Alfred University

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To the Reader–
Use Alfred University at a Glance (pages 6-8) as a kind of quick, overall view of AU. It functions as a rough outline for the rest of the catalog. Use the Table of Contents and/or the Index to help locate specific information.

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Courses of Instruction

Alfred University at a Glance

Accreditation
Middle States Association
NY State Education Department
Accreditation Board for Engineering and Technology: (Programs in Ceramic Engineering, Materials Science and Engineering, Glass Engineering Science, Electrical Engineering, Mechanical Engineering)
National Association of Schools of Art and Design
American Chemical Society
Association to Advance Collegiate Schools of Business

Calendar
(See page 316)
Two semesters and two six-week Summer School sessions

Faculty (Full-time)
Doctorates or terminal degrees in their discipline: 83%
Faculty/student ratio: 1:12
Average class size: 18 students

Academic Programs
See pages 286-287 for listing (Federal Higher Education codes)

College of Business
Offers the B.S. degree in Accounting and Business Administration with career emphasis in:
- Accounting
- Business Economics
- Family Business
- Finance
- Management
- Marketing
- Management Information Systems
- International Business
- Entrepreneurship
- 4+1 MBA Program for Business, Liberal Arts and Engineering Students

College of Liberal Arts and Sciences
Offers the B.A. degree with majors in:
- Biology
- Chemistry
- Communication Studies
- Comparative Cultures
- Computer Science
- Criminal Justice Studies
- Economics
- Elementary Education
- English
- Environmental Studies
- Fine Arts
- French
- General Science
- German
- Geology
- Gerontology
- History
- Mathematics
- Philosophy
- Physics
- Political Science
- Psychology
- Public Administration
- Sociology
- Spanish
- Theatre
- Interdepartmental Major (General Studies)
- Individually Structured Major (Track II)
- Pre-Health and Pre-Law preparation

Minors in academic and professional subjects

Double-degree Program
Awards the B.A. in the above majors plus the B.S. or B.F.A. in the Colleges of Business, Ceramics, and Engineering and Professional Studies

College of Engineering and Professional Studies
Awards the B.S. degree in:
Electrical Engineering
Mechanical Engineering
Athletic Training

New York State College of Ceramics
School of Ceramic Engineering and Materials Science
Offers the B.S. degree with majors in:
- Ceramic Engineering
- Materials Science and Engineering
- Glass Engineering Science

School of Art and Design
Offers the B.F.A. degree with concentration in:
Ceramics
Electronic Integrated Arts
Graphic Design
Two-Dimensional Studies
Three-Dimensional Studies

Graduation Requirements
- 120 to 137 semester hours depending upon degree
- Physical education requirement
- Cumulative GPA of 2.0 or better
- Senior year residence
- Minimum of 30 semester hours at Alfred

The Graduate School
Master of Arts
Master of Business Administration
Master of Fine Arts
Master of Professional Studies
Master of Science
Master of Science in Education
Doctor of Philosophy
Doctor of Psychology

Facilities and Equipment
Arthur and Lea Powell Campus Center
A 60,000 sq. ft. center, occupied in 1994, for students, faculty, staff, and community; one of the finest centers for academic and social activities of its kind.

John L. Stull Observatory
Six domes house a 9 inch refractor, reflectors of 14, 16, 20, and 32 inch apertures (the 32 inch is computer-controlled), two solar telescopes and two commercial 8 inch telescopes.

Davis Memorial Carillon
Oldest bells in western hemisphere: 47 bells, including 18 cast in 1674 and 12 in 1737

Art Galleries
Museum of Ceramic Art
Fosdick-Nelson Gallery
Robert Turner Student Gallery

Theater
Seating capacity for 450 students, semi-thrust proscenium

Computer Facilities
Ratio of students to computers in labs, clusters and classrooms is 6:1; 100mbit network access in all residence hall rooms, classrooms and offices; wireless access available in residence halls, libraries and selected classrooms; 6 open computing labs (Windows and Macs are available); student managed web server available for hosting student web pages; computer rooms available in all residence halls; laptop lending program; Cyber Cafe in campus center; Helpdesk open 90 hrs/week; Students for Technical Assistance Program.

Libraries
Herrick Memorial Library
Scholes Library of Ceramics

Specialized Equipment
Computer-controlled robotic manufacturing station
Three electron microscopes, scanning transmission electron microscope
Infrared and ultraviolet spectrophotometer
Laser-Raman spectrometer
Petrographic and metallographic microscope laboratory
Physiological laboratory facilities
Human and animal operant learning equipment
Emission spectrograph, infrared, laser-Raman and atomic absorption spectroscopy
Photography darkroom facilities
Experimental windmill electricity generator
Professionally equipped sculpture, printmaking, woodworking, design, metal fabrication, photography, glass, painting, and ceramic shops and studios: wood, gas, and electric fired kilns
Wind tunnel

Extracurricular Activities and Organizations
Over 100 special interest clubs
Family Weekend
Homecoming Weekend
Hot Dog Day
Student Activities Board (SAB)
Student Volunteers for Community Action
Student Senate
Kanakadea, yearbook
Seven honorary societies
8 fraternities; 4 sororities
Popular and classical films, weekly
Intramural sports
Religious activities (places of worship in the area)
Three comedy troupes
Campus media (newspaper, radio and TV)
Student productions in theatre, dance and music
Music ensembles
Professional and student art exhibits

Athletic Facilities
75' long, six lane pool, 13' deep diving "L" with one-meter and three-meter boards
Basketball, volleyball, handball, racquet ball, tennis, badminton, and squash courts
Football, softball, soccer, lacrosse fields, including multipurpose artificial surface for intercollegiate, recreational, and intramural use
Indoor track, archery and golf driving ranges
Fitness center, karate rooms
Brentwood Stables nearby

Intercollegiate Sports (NCAA Division III)

Basketball	M/W
Cross Country	M/W
Equestrian	M/W
Football	M
Golf	M/W
Lacrosse	M/W
Skiing	M/W
Soccer	M/W

Housing Information
Four semesters of on-campus residence requirement for entering freshmen
Co-ed residence halls
Single rooms for upperclass and Graduate students
Pine Hill suites (for men and women)
Ford Street apartments (on-campus apartments for men and women)
Common Interest Housing

Services

Airport and bus station shuttle
Alcohol & Other Drug Education
Career Development Center
Counseling Services
Faculty advisement system
Financial Aid Office
Health Center and Health Education
Residence Life
Peer tutoring
Peer mentor program
Services for students with disabilities
Shortline Bus service to New Jersey and New York City
Tutoring Assistance

Admissions Information

Application Deadlines

Freshman Applicants-Early Decision for Fall enrollment by **December 1**
Applications for January enrollment by **December 1** (no January enrollment for Art and Design)
Applicants for Fall enrollment preferred by **February 1**

Transfer Applicants

Fall enrollment by **August 1**
January enrollment by **December 1**
Art and Design for Fall enrollment preferred deadline by **March 1**

Other Deadlines

$300 deposit due **May 1**
Art portfolio due **December 1** for freshmen Early Decision candidates; **February 1** for Regular Decision; **March 1** for Fall transfers.

Expenses

Privately funded units:

- College of Business
- College of Liberal Arts and Sciences
- College of Engineering and Professional Studies

Tuition	$18,498 to $21,384
(depending on Level, see p. 19)	
Student Service Fee	698
Board and Room	8,016

Statutory unit:

- New York State College of Ceramics

New York State Residents

Tuition	$9,782
Student Service Fee	698
Board and Room	8,016

Out-of-State Residents

Tuition	$13,486
Student Service Fee	698
Board and Room	8,016

Financial Aid

90% of all undergraduates receive some type of financial assistance: university, federal, state, and private. Average aid to Freshmen from all sources:

Private sector	$20,500
Public sector	$11,000

Note: A number of academic scholarships are awarded each year. See pp. 28-41 for a complete listing of scholarships, state and federal awards and loans.

Pioneer Seventh Day Baptists who had settled in the foothills of the Allegheny Mountains founded Alfred University as a select school in 1836. Alfred became the first coeducational institution in New York State and the second in the nation. About 2,000 full-time undergraduate and 400 graduate students work and live in 52 buildings on a scenic 232-acre hillside campus adjoining the village of Alfred.

The nonsectarian University is comprised of the privately endowed College of Business, the College of Engineering and Professional Studies, the College of Liberal Arts and Sciences, and the New York State College of Ceramics (School of Ceramic Engineering and Materials Science and School of Art and Design). Bachelors, masters and doctoral degrees are awarded as the culmination of Alfred University's academic and professional programs.

With its traditional emphasis on providing a high quality of education, Alfred University expects:

- academic achievement from students accepted under a selective admissions policy
- individual students to accept responsibility for learning
- faculty members' highest priority to be teaching
- a stimulating diversity in academic programs, career objectives and personal value systems
- students, faculty and staff to work together in a friendly atmosphere of mutual respect

Admissions

Policy for Freshman Applicants

In reviewing applications, the Admissions Committee considers the following factors most important: rigor of high school curriculum, grades, extracurricular involvement, letters of recommendation, and standardized test results of the American College Test (ACT) or the CEEB Scholastic Aptitude Test (SAT I). Since Alfred University seeks a student body of diverse social and economic backgrounds, students of all races and religions are encouraged to apply.

Academic Preparation

Students will be considered for admission if they are secondary school graduates in a college preparatory program, or when they submit evidence of having completed an equivalent degree of education.

The secondary school program should include a minimum of 16 academic units. Each academic division of the University requires a different distribution, as follows:

College of Business

- 4 units of English
- 3-4 units of college preparatory mathematics (algebra I and II, geometry, pre-calculus)
- 2 units of laboratory science
- 2-3 units of social studies and history

The remainder of the 16 academic units should be earned within the fields listed above, in a foreign language, or in business courses.

College of Engineering and Professional Studies

(the B.S. in electrical and mechanical engineering, B.S. in athletic training)

- 4 units of English
- 4 units of college preparatory mathematics preferred (algebra I and II, geometry, pre-calculus)
- 3 units of laboratory science preferred (biology, chemistry and physics)
- 2-3 units of social studies and history

The remainder of the 16 academic units should be earned within the fields listed above, in a foreign language or computer science.

College of Liberal Arts and Sciences

- 4 units of English
- 2-3 units of college preparatory mathematics (algebra I and II and geometry)
- 2 units of laboratory science (biology, chemistry, and physics)
- 2-3 units of social studies and history

The remainder of the 16 academic units should be earned within the fields listed above or in a foreign language.

School of Art and Design

- 4 units of English
- 2 units of college preparatory mathematics preferred (algebra and geometry)
- 2 units of laboratory science
- 2-3 units of social studies and history
- Portfolio (see following page)

The remainder of the 16 academic units should be earned within the fields listed above, in a foreign language or in art courses.

School of Ceramic Engineering and Materials Science

- 4 units of English
- 4 units of college preparatory mathematics preferred (algebra I and II, geometry, pre-calculus)
- 3 units of laboratory science (including biology, chemistry and physics)
- 2-3 units of social studies and history

The remainder of the 16 academic units should be earned within the fields listed above, computer science, or a foreign language.

Procedures for Freshman Applicants

Applicants should submit the following items when applying for admission:

- Application for Admission along with a $40 non-refundable fee or a fee waiver certificate
- An official high school transcript which includes all academic work to date
- At least one letter of recommendation (guidance counselor, teacher)
- Results from ACT or SAT I tests (The SAT II writing subject test is highly recommended and used for placement purposes.)

All items should be mailed to:

Office of Admissions
Alfred University
Alumni Hall
Saxon Drive
Alfred, New York 14802

In addition, all applicants are strongly encouraged to visit the campus. To schedule an interview, contact the Office of Admissions (800-541-9229) at least two weeks prior to the visit. During a campus visit a student can take a campus tour, go on an art tour, have an admissions interview, meet with a financial aid counselor, attend a class or meet with a faculty member, and/or meet with a coach. School of Art and Design students and School of Ceramic Engineering and Materials Science students can schedule specialized tours of those facilities.

Application Deadlines

- December 1 - Early decision applicants for fall enrollment.
- February 1 - Preferred deadline for regular fall enrollment is February 1. Applicants who apply by this date will receive a decision by late March. Portfolio deadline for Art and Design candidates is February 1.
- December 1 - Deadline for spring enrollment. (Applications for spring enrollment are not accepted from students wishing to major in Art and Design.)

School of Art and Design Portfolio Requirements

All applicants to the School of Art and Design must submit a portfolio. Portfolios vary depending on the individual; however, a competitive portfolio must include evidence of some measure of drawing ability from direct observation, involving figure drawing, still life, interiors or landscapes. Two dimensional and three dimensional projects demonstrating sensitivity to color, design and composition are encouraged. A wide range of media may be submitted: ceramics, graphic design, glass, painting, photography, sculpture, video, and wood.

