - 4200:121 Chemical Engineering Computations: Prerequisites change to 4200:101 or 4250:101
  - 4250:300 Fundamentals of Aqueous Corrosion: Prerequisites change to 4200:225 and [4200:305 or 4600:380]
  - 4250:301 Aqueous Corrosions Lab I: Prerequisite changes to 3150:154
  - 5550:250 Principles of Athletic Training: credit hours change from 3 to 2
  - 5550:470 Orthopedic Injury & Pathology changes to Injury Pathology & Therapeutic Interventions
  - 7700:230 Language Science & Acquisition: Prerequisites are removed
  - 7700:365 Anatomy & Physiology of Speech & Hearing: Prerequisites change to 3100:200, 3100:201, 3100:202, and 3100:203
  - 7750:240 Drug Use and Abuse changes to 7750:240 Substance Use and Abuse
  - 7760:316 Science of Nutrition: Prerequisites are removed
- New Courses:
  - 2880:225 Computer Aided Tool Design
  - 2880:248 Introduction to CNC and Additive Manufacturing
  - 2990:254 Building Codes
  - 3100:106 Exploring Biology
  - 3750:330 Emotion Across the Lifespan
  - 3800:302 Theory of Criminal Law
  - 3800:307 Foundations of Crime Analysis
  - 6400:418 Insurance Operations
- Deleted Courses:

- 4300:120 Introduction to Civil Engineering Design
- 4300:230 Surveying
- 4300:390 Civil Engineering Seminar
- 5550:260 Sport Rules and Regulations for Athletic Training

**Effective May 22, 2017:**

- Course information changes:
  - 2040:241 Technology & Human Values: credit hours change from 3 to 2
  - 2420:311 Community Service and Leadership in a Global Context change to 2420:311 Corporate Social Responsibility and Leadership
  - 2870:348 CNC Programming I: course description changes to "Introduction to CAM (Computer Aided Manufacturing) based CNC (Computer Numerical Control) programming; development of milling, drilling, and turning programs" Prerequisites change to 2030:154 and [2880:248 or 2920:121]
  - 2870:448 CNC Programming II: course description changes to "The study of advanced CNC programming techniques utilizing an industry standard CAM programming software package and CNC program verification software"
  - 2920:121 Technical Drawing I changes to 2920:121 Fundamentals of Engineering Drawing
  - 2990:125 Statics: Prerequisites change to 2030:154 and 2820:160
  - 2990:237 Materials Testing I: Prerequisite changes to 2030:154
  - 2990:238 Materials Testing II: Prerequisite changes to 2030:154
  - 2990:245 Construction Estimating: Prerequisites change to 2030:154 and 2990:150
  - 3460:426 Operating Systems: Prerequisites change to completion of 3460:316 and 4450:320, or equivalents, with grades of C- or better
  - 3460:490 Senior Seminar in Computer Science: Corequisites 3460:435 and [3460:426 or 4450:325] added
  - 4300:341 Hydraulic Engineering: Credits hours change to 3 credits
  - 5500:286 Teaching Multiple Texts Through Genre changes to 5500:286 Teaching Multiple Texts and the prerequisite changes to 5500:240
  - 5500:440 Developmental Reading in Content Areas for Early & Middle Education changes to 5500:440 Literacy in the Content Areas and the prerequisite changes to 5500:308
  - 5500:445 Evaluating Language Literacy changes to 5500:445 Assessment & Instruction in literacy and prerequisites change to 5500:240, 5500:241 and [5500:286 or 5500:440]
  - 5610:454 Special Education Programming: Moderate/Intensive II: Credit hours change from 4 to 3
  - 7750:267 Addiction Assessment and Treatment Planning change to 7750:467 Addiction Screening, Assessment and Treatment Planning
  - 8200:337 Health Assessment: Requisite changes to pre or corequisite 8200:336
  - 8200:405 Nursing Care of Healthy Individuals: Requisite changes to pre or corequisite 8200:336
  - 8200:406 Palliative Nursing Care: Requisite changes to pre or corequisite 8200:336
  - 8200:415 Complex Care of Aging Families: Requisite changes to pre or corequisite 8200:336
  - 8200:436 Nursing Research: Requisite changes to pre or corequisite 8200:336
  - 8200:444 Nursing of Communities Practicum: Requisites change to corequisite 8200:445 and pre or corequisite 8200:336
  - 8200:445 Nursing of Communities: Requisites change to corequisite 8200:444 and pre or corequisite 8200:336
  - 8200:446 Professional Nursing Leadership: Requisites change to corequisite 8200:336 and pre or corequisite 8200:447
  - 8200:447 Professional Nursing Leadership Practicum: Requisites change to corequisite 8200:446 and pre or corequisite 8200:336
  - 8200:448 Professional Nursing Capstone: Requisites change to prerequisite 8200:336 and pre or corequisites 8200:337, 8200:405, 8200:406, 8200:415, 8200:436, 8200:444, 8200:445, 8200:446, and 8200:447
- New Courses:

- o 2860:310 National Electrical Code and Electrical System Design
- o 3800:405 Policing Theory and Strategy
- o 3800:407 Advanced Crime Analysis
- o 3800:457 Crime Analysis Applications
- o 4300:102 Tools for Civil Engineering II
- o 5500:223 Urban Youth Mentoring
- o 5500:240 Foundations of Literacy
- o 5500:241 Word Study, Phonics & Spelling
- o 5500:439 Engineering for Educators
- o 6100:230 Business Communication
- o 9871:403 Polymer Chemistry

**Effective August 28, 2017:**

- Course information changes:
  - o 2030:361 Applied Cryptography: Prerequisites change to a grade of C- or better in either 2030:154 or 2030:216
  - o 2040:256 Diversity in American Society: Credit hours change to 3
  - o 2220:280 Cybercrime changes number to 2235:280
  - o 2220:381 Computer Forensic Methods II changes number to 2235:381
  - o 2920:101 Introduction to Mechanical Design: Requisites change to prerequisites 2880:140 or 2920:121 and corequisites 2030:154 and [2880:230 or 2920:100]
  - o 4400:340 Signals & Systems: Prerequisites changed to 3450:335, 4400:332, and [3460:209 or 4450:208 or 4800:220]
  - o 4400:441 Digital Communication: Prerequisites change to 4400:341 or 4450:440
  - o 4400:483 Power Electronics I: Prerequisite changes to 4400:360
- New Courses:
  - o 2030:216 Applied Finite Mathematics
  - o 2030:461 Applied Cryptanalysis
  - o 2235:283 Cyber Warfare
  - o 2750:401 Management Information Systems
  - o 3850:401 Advanced Topics in Research Methods