Portfolios should be submitted as 35mm color slides and include 15 to 20 examples of the student's best work. Each slide must be clearly labeled with the applicant's name. Portfolios must be submitted by February 1. Portfolios and applications received after February 1 will be reviewed only if vacancies exist for fall enrollment. Dates for submitting transfer student portfolios vary and are outlined in the following Transfer Admissions section. In order to have your portfolio returned, a $3 check or money order should be made out to Alfred University, enclosed in a self-addressed envelope and included with the portfolio. Be certain that your full name and return address are legible, and that the type of admission is indicated as Freshman on the outside of the portfolio. Portfolios should be shipped in a padded mailer to:

Office of Admissions
Alfred University
Alumni Hall
Saxon Drive
Alfred, NY 14802

Applicant Options

Early Decision

The early decision admission option offers applicants, whose first choice is Alfred University, the opportunity to apply for the fall semester by December 1 and receive a decision by December 15. Accepted early decision candidates are expected to withdraw their applications to all other post-secondary institutions. Early decision applicants should:

- Submit the application for admission and $40 fee or application fee waiver certificate to the Office of Admissions by December 1, checking the Early Decision box on the application
- Ask the high school guidance office to submit an official academic transcript with ACT or SAT I scores and personal recommendations to the Office of Admissions by December 1.

Final acceptance is contingent upon successful completion of the senior year. Early decision applicants who are not accepted may be deferred to regular decision and reviewed by mid-March for the fall semester. A $300 deposit is due ten days after notification of early decision acceptance. Financial aid applicants must submit the deposit within ten days of receiving a financial aid award letter; however, financial aid forms must be submitted in accordance with the early decision application deadline.

Early Admission

Students who wish to enter Alfred after completing the junior year of secondary school may qualify for admission. Please, contact the Office of Admissions for information and application procedures.

Deferred Admission

Alfred University understands that some students may benefit by postponing entrance for up to two years. Deferred admissions applicants should:

- Follow the application procedures for regular admissions, including paying the enrollment deposit.
- Notify the Office of Admissions by August 1 of their intention to delay entering the University.
- Notify the Office of Admissions in writing at least three months before planning to enroll.

Should the two-year deferment period lapse without written notification, the $300 deposit will automatically be forfeited. A deferral student who enrolls at another college sacrifices the deposit and relinquishes his/her place in the freshman class. Such students may reapply as transfer students and, if accepted, will have the previous deposit applied toward first semester tuition charges. Those who are not accepted or who decide not to attend forfeit the deposit.

Common Application

Alfred University is a member of the Common Application system for selective independent colleges. Common Application forms are available at high school guidance offices.

On-Line Application

Students can apply to Alfred University using a number of electronic resources, including our own on-line application, which can be found at our home page, www.alfred.edu. The application fee is waived for students using our on-line application. For more information about on-line applications, please contact the Office of Admissions at (800) 541-9229.

Notification of Freshman Applicants

Applicants who have submitted all credentials to the Office of Admissions by February 1 can expect to receive a decision by late March. Applications completed after February 1 will receive notification within a one month time frame.

When the Office of Admissions receives the final secondary school transcript, an acceptance becomes final. Applicants must also fulfill any specific requirements set by the Admissions Committee.

A $300 deposit for fall semester enrollment is due by May 1, or within two weeks of admissions notification for those accepted after May 1. Students enrolling in January should submit the deposit by December 15, or within two weeks of acceptance if notified after December 15.

Of the $300 deposit, $200 is credited toward matriculated students' first semester charges, and $100 is held throughout a student's enrollment. This is returned, less any unpaid University charges, after graduation or withdrawal (if done in accordance with established procedures). The $300 deposit is non-refundable to those who choose not to attend Alfred University.

Procedure for Transfer Applicants

Applicants who are attending or have attended a junior or senior institution will be considered for admission if they meet the following criteria:

- Completed any credit hours at an accredited college or university
- Achieved a cumulative GPA of at least 2.5 on a 4.0 scale
- Demonstrated good social standing at the previous institution

The applicant's most recent academic performance is the primary consideration in transfer application review. The secondary school performance of applicants with fewer than 30 semester hours credit is also considered. Transfer candidates with GPA's below 2.5 but above 2.0 may be considered for admission; however, a personal interview with an admissions counselor is recommended and a personal essay is required. The essay should discuss why the student's academic performance has been inconsistent with his/her ability and why the student expects to achieve greater success at Alfred University. Additional faculty recommendations are also encouraged.

Transfer applicants should submit the following credentials:

- A completed transfer application with essay and $40 fee or application fee waiver certificate by August 1 for fall admission or December 1 for spring admission. (Applicants to the School of Art and Design please refer to the following section.)
- Official transcripts from all colleges and universities previously attended
- An official high school transcript
- least one letter of recommendation from a faculty member at the institution from which the student is transferring. If a faculty recommendation cannot be obtained, recommendations may also be submitted by professional members of the student's community who are not relatives and who can serve as valid references.

Final acceptance is contingent upon the student successfully completing his/her current academic program, paying the required deposit and submitting a completed medical form.

Students are also responsible for furnishing the Coordinator of Transfer Admissions with catalogs from all colleges previously attended if these are not already on file in the Office of Admissions.

Transfer Art Applicants

In addition to the procedures for transfer applicants listed above, a portfolio is required from all applicants to the School of Art and Design (see freshman section on portfolio submission). Transfer portfolios should consist of 15-20 slides. In order to have your portfolio returned, a $3 check or money order should be made out to Alfred University, enclosed in a self-addressed envelope and included with the portfolio. Each slide must be clearly labeled with the applicant's name. Indicate the type of admission as Transfer on the outside of the portfolio. Portfolios should be shipped in a padded mailer to:

Office of Admissions
Alfred University
Alumni Hall
Saxon Drive
Alfred, NY 14802

Dates for Portfolio Submission

Fall transfer art applicants with 24 or fewer studio credit hours should follow freshman application deadline (see previous section). Other transfers interested in fall acceptance should apply by March 1 for maximum consideration. After March 1, transfer applicants will be considered depending on availability of space in specific media areas.

Spring transfer art applicants should submit their portfolios between November 1 and November 15. Applicants will be notified of the admissions decision by December 1, and portfolios will be returned on or before that date.

Transfer art students accepted and placed at the freshman studio level may not enter in the spring semester; they must begin the Freshman Foundation program in the fall term.

In order for a portfolio to be reviewed, a transfer student must have previously submitted a transfer application with essay, fee, college and high school transcripts, and letter(s) of recommendation to the Coordinator of Transfer Admissions.

Notification of Transfer Applicants

Decisions will be mailed on a rolling basis, usually within four weeks after the application is completed. Initial acceptance becomes final only after the University is notified that current course work is successfully completed. Transfer applicants must also fulfill any specific requirements set by the Admissions Committee.

For students who apply by February 1 and are accepted for the fall semester, a $300 deposit is due no later than May 1. If accepted for spring semester, the deposit is due no later than January 1. Students accepted after those dates must submit deposits within two weeks of notification.

After crediting $200 toward a matriculated student's first semester tuition charges, $100 is held throughout a student's enrollment. This is returned, less any unpaid University charges, after graduation or withdrawal (if done in accordance with established procedures). The $300 deposit is non-refundable to those who choose not to attend Alfred University.

Transfer of Credits and Financial Aid

It is Alfred University policy to provide transfer students with the greatest possible recognition of their previous college work while maintaining the integrity of its own academic programs.

Transferable Credit

In courses graded A-F, only those courses in which the student has earned a "C" or above will be accepted. "C-" or lower grades will be accepted in transfer only if part of an associate's or baccalaureate degree. Ordinarily, courses in which a "C-" or lower grade has been received cannot be used to fulfill major requirements. In courses graded pass/fail or credit/no credit, grades of "pass" and 'credit" are accepted.

Alfred University normally will accept college credits only from institutions accredited by one of the regional accrediting associations, such as the Middle States Association of Colleges and Secondary Schools.

Number of Credits Transferable from Junior Colleges or Associate Degree Programs

It is University policy to show full faith in the Associate of Arts (A.A.) or the Associate of Science (A.S.) degrees offered by accredited two year colleges. Therefore, the maximum credit hours required to complete the associate's degree program are accepted in transfer.

Associate of Applied Science (A.A.S.) programs will be evaluated on a course-by-course basis. If the student has attended a junior college and has not completed an associate's degree, Alfred will accept a maximum of as many credits as will provide junior standing in an Alfred program of study. Usually, this would amount to 60 credits for the College of Liberal Arts and Sciences; 61 for the College of Engineering and Professional Studies; 63 for the School of Ceramic Engineering and Materials Science and the School of Art and Design; and 54 for the College of Business.

Number of Credits Transferable from a Senior College

The maximum number of credits transferable from a senior college or university is that number which will grant students senior standing in their Alfred University program.

Regardless of the number of credits which are accepted in transfer, all students are responsible for completing the major and general education requirements of their program of study.

Financial Aid

- Transfer students applying for financial aid should follow these steps:
- After January 1, complete a Free Application for Federal Student Aid (FAFSA)
- Submit the Alfred University Financial Aid Application to the Financial Aid Office
- Request that each post-secondary institution attended complete a Financial Aid Transcript and return it to Alfred's Financial Aid Office. (Copies of this are available from that office.) The application for financial aid is not considered complete until this form is received from each institution previously attended. Financial Aid Transcripts should be mailed to:

  Office of Financial Aid
  Alfred University
  Alumni Hall
  Saxon Drive
  Alfred, NY 14802

Note: A Financial Aid Information and Application booklet is mailed to each student as soon as the admissions application is received.

International Student Policies and Procedures

Alfred University welcomes applications from qualified international students. The procedures listed below are necessarily strict in order to protect the University's visa-granting privileges. All international students (degree candidates and special students) must conform to the procedures and deadlines.

An international student wishing to matriculate during the fall semester must complete an application for admission no later than June 15. This includes:

- The Alfred University International Student Application
- Declaration and Certification of Finances
- Summary of Educational Experiences by Years

A completed application must be accompanied by a $50 application fee in U.S. currency and the following items:

- Official or officially certified copies of all secondary and post-secondary records (such as external examinations). Certified copies of diplomas or certificates should also be submitted. All records from non-English speaking countries must be officially translated into English and submitted with certified copies of the original documents.
- At least one letter of recommendation from the last academic institution attended, discussing the applicant's ability to succeed in the specific Alfred University program to which he/she is applying.
- Results from the Test of English as a Foreign Language (TOEFL) if English is not the official language in the applicant's country. These results must be official and sent directly from the Educational Testing Service. Applicants from English speaking countries are required to submit results from the Scholastic Aptitude Test (SAT I). General Certificate of Education (GCE) "0" or "A" level results in English and mathematics may be submitted in lieu of the SAT I or TOEFL.
- A certified or notarized bank statement showing proof there are sufficient funds available for the applicant's education at Alfred University for one year. This must accompany the Declaration and Certification of Finances and the Health Form.

When Alfred University has received all required documents, the applicant's folder will be considered complete. Only then will action be taken on the application. All applications must be completed by June 15 to be considered for fall semester entry for the coming academic year.

Special Programs

Special Students

Individuals who wish to enter Alfred as non-matriculated, full- or part-time students should file a completed special student application at the Office of Admissions. This application should be submitted at least one month prior to the expected entry date to allow for necessary processing and evaluation. The University regards special students as individuals seeking educational enrichment rather than as degree candidates; therefore, they are not eligible to receive financial assistance. Note: Spring admission to the School of Art and Design is not available to special students.

Opportunity Programs: Educational Opportunity Program (E.O.P.); Higher Education Opportunity Program (H.E.O.P.)

Opportunity programs enable students whose economic and educational circumstances have placed limitations on their opportunities to further their education. To qualify for admission, students must be New York State residents, demonstrate the potential to succeed academically and socially, and demonstrate financial need as dictated by New York State guidelines.

Students accepted into the Opportunity Programs at Alfred University are required to participate in a five-week Pre-Freshman Summer Program. These five weeks are designed to assist students in gaining an understanding of the demands and challenges that come with college enrollment and introduce them to the University campus and its surrounding communities. The Summer Program includes courses in reading, writing, mathematics, introduction to sociology, computer literacy and

student success strategies. Instruction is provided in these areas to enhance proficiency in the basic skills necessary to be successful in college.

Opportunity Programs provide support services, including a tutoring and regular academic and personal counseling to students throughout their enrollment at Alfred University.

Advanced Placement and Credit by Examination (See p. 54)

Reserve Officers Training Corps (ROTC)

Alfred University students may enroll in the ROTC program in cooperation with St. Bonaventure University. This program leads to a commission as a second lieutenant in either the active Army, U.S. Army Reserve, or the U.S. Army National Guard. Through its financial aid program, Alfred University provides a matching grant to students who receive an ROTC Scholarship while attending the University. The amount of the matching grant is based on the Scholarship Tier award made by the ROTC program. For example, Tier I scholarship winners receive a University matching grant up to the full-time tuition charge (excluding NYS TAP eligibility) while Tier II, III, and IV scholarship winners receive a Room Grant.

The program is structured in two separate phases: a basic course for freshmen and sophomores and an advanced course for juniors and seniors. Students register for the Military Science (MS) courses using the “Western New York Consortium” cross-registration form. With the exception of ROTC scholarship recipients, students may enroll in the basic course without incurring any military obligation. Advanced courses have enrollment restrictions which may prohibit student participation, unless the student is an ROTC scholarship recipient.

Admission of Veterans and Service Personnel

Alfred University values service to our country; service personnel are encouraged to apply for admission by contacting the Office of Admissions for further information.

Readmission

A student whose study at Alfred University has been interrupted and who wishes to return must complete the following steps at least one month prior to the expected re-entry date:

- File an application for readmission with the Office of Admissions
- Pay any debt owed the University
- Have official transcripts of college work taken at other institutions since attending the University sent to Alfred
- Submit a letter of recommendation from a college official
- If employed since leaving the University, the student should submit a letter of recommendation from his/her employer
- Submit a brief statement of purpose for returning

Involuntary Withdrawal

Alfred University reserves the right to withdraw acceptance of any prospective student prior to matriculation who engages in or has engaged in any activities, social or financial, that are considered to be violations of accepted standards of conduct. This includes, but is not limited to, any penal laws.

Tuition, Room and Board 2001-2002

College of Business
College of Engineering and Professional Studies
College of Liberal Arts and Sciences

Entering Freshmen

Tuition (Level 1)	$18,498
Student Service Fee	698
Room** and Board***	8,016
Total*	**$27,212**

(Tuition rates for continuing students are subject to annual increase.)

Continuing and Transfer Students****

Tuition (Level 2)	$19,414
Student Service Fee	698
Room** and Board***	8,016
Total*	**$28,128**
Tuition (Level 3)	$20,376
Student Service Fee	698
Room** and Board***	8,016
Total*	**$29,090**
Tuition (Level 4)	$21,384
Student Service Fee	698
Room** and Board***	8,016
Total*	**$30,098**

New York State College of Ceramics
New York State Residents

Tuition	$9,782
Student Service Fee	698
Room** and Board***	8,016
Total*	**$18,496**

Out-of-State Residents

Tuition	$13,486
Student Service Fee	698
Room** and Board***	8,016
Total*	**$22,200**

*** This figure does not include costs for books and supplies. The rates listed apply only to the 2001-2002 academic year. Rates for 2002-2003 are subject to increase.**

**** Room cost used above is $4174 for double occupancy. Single rooms are also available at $4,720 per year. A limited number of apartment residence halls are available with complete kitchens. These rent for $4,550 per year per student. These rates are subject to annual increase.**

***** Board cost used above is $3842 for Meal Plan Block 2. Meal Plans ranging from Block 1 to Block 6 are available. Rates are subject to annual increase.**

****** Transfer students enter at Tuition Level 3**

The tuition and fee provide for University services and student activities. Services include use of the campus health center (see following details), Career Development Center, Counseling Services, fitness center, and attendance at cultural programs. Activities include WALF (student radio station), Fiat Lux (student newspaper),

Kanakadea (student yearbook), all student organizations, and special dances and concerts.

The College of Ceramics tuition and fee, as set by the State and the University, provide for instruction and such expenses as college administration, student financial aid, University services and student activities.

Residence halls are closed and campus food service is not available for the scheduled vacation periods during the academic year. Students are responsible for their own linen service, telephone, and a parking permit for on-campus vehicles. All University charges are subject to change without notice.

Other Expenses

The $40 application fee has been discussed as part of the admissions procedure. Special students not admitted through regular application procedures are charged this fee upon first registering. The $300 acceptance deposit required of all students matriculating as full-time degree candidates is also discussed in detail under payments and rebates.

Limited medical treatment, including services of the University physician and nurses, is provided in the Crandall Health Center. The costs for such items as prescriptions, serums, and special drugs are personal expenses. Student health insurance is required for all full-time students not covered by other health insurance. The University has arranged coverage through a private carrier.

Additional charge is made to those students registered in courses requiring special materials (e.g. studio art courses, lab equipment) or individual instruction (e.g. private music lessons). These charges are normally by the credit hour. Materials fees for Ceramic College studio courses and for Engineering and Science courses will vary from $4 to $50 **per credit hour**. Course associated fees (except for private music lessons) are refunded on the same percentage schedule as tuition. Refunds are not given for private music lessons after the second lesson.

Undergraduate students registered for ten to eighteen credit hours (ten to twenty credit hours for engineers) inclusive, are considered full-time students for billing purposes. Students who are registered for credits in excess of eighteen (twenty for engineers) are billed at a part-time instruction rate for the extra credits. All students registered for less than ten credits are also billed at a part-time instruction rate. The part-time instruction rate is $544 per credit hour for 2001-2002.

In addition to actual University charges, the Financial Aid Office uses the following educational cost estimates in determining need-based awards. These are average figures and will vary depending on individual preferences and personal circumstances. The estimated cost of textbook and supplies is $700 per year. Off-campus room and board costs are estimated at $6,250 per person per year. (There is a savings possible when more than one person shares accommodations.) Personal expenses and transportation costs related to college attendance will vary according to life style and distance from campus. Resident students should plan for about $1100 in travel and personal expenses. Commuter students should estimate about $2,100 in travel and personal expenses.

Payments and Rebates

Statements covering all charges for the first semester are mailed home in July and must be paid by August 5. Statements covering charges for the second semester will be mailed home during November and must be paid by January 10. There is a $35.00 fee for late registration and $35.00 fee for late payment of bills.

The $300 acceptance payment is non-refundable to those who do not attend the University. For those who attend, $100 is held as a deposit as long as the student is enrolled. The $100 is returned, less any unpaid charges, after graduation or following the student's formal withdrawal, if done according to the official procedures. Continuing students who do not notify the University before the semester begins that they will not be returning, forfeit their advance deposit. The remaining $200 is credited against the University tuition for the first semester.

First Semester undergraduates receiving federal aid who withdraw from the University during the first nine weeks of the semester are subject to the Federal Pro Rata Refund Calculation for tuition, room, board and fees. **Full and Part-time students who withdraw from the University and who are not subject to the Federal Pro Rata Refund Calculation** will have tuition and fees pro-rated according to the following schedule:

Tuition Charges – Refunds for full-time undergraduate students during the regular academic year are as follows:

- for students withdrawing before the first day of classes, 100% of tuition
- for withdrawal during the first and second weeks, 80%
- during the third and fourth weeks, 60%
- during the fifth and sixth weeks, 40%
- during the seventh and eighth weeks, 20%

For refund purposes, a week is seven calendar days beginning with the first day of classes. There will be no tuition refund for withdrawals after 56 calendar days of each semester.

Undergraduate students in their first semester of attendance at Alfred University, and who withdraw from the University during the first nine weeks of the semester, receive a pro rata refund of tuition, room and board based on the semester time elapsed.

Students who sign a housing contract for the academic year and break the contract by not attending Alfred University, by withdrawing from the University, or by moving off-campus, are responsible for a contract cancellation fee as specified by the housing/dining contract. If the withdrawal is after the semester begins, the fee is $100 plus a percentage of the balance of the room rent according to the following schedule:

- for students who cancel their housing contract during the 1st and 2nd weeks, 25%
- during the 3rd and 4th weeks, 50%
- during the 5th, 6th and 7th weeks, 75%

A $500 housing contract cancellation fee is charged for off-campus moves before the semester begins or $500 plus a prorated amount of the balance of the room rent after the semester begins.

There is no room refund or contract cancellation fee charged for withdrawals after 49 calendar days of each semester.

Students who withdraw or take a leave of absence after the semester begins or otherwise drop the board plan will be charged $100 plus a prorated amount of the balance of the board payment, or the balance of the board payment, whichever is less. The prorated amount is based on the number of calendar weeks of the semester elapsed. Students who are not required to board but still choose to, are charged a $50 contract cancellation fee if they drop their meal plan after July 1, but before the semester begins or between semesters. Board contract cancellation fees at any other time are the same as those stated immediately above.

It is important that the student formally withdraws from the University since refunds are determined by the date of receipt of the withdrawal notice. Formal withdrawal starts at the Student Affairs Office in Carnegie Hall. New students who withdraw during their first semester at Alfred may apply their non-refundable acceptance deposit against any charges accrued for tuition, room, or board.

Students are required to meet all financial obligations to the University when due. Students will not be allowed to receive a diploma or transcripts if they are delinquent in meeting financial obligations due the University or any University organization.

Appeals/Charges and Refunds

Refunds based on excess credits are made payable to the student and issued automatically after final billing. Refunds based on Parent Plus Loans are automatically refunded to the Parent. Refunds based on withdrawal from the University which involve financial aid are prorated back into the financial aid programs first, as required by Federal, State, and Alfred University guidelines; any remaining credit balance is then refunded to the student.

Original appeals regarding charges or refunds should be made to the office initiating the action. Further appeals must be made to the Vice President for Business and Finance, Carnegie Hall.

Note: For Graduate School & Summer School see separate publications.

Financial Aid

Entering Freshmen

Applicants are requested to complete the Free Application for Federal Student Aid (FAFSA) and the Alfred University Financial Aid Application. Detailed information on financial aid programs, application requirements and procedures, and University aid policy is published annually in the Financial Aid Information and Application brochure. This document is provided to all students upon receipt of the application for admission and is available upon request from the Student Financial Aid Office.

Transfer Students

Entering transfer students should observe the same application process as entering freshmen. These forms are available from the Student Financial Aid Office.

Mid-year transfer students should follow the regular process using a December 1 deadline for receipt of application materials,

Returning Students

Returning students should observe the same application process as entering freshmen. Students must apply each year to receive funds.

Alfred University Financial Aid Satisfactory Progress Standards Policy for Baccalaureate Degree Programs

In compliance with federal and New York State regulations and University policies, Alfred University has established satisfactory progress standards for financial aid. Students must meet these standards to be eligible to receive federal, State, or University financial aid payments.

I. Satisfactory Academic Progress (SAP) Requirements for Federal and University Financial Aid Programs

To be eligible to receive financial assistance under any federal or University scholarship, grant, loan, or work program, students must demonstrate minimum qualitative and quantitative academic measurement standards. The qualitative and quantitative standards used to measure satisfactory academic progress are cumulative and encompass all enrollment periods, including periods of enrollment during which the student did not receive federal or University aid.

A. Qualitative Measurement

The qualitative measurement standard is expressed as a minimum cumulative grade point average (CUM/GPA) which must be demonstrated prior to each semester of enrollment. The following chart illustrates the minimum CUM/GPA requirement:

Semester of Attendance	1	2	3	4	5 or more
Minimum CUM/GPA	0	1.0	1.5	1.75	2.0

B. Quantitative Measurement

The quantitative measurement standard has two concepts: a maximum time frame in which the student is expected to finish a degree program; and a comparison of the number of credit hours the student attempted with the number of credit hours the student successfully completed to determine whether the student is progressing at a rate which will allow the student to finish the program within the maximum time frame. This is referred to as the minimum completion ratio.

Maximum Time Frame

The maximum time frame in which the student is expected to finish a baccalaureate degree program is defined as 150% of the published length of the program, according to the Alfred University catalog, measured in attempted credit hours. For example, the College of Liberal Arts and Sciences requires 124 credit hours to complete a degree. Therefore, the maximum time frame for which a liberal arts student may be eligible for aid is the period during which the student attempts 186 credit hours (124 X 1.5 = 186).

Minimum Completion Ratio

The percentage of attempted credit hours a student must successfully complete to demonstrate SAP is the minimum completion ratio. For all undergraduate degree programs at Alfred University, this percentage is 67%. The completion ratio is determined by dividing the program credit hours required for graduation by the maximum time frame credit hours.

The application of the completion ratio is cumulative. Therefore, a student must successfully complete 67% of all credit hours attempted to demonstrate SAP for federal and University aid. For example, if a student attempted 60 credit hours during the first four semesters of enrollment, this student would need to demonstrate at least 40 successfully completed credit hours to satisfy the SAP completion ratio requirement (60 X .67 = 40.2).

C. Evaluation Periods and Frequency of Measurement
The review of a student's SAP is done annually at the end of each academic year, after final Spring semester grades are posted by the Registrar. All students are reviewed regardless of the student's enrollment status or number of semesters attended during the academic year.

D. Cumulative Grade Point Average (Cum/GPA)
The CUM/GPA is the CUM/GPA as determined and recorded by the University Registrar on the student's official Alfred University academic record. Grades earned at other institutions for transfer credits are not considered to determine the student's Alfred University CUM/GPA or for SAP CUM/GPA requirements.

E. Attempted Credit Hours
For purposes of SAP, a credit hour is considered attempted if the student's academic record demonstrates one of the following grade designations for the credit: A through D, F, I, NR, P, W, XX, or Z. Classes/courses which carry a designation of 0 credit hours are not considered attempted credits. Transfer credits are also considered attempted credits. See I(G), "Transfer Credit Hours."

F. Earned Credit Hours
A credit is considered successfully completed and earned if the student's academic record demonstrates a P, or A through D grade for that credit hour. Classes/courses which carry a designation of 0 credit hours are not considered earned credits. Transfer credits are also considered earned credits. See I(G), "Transfer Credit Hours."

G. Transfer Credit Hours
Credits transferred into Alfred University are considered as both attempted credit hours and earned credit hours for the SAP quantitative measurement standards, maximum time frame, and minimum completion ratio.

H. Student's Failure to Demonstrate Satisfactory Academic Progress

Financial Aid Probation
When a student fails to meet one or more of the SAP criteria, the student will be placed on financial aid probation for one academic year. Financial aid probation does not adjust or excuse any of the SAP requirements. It simply provides an opportunity for students to correct their deficiencies and re-establish compliance with the SAP standards. Students on probation are eligible for federal and University aid. If the student does not satisfy the SAP requirements after the probationary year, the student will be ineligible for aid. Students are only eligible for the automatic probation provision once.

When students are placed on financial aid probation, they will be advised of the right to appeal. If the student chooses not to exercise the right to appeal and takes the automatic probation provision, the student may not submit an appeal at a later date based on extenuating circumstances which occurred prior to the probation year.

Appeal Based on Extenuating Circumstances
Students with extenuating circumstances which prevented them from satisfying SAP requirements may appeal for a waiver or adjustment to the SAP policy based on these circumstances. Extenuating circumstances are generally defined as an extreme, unanticipated event which prohibited the student from attending classes for a significant time period, or prevented the student from doing academic work. A serious illness or a serious injury on behalf of the student, or the death of an immediate family member may be considered an extenuating circumstance. Medical appeals must be supported by documentation from a professional health care worker and specify the dates the student was unable to perform academic work.

Appeals must be: made in writing; presented to the Director of Student Financial Aid within 30 days from the date a student is notified about the lack of progress; and supported by appropriate documentation. Appeal decisions will be made by the Director of Student Financial Aid. In approving an appeal, the Director may waive a semester under the SAP policy, adjust one or more of the SAP requirements, or place the student on financial aid probation.

I. Reinstatement of Aid Eligibility

Students who do not satisfy the SAP requirements may reinstate their aid eligibility through one of the following methods:
1. Satisfy the SAP requirements after one academic year of financial aid probation.
2. Submit a successful appeal.
3. Make up the SAP deficiencies without the benefit of aid.

II. New York State Progress Standards

New York State has established progress standards for the Tuition Assistance Program (TAP) and other State aid programs. For New York State, the student is subject to three progress standards: program pursuit, satisfactory academic progress, and a C average requirement.

A. Program Pursuit

Program pursuit is defined as receiving a passing or failing grade, in a certain percentage of a full-time course load, in each semester for which a State aid award is received to be eligible for the next semester's payment. The percentage increases from 50% of the minimum full-time course load (12 credit hours) in each semester of study in the first year for which an award is received, to 75% of the minimum full-time course load in each semester of study in the second year for which an award is received, to 100% of the minimum full-time course load in each semester thereafter.

The following chart illustrates the program pursuit requirements for New York State aid. The chart defines the number of credit hours a student must complete during the semester for which a State aid payment was received according to the student's cumulative number of State aid payments received.

Number of State Aid Payments Received	1	2	3	4	5 and above
Minimum Credit Hours Completed	6	6	9	9	12

For program pursuit, a credit hour is considered completed if the student received an A through F, Z, or P grade.

B. Satisfactory Academic Progress (SAP)

The New York State satisfactory academic progress measurement defines the minimum number of earned credits and the minimum CUM/GPA which must be met for each term of study in which a State award is received. The following chart illustrates these standards. A credit is considered successfully completed and earned if the student's academic record demonstrates an HP, P, or A through D grade for that credit hour.

Before being certified for this payment number:	1st	2nd	3rd	4th	5th	6th	7th	8th	9th*	10th*
A student must have earned at least this many credits:	0	3	9	18	30	45	60	75	90	105
With this minimum Cumulative GPA:	.0	.5	.75	1.2	2.0	2.0	2.0	2.0	2.0	2.0

***Only students enrolled in a five-year baccalaureate program or an approved Education Opportunity Program may receive a fifth academic year of payment.**

C. Requirement for a C Average

Students who have received the equivalent of two or more full years of New York State-funded student financial aid payments must have a CUM GPA of 2.0 to be eligible for subsequent State aid payments.

D. Evaluation Periods and Frequency Measurement

New York State SAP and program pursuit standards are measured at the end of each semester for which the student received State aid. The C average requirement must be met for all semesters after receiving two years or more of State aid payment.

E. Reinstatement of New York State Aid

Students who have lost good academic standing and payment eligibility under the New York State SAP, program pursuit, or C average requirements may regain eligibility in one of the following ways:

1. Make up the academic deficiencies without the benefit of New York State aid.
2. Be readmitted to the University after an absence of at least one calendar year. This provision of the State aid regulations does not apply to the C average requirement.
3. Transfer to another institution where the student must meet that institution's admission requirements.
4. Appeal for a waiver of the SAP, program pursuit, or C average requirement based on extenuating circumstances. The appeal procedures are the same as outlined in Section I(H) of this policy statement.

New York State aid regulations state that a student may receive an extenuating circumstance waiver only once for the SAP and program pursuit requirements. An extenuating circumstance waiver of the C average requirement may be granted more than once. Financial aid probation is not permitted for New York State aid programs.

III. Alfred University Academic Scholarship Cumulative Grade Point Average Requirements

In addition to meeting the satisfactory academic progress (SAP) requirements outlined in Section I of this policy statement, students holding University academic scholarships must meet certain GPA requirements to maintain the award. The following list identifies the minimum cumulative GPA required for each University scholarship program:

Scholarship	CUM GPA Requirement
Phi Kappa Theta Scholarship	3.0
National Merit Scholarship	3.3
Presidential Scholarship	3.0
Southern Tier Scholarship	3.0
CEER/CEMS Fellowship Scholarship	3.0
Jonathan Allen Award for Leadership	2.0
Dean's Transfer Scholarship	2.6
Alfred State College Transfer Scholarship	3.0
Esther Tuttle Scholarship	2.75
International Student Scholarship	3.0
Competition Scholarship	3.0
Art Portfolio Scholarship	2.75 for the freshman year and 3.0 for subsequent years
ROTC Matching Grant	2.0

The review of a student's cumulative GPA for scholarships is done annually at the end of each academic year after final Spring semester grades are posted by the Registrar. Scholarships lost due to the CUM GPA requirement may be reinstated for any semester in which the student meets the CUM GPA requirement prior to the beginning of that semester.

Student Life

The Division of Student Affairs helps students meet their personal and academic goals within the caring residential environment that is Alfred University. Staff members and programs encourage students to develop, explore and express themselves as individuals and as community members.

Outside the classroom, more than 100 student clubs and organizations offer a multitude of exciting activities for every interest. Concerts, theatre and dance events, comedy clubs and coffeehouses provide quality nightlife. Intercollegiate athletics involve one out of every five students; many others participate in intramurals.

On the support side, a professional staff offers a full range of student services – from career planning, counseling and Greek life to health care, residence life and health education. As part of the transition into their first year at Alfred University, incoming students take part in an extensive orientation. They meet fellow students and faculty members and become acquainted with the historic campus and its facilities.

Extra-Curricular Activities

More than one hundred student-led organizations exist at Alfred University. Organizations offer students a chance to pursue special interests or discover a new one. They also assist in the development of leadership skills, goal setting, and budget management. Many of these organizations are mentioned in this section, but others exist and new groups are always being formed. Contact the Office of Student Activities at (607) 871-2175 for a complete list of all student organizations.

Student Government

Participation in co-curricular activities benefits Alfred students in many ways. There is no better training for many professions than experience in student government. The present Student Senate has been in existence since 1976 and has been instrumental in initiating changes and improvements.

The Senate meets weekly. Each senator is elected by and represents a particular constituency – i.e., residence hall, sorority or fraternity, campus organizations, or off-campus residents. The Senate president and vice-president are chosen by a campus-wide election.

Among the Senate's major functions are raising and discussing issues of student concern, proposing constructive changes to promote student well-being, and distributing funds to other campus organizations. The Senate elects or recommends student representatives for University and college committees.

Volunteer Opportunities

The Volunteer Service Center exists on campus to connect all students with opportunities to make a difference within our community. Contact the Office of Student Activities to get connected. Several of our organizations have community service as their primary goal.

- Student Volunteers for Community Action – coordinates adopt-a-youth and adopt-a-grandparent programs
- Alpha Phi Omega – The oldest national co-ed service fraternity in the country
- Habitat for Humanity – Sponsors annual home-building trips to Florida
- Rescue Squad – Students volunteering to provide on-site first aid to fellow students

Entertainment Opportunities

Whether producing a major concert with national touring **performing groups** or displaying your own personal talent in front of a packed theater, there is a diverse range of ways to entertain or be entertained at Alfred.

- Student Activities Board – the main provider of entertainment including comedians, bands, and solo performers
- Friday Night Live/Pirate Theater/Mosaic – Alfred's three comedy troupes all with very different styles and attitude
- Division of Performing Arts – Opportunities abound for extra-curricular involvement in Orchestral, Vocal and Instrumental Music groups, Dance ensembles and Theatrical productions.
- Alfred Jesters – Juggling, magic and acrobatics are just a few of this group's amazing talents
- The Alfred Show – Weekly talk show featuring student talent and interviews

Outdoor/Environment Opportunities

- Forest People – Alfred's outdoor recreational club travels far and near for activities including repelling, rafting, hiking, and more
- Earth – Alfred students taking environmental responsibility and advocating animal welfare

Media Oganizations

- Fiat Lux – bi-weekly student newspaper
- AUTV – Student television station broadcasting announcements and occasional student-produced shows
- WALF – 24-hour campus radio station with an eclectic mix of music styles
- Kanakadea yearbook – documenting the year's events and containing portraits of graduating students
- College Comic Illustrators – Creators of an annual full-length comic book based on college life
- Alfred Review/Poiesis – Literary magazine containing two dimensional art and photos of 3-D work

Alcohol and Other Drug Education

The mission of the Alcohol and Other Drug Education Program is to provide information, activities, services and support to the students, faculty, staff, and administration of Alfred University, to promote substance abuse resistance and to foster healthy lifestyle choices. This education and prevention program features:

- Fun, alcohol-free social activities
- Special events during Alcohol Awareness Week, Spring Break, Holidays, Orientation, and Graduation
- AWARE, BACCHUS, GAMMA and SAM Peer Education Groups
- Social Norms Campaigns
- Presentations in residence halls, fraternities, sororities, and classrooms
- Formal classes on substance abuse
- A resource center for personal and professional use
- A university-wide advisory committee
- Data collection for AOD use
- Policy review and recommendations
- Approval of on-campus events involving alcohol
- Referrals for students abusing alcohol and other drugs

Athletics

Athletic programs are an integral part of campus life. Students' individual athletic aspirations are satisfied by a wide-ranging program of intercollegiate competition, intramural sports, and recreational activities.

Indoor Facilities

McLane Physical Education Center is the hub of athletic activities. It has two regulation size basketball courts, a swimming pool, a complete fitness center (with over 20 pieces of equipment designed to promote cardiovascular fitness as well as strength training equipment, including bikes, stair-climbing and rowing machines, four treadmills, an upper body exerciser, a Gauntlet Stairmaster, nine Cybex Eagle and five Champion strength training stations, and free weights), four racquetball and squash courts, four badminton and volleyball courts, and a comprehensive athletic training room. Supplementing these facilities are an indoor track and a basketball court in the adjacent Davis Gym.

Outdoor Facilities

Outdoor facilities include Merrill Field (home of the Saxon football, lacrosse, and soccer teams) with a multipurpose artificial surface accommodating intercollegiate sports, intramural activities and recreation; six tennis courts; several basketball courts; a portable volleyball and basketball court and a pavilion. All are located near the residence halls. Downhill and cross country skiing and horseback riding areas are located a short distance from campus.

Intercollegiate Athletics

Alfred University sponsors intercollegiate athletics for women in basketball, soccer, cross country, swimming, tennis, track, lacrosse, softball and volleyball. Men's intercollegiate athletics include football, cross country, track, basketball, soccer, lacrosse, swimming, and tennis. The equestrian, golf, and ski teams are coeducational. Alfred is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the Empire Eight Conference, and the New York State Women's Collegiate Athletic Association. The intercollegiate programs operate under the rules and regulations of the NCAA.

Recreation and Leisure Sports

The philosophy of the recreational program is to contribute to the physical, social and emotional well being of the University community by offering a diverse program of leisure time activities. All indoor and outdoor facilities are available for the intramural program and for general student use. With a focus on participation in competitive physical play, the program is open to the total University community (undergraduate and graduate students, faculty, and staff).

The Recreation and Leisure Sports department offers sports activities in sixteen areas, eight of which are coeducational. Offerings include tennis, flag football, indoor soccer, box lacrosse, basketball, bowling, badminton, racquetball, table tennis, volleyball, team handball, handball, inner-tube water polo, ultimate frisbee and softball.

University community members take part in exercise and recreational activities. McLane Center is open daily for swimming, squash, racquetball, handball or fitness training.

Campus Center

The 60,000 square foot Arthur and Lea Powell Campus Center was first occupied in the spring semester of 1994. One of the finest community-gathering facilities in the country, it features a cafeteria-dining room with panoramic hillside views, a forum/movie theatre, an "open air" food court, a cyber café, a night club, student organization offices, a multi-cultural center, a radio station and television station, meeting rooms, a formal Alumni Lounge, the University bookstore, mail room and TV lounge.

Robert R. McComsey Career Development Center
(at the Allen-Steinheim Museum)

The CDC provides career development and preparation to AU students and alumni. We encourage students to get involved as early as their freshman year by meeting a career counselor and working on job and/or graduate school preparation. The CDC offers the following services:

- Career counseling, exploration and advising including career testing
- Resume Express, our web-based system for job and internship posting, web resumes, and interview sign-ups
- Computer lab featuring PC's and Mac computers with internet access for student use
- Internships, Co-ops and summer jobs in your field of study
- An annual spring Career Fair which attracts up to 80 employers, and an annual autumn Graduate School Fair with up to 60 grad schools in attendance
- CHOICES, a computer guidance program designed to identify career opportunities, graduate schools and scholarship programs
- On-campus recruiting, interviewing and resume referral
- Frederick W. Gibbs Career Resource Library including occupational information, job and internship postings, and graduate school information

Counseling and Student Development Center

The Counseling and Student Development Center (CSDS) is located in the north wing of the Crandall Center for Counseling and Health Services, near the Saxon Inn. The Center, a component of Student Affairs, provides a comprehensive range of counseling, developmental and educational services to promote the personal growth of University students. These services are provided by National Certified Counselors and are completely confidential in accordance with standards set by the American Counseling Association.

All assistance at the Counseling and Student Development Center is free and available to currently enrolled undergraduate and graduate students. Appointments can be arranged by calling (607) 871-2300 or by stopping by the office.

Health Services

The Crandall Health Center is located in the south wing of the Crandall Center. It is made up of a multi-disciplinary team of physicians, nurse practitioners, physician

assistants, registered nurses, and an office manager. The Center focuses on acute care, out-patient services and preventive health care.

Facilities and services include examining/treatment rooms, laboratory services, gynecological exams and general health counseling. Emergency care is available during the hours that the center is closed through the on-campus rescue squad, the village ambulance service, or local hospitals.

There are no charges to see the health care providers at Crandall Health Center. Nominal charges are made for lab tests, injections, some equipment, and medications. Students who require a specialist are referred to the general hospitals in Hornell or Wellsville. Students maintain the right to choose a health care provider or place for hospitalization and must assume all financial obligations for off-campus health.

Health Education programs are available to students and the campus community on topics of health, sexuality, and lifestyle choices. Programming may be in the form of individual or group sessions, outside speakers, seminars, classroom presentations, conferences and an annual Health Fair.

Alfred University requires full-time undergraduates to have health insurance. The University offers a low-premium student accident/illness insurance policy which helps pay for specialist and ancillary services. The coverage is in effect from August to August. This student health insurance is very beneficial as an adjunct insurance for students covered under a managed care or HMO insurance plan that may provide limited coverage in the Alfred area.

Admission Immunization Requirements

Students born after December 31, 1956 must provide written documentation of two measles, mumps, Rubella immunizations. This documentation is necessary to comply with New York State Public Health Law #2165. Students who do not comply will be withdrawn from the University and will be not be allowed to attend classes. Questions regarding this obligation or any other aspect of health services may be directed to the Crandall Health Center at (607) 871-2400.

Housing

Residency Requirement

Students who live in residence halls tend to perform better academically, adjust more quickly to the collegiate environment, and become involved in many learning experiences through interactions with peers, residence hall staff and campus activities. Alfred University has a four-semester residency requirement. In addition, anyone in poor academic standing is required to stay in on-campus housing.

Residency Requirement Exceptions

The only exceptions to the residency requirement are:

- Married students
- Students who are 23 years of age or older
- Students living with parents or legal guardian and commuting from home (letter must be submitted by parent/legal guardian)
- Students with dependents
- Veterans

Requests to be released from the residency requirement for the above reasons must be submitted in writing to the Office of Residence Life.

Meal Plans

Except for seniors, graduate students, or residents of the Ford Street apartment complex, all students who live in residence halls are required to participate in the board plan. Options are available for a Block Plan 1-6. Meals include multiple entrees with unlimited seconds, and a vegetarian menu. Block Plans provide flexibility and allow students to use their meal plan in the L'il Alf Café, Ade Express, Oasis Cart and campus vending machines.

Housing Options

With a broad spectrum of architectural and environmental styles available, choices range from traditional residence halls to suites and apartments. Single rooms are available to students on a limited basis. Each living area selects its own quiet and courtesy hours as an extension of the all-campus quiet hours after the semester begins. Residence halls are coed by floor; i.e., a floor of men, a floor of women; or coed by suite – i.e., one suite of men may be located next to a suite of women; or coed by alternating rooms within corridor-style designated buildings for upper class students. In addition, the department offers Common Interest Housing for returning students. Students interested in CIH may apply for this option in the Spring Semester for the following fall. Students applying for CIH must be free of any probation through the judicial system, have a common interest that is compatible with the mission of the University and the Office of residence Life, agree to share their interest through programming for other residents, and follow all rules and regulations. All first-year resident halls are non-smoking. There is a limited number of smoking suite available for upperclass students.

Housing Staff

Residence hall staff live in each building and on each floor or section. Resident Directors (RDs) are full-time University employees. Under the supervision of the RDs are Assistant RDs, who are full-time graduate students. The RD staff is responsible for the entire operation of the building. Each floor has a Resident Assistant (RA) – an undergraduate student who has proven him/herself able to work well with people and their concerns. The Director of Residence Life and Assistant Director are also available to help students acclimate to their new social and educational environment. The Office of Residence Life, located in Bartlett Hall, is an available resource for resident housing concerns. Residence hall living includes taking part in activities planned to promote community and learning.

Greek Life at AU

Joining a fraternity or sorority at Alfred University can be the beginning of an exhilarating college experience. Fraternities and sororities are an integral part of the University community and provide opportunities for academic development, community service, leadership training, social activities, and brother/sisterhood. Often a sense of "family" develops that continues beyond graduation.

The eight fraternities and four sororities composing the Greek Life community at Alfred University work together via the Inter-Greek Council. The Inter-Greek Council (IGC) serves as the governing body for all Greek Letter Organizations. With at least two representatives from each chapter, it coordinates discussion of common concerns, implements activities to benefit member chapters, and acts as a liaison between the Greek Letter Organizations and other campus constituencies. The President's Council, serving primarily as a vehicle for communication within the entire Greek community, consists of chapter presidents.

In order to participate in a New Member Education Program (pledging), a student must attain a 2.0 cumulative GPA based upon the completion of at least 12 credit hours. Transfer students may pledge if they met the above requirements within one year prior to arriving at Alfred University.

Fraternities
Alpha Chi Rho
Delta Sigma Phi
Kappa Psi Upsilon
Kappa Sigma
Klan Alpine
Lambda Chi Alpha
Sigma Alpha Mu
Zeta Beta Tau

Sororities
Alpha Kappa Omicron
Delta Zeta
Sigma Chi Nu
Theta Theta Chi

Hazing Policy

Alfred University believes that any group or organization composed of students, faculty, staff and/or visitors has the responsibility to create an environment within which all activities are pursued in a sound and productive manner. Any group or organization which includes hazing as part of its activities creates a risk of hazardous conditions.

Alfred University defines hazing as “any activity or action which subtly, flagrantly, recklessly, or deliberately demeans, embarrasses, threatens, invites ridicule or draws inappropriate or negative attention to a member, affiliate, or group, and/or an attitude which implies one member/affiliate is superior to another or that membership in the group must be earned through personal services or meaningless activities. Furthermore, this definition includes any action which results in the impairment of academic performance or causes failure to properly fulfill obligations to University-sponsored groups and organizations.”

Alfred University unconditionally opposes any form of hazing. Any violation of this policy should be reported immediately to the Office of the Dean of Students. Any member or affiliate who is in violation of this policy is subject to suspension, expulsion, or other judicial proceeding, or, if the violator is a group or organization, recision of affiliation with Alfred University.

Furthermore, New York State defines hazing as follows: “A person is guilty of hazing in the first degree when, in the course of another person’s initiation into or affiliation with any organization, he intentionally or recklessly engages in conduct which creates a substantial risk of physical injury to such other person or a third person and thereby causes such injury.” (Penal Law S120.16) Hazing in the second degree (a violation) incorporates a nearly identical definition except that no actual injury to any person need to be proven. (Penal Law, S120.17)

Cultural Events and Films

Several campus organizations sponsor appearances by visiting artists, speakers and groups. The Student Activities Board (SAB), the Residence Hall Council (RHC), and individual academic divisions invite lecturers and performing and visual artists to campus for residencies and one night appearances.

Alfred University student groups sponsor a number of popular entertainers in the Coffeehouse and Comedy Club, as well as rock concerts by well-known performers.

Movies – current and classic – run on Fridays and Saturdays. The Fosdick-Nelson gallery exhibits sculpture, glass, ceramics, paintings, lithographs and photography. Student theater and dance productions, as well as performances by musical ensembles, occur at frequent intervals throughout the year.

Theatre, Music and Dance Organizations

Performing arts opportunities in theatre, music and dance are plentiful and dynamic at Alfred, with more than twenty-five plays, concerts and recitals produced each year. All students are welcome and encouraged to participate (auditions are required for theatre productions and some music ensembles). Academic credit is available for involvement in Performing Arts Division productions. In addition to performance opportunities, a complete range of courses is offered in all of the performing arts.

The Theatre Department produces up to four mainstage faculty-directed plays and numerous student-directed plays, both full-length and one-acts. The Alfredian Dramatists is a student theatre group which works closely with the Department, giving student suggestions and ideas to the faculty. It also raises funds for tours, attendance at the American College Theatre Festival and other activities of interest to its members.

The Music Program features University Chorus, AU Chamber Singers, Chamber Orchestra, Jazz Ensemble, Concert Band and a variety of smaller ensembles, such as string quartets, brass quartets, a percussion ensemble and select vocal groups. Students also may take private voice and instrument lessons as well as learn to play the Davis Memorial Carillon with lessons from the University Carillonneur.

A wonderful outlet for physical creative expression, the Dance Program at Alfred presents one recital and one full-length concert annually. Opportunities to choreograph and perform are available to all students; pieces selected for concerts are chosen through open auditions. The AU Dancer's Union is a dynamic and active student dance organization that co-produces the Dance events each year.

Judicial System

The University has an established student judicial system. University men and women are expected to conform to high standards of adult behavior, both on and off campus. Judicial action will be taken against students whose conduct adversely affects the University community and/or the pursuit of its objectives. Violations of University policies and procedures are brought to the attention of the Judicial Coordinator. The judicial system deals with disruptive or nonproductive behavior with emphasis placed on education and personal development. (A detailed statement on the judicial system can be found in the Student Life – Policies and Procedures hand book available throughout the campus, or can be accessed through the Alfred University web page:
www.alfred.edu/academics/html/policies.html.)

The University Ombudsman is available to students for consultation on matters of concern. Also, a seven-person Student Grievance Committee considers any specific grievances against or criticisms about members of the faculty and administration, and attempts to resolve them. The Student Senate selects one student from each division of the University and the faculty elects one faculty member. The Ombudsman is chair of the committee. (For further information refer to Student Life – Policies and Procedures)

Multiculturalism

All of the clubs under the ALANA (African-, Latino-, Asian-, Native-American) umbrella strive to both educate the campus and provide social support for their members.

- Poder Latino – Alfred's Latino support club sponsors several events including auctions for charity and talent shows for their members
- Umoja – AU's Black Student Union is best known for their fashion show, Charity Basketball Game, and Slam Poetry events
- Shades of Ebony – Supporting women of all colors, Shades provides a close network of peers for discussion of issues facing women on campus
- Circle of Indigenous Nations – Native American education, support, and social programs; all welcome
- Asian Association/Caribbean Club – Two new clubs starting in 2001 and hoping to provide support for their communities
- Spectrum – Support and social programming for our gay, lesbian, and bi-sexual community; supporters welcome
- SAFE - Students Acting for Equality provides a safe outlet to address issues and make changes on campus

Major Weekends and Events

- Homecoming Weekend – Highlighted by a Saxon football game and Alumnipalooza, an annual alumni concert.
- Hot Dog Day – Now a well-established tradition, Hot Dog Day is a combination of street carnival and springfest, highlighted by an ice cream social, chicken barbecue, craft sale, band party, parade, and many other amusements and festivities, all centering on the consumption of thousands of hot dogs. The funds raised by this community event are turned over to area charities.
- Spring Family Weekend – Highlighted by the Alfred Honors Convocation, which recognizes academic excellence.
- The Alfie Awards – Established in 1994, this year-end award ceremony spoofs the Oscar Awards with red carpets, limousines, and long acceptance speeches. The very real awards pay tribute to those who make Alfred's extracurricular life so entertaining.
- Leadership Conference – Held annually on Martin Luther King, Jr. Day, this event allows students to explore their leadership styles and establish self-improvement goals.
- Hip Hop Concert – Held the first weekend back to campus in January, this concert has featured acts such as Rahzel and Doug E. Fresh.
- Large Act Concert – SAB's annual gymnasium concert has included in recent years Adam Sandler, Alanis Morissette, Bare Naked Ladies, and Smashmouth.

Religious Life

The University is non-sectarian. In accordance with its century-and-a-half tradition, it extends a welcome to people of diverse ethnic and religious backgrounds. The Alfred community has ample opportunities for students to find a religious center. The Melvin H. Bernstein Hillel House and several Protestant campus fellowships offer on campus programming and services. St. Jude's Catholic Campus Center is located within walking distance of campus and provides a wide variety of activities for Catholic students. Protestant students will receive a warm welcome at any of the numerous churches and religious groups in the Alfred area, including within five minutes of the campus Methodist, Pentecostal, Union University, Seventh Day Baptist, and Society of Friends. Muslim students can arrange with Muslim faculty for prayer services during Holy seasons, or can attend regular services within an hour's distance of Alfred.

Services for Students with Disabilities

Special Academic Services provides support services, consultation, and advocacy for students with learning, physical, and/or psychological disabilities. Services for persons with disabilities shall complement and support, but not duplicate, the University's regular existing services and programs. The University strives to provide equitable and efficient services to all students.

Assurance of equal educational opportunities rests upon legal foundations established by federal law, specifically Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. By federal law, a person with a disability is a person who:

1) Has a physical or mental impairment;
2) Has a record of such impairment; or
3) Is regarded as having such an impairment that it substantially limits one or more major life activities such as self-care, walking, seeing, hearing, speaking, breathing, or learning.

Alfred University is dedicated to providing full access to all of its facilities, student programs, activities, and services, and reasonable accommodations in the instructional process, in compliance with these guidelines. Services that the University provides are designed to maximize independence and encourage the integration of students with disabilities into all areas of college life.

ALFRED UNIVERSITY CODE OF HONOR

We, the students of Alfred University, will maintain an academic and social environment which is distinguished by honesty, integrity, understanding, and respect. Every student is expected to uphold these ideals and confront anyone who does not. Keeping these ideals in mind, we, the students, aspire to live, interact and learn from one another in ways that ensure both personal freedom and community standards.

Student Senate Committee on Academic Affairs – April 2, 1997

Academics

University Academic Program

The University baccalaureate program is accomplished in eight semesters of 15 weeks each. Students must take at least 12 credit hours per semester to be considered full-time. The typical credit hour load at Alfred University is 16-18 credit hours of course work per semester.

Grades and Grade Points

The following grade designations are used:

Grade	Grade Points per Semester Hour	Meaning
A	4.00	Exceptional
A-	3.67	
B+	3.33	
B	3.00	Good
B-	2.67	
C+	2.33	
C	2.00	Acceptable
C-	1.67	
D+	1.33	
D	1.00	Poor
F	0.00	Failure
I	0.00	Incomplete
NR	0.00	No report
P	0.00	Pass
W	0.00	Withdrawn
AU	0.00	Audit
XX	0.00	No legal grade given by instructor
Z	0.00	Administrative “F”

The grade of I indicates incomplete course work due to circumstances beyond the student’s control. The Registrar shall change the grade of I to F if the incomplete is not removed within the succeeding semester. With mitigating circumstances the instructor may grant an extension of the time period for removing the I grade.

Pass/Fail Grading

1. Undergraduate students may choose to take up to four semester hours each semester for a grade of P or F if they have not previously been enrolled in the course and if the course is not required in their major program. These courses must be approved by the student’s advisor. Grades of D or better will be recorded as P. The periods for selecting and canceling the Pass/Fail option appear in the University Calendar.
   - College of Liberal Arts and Sciences’ students may not take General Education courses on a Pass/Fail basis.
   - Students in the College of Business may elect the Pass/Fail option for courses which are part of the distribution requirements, but courses satisfying a major, including at least 48 hours for the general Business Administration and all courses specifically required by name and number must be taken for a letter grade. Courses which are graded exclusively “Pass/Fail” may be included in the 48 hours.

- Students in the School of Ceramic Engineering and Materials Science may not use the Pass/Fail grading system for any courses, except in the following instance: 4 credit hours of Honors Seminars with letter grades may be substituted for the "unrestricted elective" category. Honors Seminars in excess of this may be taken on a P/F basis.
- Students in the College of Engineering and Professional Studies may not use the Pass/Fail grading system for any courses, except in the following instance: Electrical and Mechanical Engineering students may take a maximum of 4 credit hours of Honors Seminar on a P/F basis.

2. Certain courses may be designated by the college curriculum committees to be graded only P or F.

Calculating Grade Point Average (GPA)

Only credits earned at Alfred University (and certain cooperative programs at other schools) which have received final grades of A - F shall be used to calculate GPA. The semester or term GPA is calculated by dividing the total grade points earned by the total hours attempted in that semester or term with final grades of A through F. Courses completed with grades of P, and A through D will be counted as credit earned. Courses with grades of W, I, NR, F, Z and AU will not be counted.

Repeating Courses

When a course is repeated, the course value shall be used only once and the grade points corresponding to the most recent grade earned shall be used in calculating the cumulative GPA. While the original grade is no longer used in the GPA, it remains a part of the record and appears on the student's transcript. If a course cannot be repeated because it is no longer offered, a course with similar content may, with permission of the Dean, be taken in place of the original and recorded as "repeat."

Auditing Courses

A student may elect to take a course on a non-credit or audit basis. The student may also change from credit to audit or vice-versa until the last day to withdraw from the course as designated in the University Calendar. An auditor receives a grade of AU in the course, and this is recorded on the student's permanent record. Courses audited are charged at 50% of the normal tuition rate.

Any student registering as an auditor in a class must consult the instructor to determine the level of participation the instructor expects of an auditor. If any auditing student fails to meet the expected level of participation, the instructor will notify the Registrar when final grades are submitted, and the Registrar will cancel the student's registration in that class.

Academic Status

A student whose semester GPA drops below the levels established by each college will be placed on "on probation." Further, a student who has a low cumulative GPA, low grades in critical prerequisite courses, or who is not satisfying degree requirements may also be placed "on probation."

Students in the College of Liberal Arts and Sciences and the School of Ceramic Engineering and Materials Science must maintain semester and cumulative GPA's at or above the following:

First semester of college work – 1.70
Second semester of college work – 1.85

Subsequent semesters of college work – 2.00

Students in the College of Business must maintain semester and cumulative GPA's of 2.00 or better for all semesters.

Students in the College of Engineering and Professional Studies and students in the School of Art and Design must maintain at least a 1.70 GPA for each semester of their freshman year and 2.00 for subsequent semesters.

Students placed on probation who do not significantly improve their academic performance during the following semester may be dismissed or placed on "extended probation" for another semester.

A student may also be dismissed from the University if his/her semester GPA falls below 1.0. Failure to meet other specific academic requirements may also result in dismissal.

Advanced Placement and Challenge Examinations

To encourage students with outstanding ability and enterprise, Alfred University places special emphasis on advanced placement and challenge exams. This means that students need not repeat work already satisfactorily covered in high school or by informal study, hobbies, or travel. Through these examinations, students may earn appropriate credit for all or part of the freshman year requirements, or for courses at any level where proficiency can be demonstrated. Students may take advantage of these opportunities through the following programs:

- The Advanced Placement Program of the College Entrance Examination Board (AP). Credit is awarded at the discretion of the faculty. (Typically, 4 credits are awarded for successful completion of an AP test. Credit is given for a score of 4 or 5. Some divisions may award credit for a score of 3).
- The College Level Examination Program (CLEP) of the College Entrance Examination Board (Alfred University accepts subject examinations only).
- The College Proficiency Examination Program (PEP) of the New York State Education Department.
- Other programs: where no prescribed policy has been determined, exam results will be compared with the national norms to determine credit and/or advanced placement.

The results of examinations taken under the four programs listed above should be forwarded to the Registrar's Office for consideration by the appropriate academic committee.

After enrolling, students may request a challenge examination in any undergraduate course in which a P, C, or better grade has not already been earned. Students who are challenging a course which they have taken at Alfred University may be required to demonstrate evidence of additional study and/or tutorial help prior to the challenge exam.

International Baccalaureate Policy

Alfred University will grant one year's credit (30 semester hours) for students who have earned an International Baccalaureate diploma in high school. Students who have not completed the diploma will be awarded equivalent credit up to two introductory courses for higher level examinations in which a grade of 5 or better has been earned. Subsidiary level subjects will be evaluated on an individual basis

for those who have not completed the diploma. Course credits will be regarded and evaluated as transfer credit.

Advising

Students are primarily responsible for their own academic progress, but all members of the faculty and administration are prepared to assist. Each student is assigned a faculty advisor who helps plan a course of study and who is available for counseling throughout the year. Students should also feel free to consult the coordinator of freshman advising for their college, or any faculty or staff member who might be able to help.

Physical Education Requirement

The Physical Education requirement must be fulfilled to receive a Bachelor's degree from any college of the University. This requirement may be satisfied by successfully completing two different activities in any one of the items listed below, or in a combination of items:

- A physical education course
- A lifetime sports proficiency examination
- Participation in a varsity sport

Students challenging a lifetime sport must demonstrate proficiency in both written and physical tests.

Only students completing a minor in PE may count more than eight semester hours of activity courses towards graduation. Students in the School of Ceramic Engineering and Materials Science, School of Art and Design, and the College of Business, may not use any PE activity courses in the degree program.

Withdrawal and Readmission

If it is necessary for a student to withdraw from the University during the academic year or at the end of any semester, a Student Affairs staff member should first be consulted. Initiating the withdrawal in this manner is primarily for proper guidance; it also is necessary if refunds due are to be received. No refunds will be made for withdrawals which are not processed according to this procedure.

A student who formally leaves school during a semester will be given W grades in those courses in which he/she is registered providing the last date to withdraw from each course, as published in the University Calendar, has not passed. If the last day to withdraw has passed, the instructor will record a final (non-W) grade. In case of extraordinary circumstances the student's academic Dean can permit W grades to be recorded for any or all courses after the deadline has passed.

Graduation Rates

Alfred University is pleased to provide the following information, which is provided in compliance with the Higher Education Act of 1965, as amended. These rates reflect the graduation/completion status of students who enrolled during the 1994-95 school year and for whom 150% of the normal completion time has elapsed.

During the Fall Semester of 1994, 474 first-time, full-time degree-seeking undergraduate students enrolled at AU. After 6 years (as of August 31, 2000), 65% of these students had graduated from Alfred University.

Campus Safety Report

The Campus Safety report is available to all members of the campus community and the public. The report contains University policies related to campus safety including: University Safety and Security Department policies and procedures, policies concerning alcohol and drug use, crime awareness and prevention, the reporting of crimes, and sexual misconduct. The report also includes a three-year summary of statistics of crimes that are reported to have occurred on University property, in off-campus buildings owned or controlled by the University, and on public property within the Village of Alfred. A copy of this report can be obtained from the Student Affairs Office, the Admissions Office, the Human Resources Offices for Alfred University and the College of Ceramics, or by accessing the University web site [www.alfred.edu/academic/html/policies.html]

The Graduate School

Graduate programs are offered in keeping with educational demands and with the potential of certain departments in the University to make distinctive contributions at an advanced level.

Degree programs offered are: Certificate of Advanced Study and Master of Arts in School Psychology; Master of Business Administration; Master of Science in Education (with concentrations in 15 different areas); Master of Professional Studies in Community Services Administration; Master of Fine Arts in Ceramic Art, Sculpture, Glass and Electronic Integrated Arts; Master of Science in Electrical Engineering, Mechanical Engineering, Ceramic Engineering, Materials Science and Engineering and Glass Science; Doctor of Philosophy in Ceramics; Doctor of Philosophy in Glass; and Doctor of Psychology in School Psychology.

Specific graduate degree requirements and detailed descriptions of courses and programs are listed in the Graduate School catalog available from the Graduate School Office, Saxon Drive, Alfred University, Alfred, NY 14802.
Telephone (607) 871-2141.

Special Academic Programs

Study Abroad

Alfred University encourages students to consider opportunities for studying or pursuing internships abroad. It is generally easiest to attend such programs in the Junior year. Students should talk with their advisors concerning their interests and then contact the Coordinator of Study Abroad responsible for the School or College in which they are majoring. Requirements, financial arrangements, and opportunities differ in each.

Cross-Registration at Area Schools

Alfred University participates in three cross-registration programs with area colleges and universities. To be eligible, students must be full-time matriculated undergraduates, carrying at least 12 semester credit hours at AU while cross-registered. Cross-registration is available directly with Alfred State College and with Houghton College, and through a consortium agreement with the 14 member schools of Rochester Area Colleges (RAC). Students should be aware that the

various schools operate on differing academic calendars. There is no additional charge for cross-registration.

University students who wish to register for courses at Alfred State or one of the other eligible schools should contact the Registrar's Office.

Cooperative Programs With Other Universities

For full descriptions of cooperative programs with other universities administered by the College of Liberal Arts and Sciences, see p. 72.

Special Program for Area High School Students

Qualified high school juniors and seniors from Allegany, Cattaraugus, Chautauqua, Chemung and Steuben counties are eligible to take up to two 100- and 200-level courses (up to eight semester hours) per term during Fall or Spring semesters for a fee of $100 per course. Eligibility begins with the start of the junior year and ends with high school graduation. The approval of the student's school counselor or principal is required. Entrance into a particular course depends upon available openings in the course. Students register in person at the Registrar's Office on the first day of the semester. High school students enrolled through this program are not guaranteed acceptance into any Alfred University degree program at a later date. Interested high school seniors should contact the Registrar's Office at (607) 871-2122.

University Honors Program

The Alfred University Honors Program is designed to enrich the lives of exceptional students. More than 190 "Alfred University Scholars" represent all of the major divisions within the University-Liberal Arts, Business, Engineering, Art, and Professional Studies.

During their first two years students enroll in a two-credit Honors seminar each semester. These informal classes, limited to 15, meet one evening a week. The discussion/debate is usually lively, partly because the seminars offered each semester are chosen by the students themselves. Over a two-year period students choose from more than 30 seminars, on topics as diverse as the Counterculture of the Sixties, The Old Order Amish, Making Sense of Music Video, Superconductivity, The Horror Film, Living in Space, The Evolution of Jazz, The Psychology of Human Sexuality, A Writer's Workshop, or The Science in Science Fiction.

Several times each year, Honors students have dinner with visiting writers, lecturers and other public figures. They also travel to Rochester to attend the Philharmonic, Geva Theatre, and national touring company productions. Rochester nights are always preceded by dinner; recently they have sampled Thai, Indian, and Chinese restaurants. Each April students from Delaware to Nova Scotia come together at an Honors convention. These trips have taken Alfred University students to Pennsylvania, Maryland, New Jersey, Rhode Island, Massachusetts and New York City.

Anyone with an outstanding high school record and a broad range of intellectual interests may apply. For more information contact Dr. Paul Strong, Honors Program, Saxon Drive, Alfred University, Alfred, NY 14802 or send an email to: fstrongp@alfred.edu.

Academic Honors

Undergraduate Honors

A Dean's Honor List, published at the end of each semester, is composed of the names of full-time matriculated students who have a semester GPA of 3.30 or higher for at least 12 semester hours for which grade points are assigned.

Graduation Honors

Three grades of honors are awarded to graduating seniors. These honors, based on cumulative scholarship attainment, are evaluated when the bachelor's degree requirements are completed:
Summa cum laude, or highest honors - GPA of 3.90 and no grade below B
Magna cum laude, or high honors - GPA of 3.70 and no grade below C
Cum laude, or honors - GPA of 3.30

In order to be eligible for these honors a senior must have earned a minimum of 60 credit hours at Alfred University, with at least 50 of these included in the calculation of the cumulative GPA.

Honors within the Field of Specialization

These honors may be awarded to seniors at graduation. Although specific requirements are determined by the faculty in the major field, general requirements for honors' candidates have been adopted by the faculty. Candidates for honors shall have:

- attained a cumulative GPA of 3.30 in the courses of their major field
- earned at least two semester hours of credit in independent study
- passed an oral examination in the major and allied fields, conducted by a committee selected by the major faculty.

Candidates for honors are recommended by faculty in a particular discipline and approved by the faculty of the College.

Top Undergraduate Honors

The highest ranked graduating student in each undergraduate college will be honored at graduation by being requested to sit on the commencement platform. These students will be selected by the Registrar using the following guidelines:

- Sixty earned credit hours of graded coursework (A through D) at Alfred University
- Grades received in all courses transferred to Alfred will be included in the calculation of a student's grade point average for this purpose
- Double degree students may be honored for their work in either college or school if they meet the requirements

Prizes and Awards

In addition to the academic honors formally attained for outstanding scholarship, a number of prizes and awards are sponsored by individuals and organizations. These special and commemorative awards are presented annually during the Honors Convocation in recognition of either general scholastic excellence or outstanding attainment in a particular field of study.

Honorary Societies

The following are University Honorary Societies in various disciplines:

Alpha Iota Delta - Decision Sciences
Alpha Lambda Delta – Honorary Society for Freshmen
Beta Gamma Sigma – Accredited Colleges of Business
Delta Mu Delta - Business Administration
NYS Chapter of Keramos Fraternity – Ceramic Engineering
Pacioli Society - Accounting
Phi Kappa Phi – University-wide Honor Society
Phi Sigma Iota – International Languages
Pi Gamma Mu – Social Sciences
Psi Chi – Psychology
Sigma Delta Pi – Spanish
Tau Beta Pi – Engineering

Academic Dishonesty (Unethical Practices)

Unethical conduct is defined as any action which enables students to receive credit for work which is not their own. Such conduct will not be tolerated in any form and can lead to dismissal from the University.

University Libraries

Herrick Memorial Library

Herrick Library is committed to providing strong, curriculum-centered collections, personal service, and state-of-the-art access to information.

Herrick Memorial Library is open more than 107 hours a week, and its web page [www.herr.alfred.edu] provides round-the-clock access to the Library catalog, electronic journal indexes, and specialized databases, as well as websites selected by our librarians to support student and faculty research. Library users have access to more than 25 Internet workstations, nearly half of which are housed in Herrick's Electronic Resource Lab. Herrick subscribes to more than 700 periodicals in print and houses a collection of approximately 200,000 items, including recreational collections of fiction, videos, and CD's. Electronic subscriptions provide indexing to an additional 5,000 periodicals and newspapers; full text articles can be printed directly from more than 3,500 of these publications. Herrick also offers Interlibrary Loan and Document Delivery Service, which provides access to materials from other libraries and sources in the U.S. and foreign countries. Professional research support is available more than 50 hours a week, enabling library users to make the most of their research efforts.

Herrick's librarians are committed to supporting the University's educational mission; and particularly, to promoting information literacy skills. It is the Library's goal to teach students how to effectively locate, process, organize, and utilize information. This is accomplished through course-related and individualized instruction as well as by providing research guides for specific subject areas.

Special Collections and Archives, located on the top floor of Herrick Library, offers its collections and services, by appointment, in a climate-controlled area which features an ornately decorated reading room with seventeenth century English oak

paneling. The Archives provide primary source materials which document the history of the University.

Scholes Library

The Samuel R. Scholes Library is a special library which provides academic support for the two schools of the New York State College of Ceramics and the private sector art and engineering programs of Alfred University. The Scholes Library collections are an international resource for information on the art, science, technology, and history of ceramics and glass. The library also has outstanding holdings in the areas of photography, art history, contemporary art, electronic media, glass art, sculpture, and advanced materials. The collections include 65,000 books, 36,000 bound periodical volumes, 63,000 government research reports, 160,000 slides, 700 videos, and a variety of other materials. The library faculty are dedicated to providing undergraduate and graduate students with the skills they need to locate and use information effectively. In addition to providing assistance as needed at the Reference Desk, the librarians offer group instruction sessions tailored to the needs of individual classes at all levels.

The library occupies a four-story building completed in 1992. Public Services (Reference, Circulation, Reserves, and Interlibrary Loan) and Technical Services are located on the library's first floor. The ground floor is dedicated to materials supporting programs in the College's School of Ceramic Engineering and Materials Science; books, journals, and slides for the School of Art and Design will be found on the second floor. The College Archives are on the third floor, along with private study carrels for graduate students. Group study rooms equipped with blackboards are located throughout the library, allowing students to work together without disturbing others, and an all-night study room provides a quiet study space 24 hours a day throughout the year.

Scholes Library provides state-of-the-art information services; its Web page at [scholes.alfred.edu] offers ready access to the online catalog and a wide variety of specialized indexes, text and image databases, and full-text journals. Internet-ready computers are available for student use throughout the library. Audiovisual services include classrooms equipped for slide, film, and computer data projection; an extensive, fully-cataloged art slide library with light tables and viewing equipment; and AV carrels for individual viewing of videotapes.

The Special Collections Room houses rare and unique materials, including a collection of artists' books, and all original theses and dissertations presented by College of Ceramics degree recipients. The College Archives preserve historical documents and photographs relating to the history of the New York State College of Ceramics; also located here are the Archives of the National Council on Education for the Ceramic Arts (NCECA). Under the supervision of a trained archivist, this facility serves as a resource for scholars researching the history of American ceramics.

During the academic year the library is open 96 hours per week, with extended hours during final examination periods. Professional reference service is available during most hours that the library is open.

Technology Resources at Alfred University

Alfred University is committed to providing a campus computing environment where technology is fairly and equitably distributed in support of the University's educational mission.

Our ultimate goals for the use of information technology are to prepare students for an information-based workplace, enabling them to seek, organize, analyze, and apply information and associated technologies appropriately; to provide anytime/anywhere learning opportunities for students and faculty; to enrich the learning environment; and to improve productivity and cost-effectiveness where possible and practical.

Nearly $2 million dollars has been invested in bringing switched 100mbit network access to every residence hall room, classroom and office on campus 24 hours per day, 7 days per week. The network backbone was installed with Gigabit fiber in anticipation of meeting future needs. In addition, the University has embarked on an aggressive computer upgrade initiative, replacing computers in residence halls, student labs and faculty offices in an on-going 3-year cycle.

The University uses a variety of approaches in making computers available to students. General and specialized micro-computing labs are located throughout the campus providing access to Windows, Macintosh, Linux or Unix operating systems. Each open lab is managed and staffed by Student Technical Assistants who provide needs-based, one-on-one consultation. Laboratory computers are pre-configured with Microsoft Office Professional desktop software, Netscape Communicator and Microsoft Internet Explorer. Specialized software such as SPSS, ANSYS, MathCad, Visual Basic, C++, Microsoft FrontPage, Adobe PhotoShop, etc. are available in a number of lab settings. Every residence hall on campus has a computer room in addition to a network access port for every student in every room. A laptop lending program for resident and commuter students has been instituted through the Information Technology Services Helpdesk. This program enables students with short-term computing needs to borrow a laptop for use in the library or anywhere else on campus or off.

The University's two libraries make their catalogs and a wide variety of electronic databases and information resources available through their well-developed WebPages. This means that students, faculty and staff can access research information from anyplace with Internet access at any time of day or night.

The campus is connected to the Internet through the New York State Education and Research Network (NYSERnet) with 4 T-1 lines. Wireless network access is available in the libraries, Powell Campus Center and residence halls; additional sites are being added on an experimental basis. AU students, faculty and staff have unlimited access to these services at no charge. Email, file storage space and personal web page hosting services are also provided free of charge.

A new Help Desk facility, located in Herrick Library, was constructed during the summer of 1998. This facility not only provides service-oriented support for campus technology needs but also offers a learning laboratory experience for students through its Student Technology Assistants (STA) program. Students may borrow laptops (PC or Mac), projectors, zip drives, digital cameras and wireless Internet connection cards through the Help Desk.

Professional Information Technology Services staff provide technical and networking support services. A strong professional development program for all technical staff enables them to remain current with emerging technologies.

Summer School

In two six-week sessions, and in special condensed sessions of one to four weeks, the Summer School offers a variety of courses at the undergraduate and graduate level. Attending Summer School is appropriate for people who:

- want to accelerate undergraduate studies
- are interested in graduate work
- need to complete certain requirements
- wish to expand knowledge or skills in a variety of fields

No examinations are required for admission to Summer School. Students enroll in courses for which they are qualified by experience or previous preparation. Certain advanced courses, however, may not be taken unless prerequisite requirements have been fulfilled. Regular attendance is expected.

Students enrolled in another institution who plan to attend Summer School at Alfred University should consult an official at the home school in advance to be sure the courses are appropriate to their degree programs.

Some of the special features of Alfred University's Summer Programs are the Art and Design, Science and Engineering, Astronomy, Entrepreneurial Leadership and Writing Institutes for high school students, Elderhostel, conferences, weekly Davis Memorial Carillon concerts, sports camps and day camps.

For additional information, write to the Office of Summer Programs, Alumni Hall, Alfred University, Alfred, New York 14802. (607-871-2612)

Alumni Association

The Alfred University Alumni Association dates back to 1884 when a group of enthusiastic former students established an organization to "create and maintain activities for the support and development of the University." The Alumni association is led by the Alumni Council, whose members are selected from active alumni volunteers. In 1998, the Council updated the Alumni Association's Constitution reaffirming its mission: "To provide the means of a continuing relationship between the University and its former students. The Association endeavors to foster a deep concern among its members for the welfare of the University which is made manifest by providing service to the institution." The Alumni Council operates under the direction of an elected President and with the support of the University's Director of Alumni Relations. The association works to build bridges between students and alumni through the student Alumni Association.

Individuals who have completed two full-time semesters are automatically members of the association, which has grown to more than 25,000 members. While no dues are necessary, alumni volunteers assist the Office of Admissions, Office of Annual Giving, Office of Communications, and the Career Development Center. Alumni support has always been an essential part of Alfred University's progress and success.

Alumni are invited to attend regional events, as well as to return to campus for special events, particularly Homecoming and Reunion Weekends. The Alfred Magazine, published and mailed to alumni four times each year, carries information

about these programs, along with campus news, class notes, and alumni profiles. Increasingly, the University is communicating electronically with its alumni.

The Alfred website, [www.alfred.edu], offers a vital link for communication among classmates and between the University and alumni. Alumni may register on-line for regional and campus events. The On-Line Alfred Community enhances opportunities to stay in touch by offering a permanent email address. Alumni may also participate in chat rooms, bulletin boards, and more. Alfred E-news, an on-line newsletter, updates alumni on a regular basis.

The Office of Alumni Relations is located on campus in Greene Hall, and all alumni and friends are invited to stop in when visiting the Alfred area. Alumni may also stay in touch by calling (607) 871-2144 or by e-mailing: alumni@alfred.edu.

Parents Association

The Parents Association exists to promote and enhance opportunities for parents of Alfred University students to communicate, participate, and establish a sense of community with one another and with the faculty, staff and administrators of Alfred University. All parents of current students are automatically members of the Parents Association. Two current parents serve as Co-Presidents and head the Association. There are no dues, and all parents are welcome to participate in Association meetings.

As part of the Alfred University Parents Association, a small group of volunteer parents serves on the Parents Advisory Board. Their purpose is to provide feedback/suggestions related to AU Parents Programs and help determine future direction; to serve as a resource to prospective and current AU parents in terms of student academic life and life within the University community; to provide valuable input to the AU administration when a parents “point of view” is needed; and to assist the Director of Parents Programs and the Co-Presidents of the Parents Association as needed in project planning and development.

The goals of the AU Parents Association are:

1. To assure that there are open, person-to-person channels of communication between parents and the University so that:
   - parents can find or be directed to reliable information about University policies and procedures, about news of the University and Alfred community, and about other aspects of life and events in Alfred that may affect their students; and
   - parents have ample opportunity to express their views and concerns to the Alfred University administration.
2. To give parents opportunities to meet and become acquainted with each other, especially to discuss topics of mutual interest or concern both at Alfred and in their home areas
3. To enable parents to participate in the life of the University by sharing the benefit of their expertise or their personal and professional associations with the University, its students, and one another through activities such as:
   - participating in Parents Association meetings/committees
   - serving as regional points of contact for other parents and students
   - attending regional alumni/parents events
   - hosting receptions or local events for accepted students and their families
   - identifying job placement or summer internship opportunities for Alfred students or graduates
   - identifying and encouraging promising students to consider Alfred University

The University organizes two weekends a year for parents, one in the fall and one in the spring. These Family Weekends provide opportunities to visit with sons and daughters, to meet faculty members, and to take part in campus activities.

Religious Beliefs and Class Attendance

No person shall be expelled from or refused admission as a student to an institution of higher education for being unable, because of religious beliefs, to attend classes or to participate in any examination, study or work requirements on a particular day or days

- Any student who is unable, because of religious beliefs, to attend classes on a particular day or days shall, because of such absence, be excused from any examination or any study or work requirements
- It shall be the responsibility of the faculty and of the administrative officials of each institution of higher education to make equivalent opportunities available to any student absent from school because of religious beliefs, to make up any examination, study, or work requirements which might have been missed because of such absence. No fees of any kind shall be charged for making such equivalent opportunity available
- If classes, examinations, study or work requirements are held after 4:00 p.m. on Friday, or on Saturday, similar or makeup classes, examinations, study or work requirements shall be made available on other days, where it is possible and practicable to do so, and no special fees shall be charged for these.

In carrying out the provisions of this section, it shall be the duty of the faculty and of the administrative officials to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student because of availing him/herself of the provisions in this section. Any student who is aggrieved by the alleged failure of any faculty or administrative official to comply in good faith with these provisions shall be entitled to maintain an action or proceedings in the supreme court of the county to enforce his/her rights under this section.

Student Rights Under the Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974, as Amended (FERPA) affords Alfred University students certain rights with respect to their education records. These rights are:

1. The right to inspect and review their education records within 45 days of the day the University receives a request for access. Students should submit to the registrar, dean, division chair, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of those education records believed by the student to be inaccurate or misleading. Students should write to the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is believed to be inaccurate or misleading. If the University official responsible for the record decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. In the same notification, the University will also advise the student of

procedures for a hearing. Insofar as possible, the services of the University Ombudsman and the members of the Ombudsman's Student Grievance Committee will be used in these instances.

3. The right to consent to disclosures of personally identifiable information contained in their education records, except to the extent that FERPA authorizes disclosure without consent. Disclosure without consent may be made as follows:
   - To school officials with legitimate educational interest. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including Security and Health Center personnel); a person or company with whom the University has contracted (such as an attorney, auditor, or a collection agent and, specifically, the National Student Loan Clearinghouse); a person serving on the Board of Trustees; or a student serving on an official University committee charged with a task that involves review of education records, or assisting another school official in performing his or her tasks. A school official has legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.
   - To parents of dependent students.
   - In connection with financial aid.
   - To Federal State, and local authorities in connection with an audit or evaluation of compliance with education programs.
   - To organizations conducting studies for or on behalf of educational institutions.
   - To comply with a judicial order or subpoena. (In most cases, the University must make reasonable effort to notify a student in advance of compliance.)
   - In connection with a health or safety emergency.
   - To an alleged victim of a crime of violence, the University may release the results of a related disciplinary hearing.
   - To the student.
   - To the public, at the discretion of the University, those portions of education records defined as "Directory Information." Note, however, that students may request that the University withhold Directory Information.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Alfred University to comply with the requirements of FERPA. The name and address of the office that administers FERPA are:

Family Policy Compliance Office
U.S. Department of Education
600 Independence Avenue, SW
Washington, DC 20202-4605

Consumer Complaint Procedure

(from Section 52.2(e)(3) of the Regulations of the NYS Commissioner of Education) In New York State, a complaint may be filed by any person with reason to believe that an institution has acted contrary to its published standards or that conditions at the institution appear to jeopardize the quality of the institution's instructional programs.

Any person who believes he or she has been aggrieved by an institution on or after May 4,1994, may file a written complaint with the NYS Education Department within three years of the alleged incident. Section 494 c 0) of the Higher Education Act of 1965, as amended, provides that a student, faculty member, or any other person who believes he or she has been aggrieved by an institution of higher education has the right to file a written complaint.

At Alfred University, resolution to such a complaint can be sought using the following procedure (no adverse action will be taken against anyone filing a complaint):

I. Institutional Procedure

Complaints can be initiated for both academic and nonacademic concerns related to a belief that the institution has acted contrary to its published standards, or that conditions at the institution appear to jeopardize the quality of the institution's instructional programs. The process for filing these complaints follows the unit's organizational hierarchy. The written complaint is filed with the head of the academic or administrative unit in which the complaint originated. If the complaint is not resolved to the satisfaction of the complainant, it continues to be filed using the organizational hierarchy until a satisfactory resolution has been reached. If a satisfactory resolution cannot be reached using this Institutional Procedure, the complaint may be filed with the NYS Education Department.

II. NYS Education Department Postsecondary Complaint Procedure

(see first paragraph above)

III. How to File a Complaint

1. The person should first try to resolve the complaint directly with the institution by following the internal complaint procedures provided by the institution. An institution of higher education is required to publish its internal complaint procedure in a primary information document such as the catalog or student handbook. (The Department suggests that the complainant keep copies of all correspondence with the institution.)
2. If a person is unable to resolve the complaint with the institution or believes that it has not properly addressed the concerns, he or she may send a letter or telephone the Postsecondary Complaint Registry to request a complaint form. Telephone (212) 951-6493 or write to: NYS Education Department/Postsecondary Complaint Registry/One Park Avenue, 6th floor/New York, NY 10016.
3. The Postsecondary Complaint Registry Form should be completed, signed, and sent to the above address. The completed form should indicate the resolution being sought and any efforts that have been made to resolve the complaint through the institution's internal complaint processes. Copies of all relevant documents should be included.
4. After receiving the completed form, the Department will notify the complainant of its receipt and make any request for further information. When appropriate, the department will also advise the institution that a complaint has been made and the nature of the complaint. The complainant will also be notified of the name of the evaluator assigned to address the specific complaint. The evaluator may contact the complainant for additional information.
5. The Department will make every effort to address and resolve complaints within ninety days from receipt of the complaint form.

Complaint Resolution

Some complaints may fall within the jurisdiction of an agency or organization other than the State Education Department. These complaints will be referred to the entity with appropriate jurisdiction. When a complaint concerns a matter that falls solely within the jurisdiction of the institution of higher education, the complainant will be notified and the Department will refer the complaint to the institution in question and request that the matter receive a review and response.

Upon conclusion of the Department's complaint review or upon a disposition of the complaint by referral to another agency or organization, or to the institution of higher education, the Department will issue a written notice to the complainant describing the resolution of the complaint. The complainant may contact the Department evaluator directly for follow-up information or for additional assistance.

College of Liberal Arts and Sciences

The College

The Bachelor of Arts curriculum at Alfred University emphasizes those areas of study which form the basis for any truly liberal education. We use the term “liberal” here in its original sense, that of freeing the mind to explore various fields of interest.

We believe that liberally educated citizens perform complex intellectual tasks, tasks which have technical, moral, and political consequences. Our effort is to give our students the constructive skills to accomplish those tasks. These skills include conceptual analysis, disciplined writing, and a creative approach to problem solving. We put specialized knowledge and inquiry into values within living contexts, encouraging our students to meet real demands in real situations. We prepare them not only for graduate and professional schools but for leadership in the world.

Our faculty members are dedicated to teaching and advising. They give the kind of personal attention that encourages students to find their directions and to succeed in their efforts. Our advisors are available not only to assist in choosing courses and majors, but also to help with personal and career decisions. In the classroom and within our advising structure, we pay close attention to students as individuals and assist them to achieve, often beyond their own expectations. The required general education program stresses both basic competencies and an increased breadth of knowledge in the social and natural sciences as well as in the humanities. The College offers 28 majors and 39 minors. (see pp. 69-71) In addition, students may take courses in other colleges within the University, including three minors offered in the College of Business.

The faculty and disciplines are organized into the following units: Biological Sciences, Chemistry, Communication Studies, Computer Science, Education, English, Environmental Studies, Human Studies, Mathematics, Modern Languages, Performing Arts, Physical Education, Physical Sciences, Psychology, and Social Sciences.

Graduation Requirements

Students who enroll in the College of Liberal Arts and Sciences fulfill the requirements listed below to receive the BA degree:

- Complete a total of 124 credit hours with a cumulative grade point average of at least 2.0
- Complete the general education requirements
- Meet the University physical education requirement
- Complete the requirements in one of the following: a disciplinary or interdisciplinary major, an interdepartmental major (general studies), or an individually structured major (Track II).

Except for those who are matriculated in special programs which require their being off campus part or all of their senior year, senior students are expected to be in residence. The Dean may permit students who have earned all but eight or fewer of the credits required for graduation to complete their degree requirements elsewhere.

Advising

The College of Liberal Arts and Sciences believes that a high quality of academic advising is essential to the well-being of both the College and its students. This emphasis helps fulfill the University's pledge to help students define and develop realistic goals and needs and to successfully match those needs with available institutional resources. The process is best carried out when the advisor and the student have a close working relationship.

Advising is a responsibility of all faculty members in the College. The average advising load is 13 advisees per faculty member. Advisors are assigned to new freshmen and transfer students by the Dean's office in cooperation with the chair of the advising committee. Using information supplied by both students and advisors, an attempt is made to match students with advisors whose areas of interest and expertise complement those of the student. Advising is considered a joint responsibility of faculty and students, it is not the advisor's task to set goals, choose courses, make decisions for students or ensure that students fulfill all requirements. The advisor's task is to guide each advisee toward accepting responsibility for mature academic decision making.

Normal Study Program

A normal study program consists of 16 - 18 credit hours per semester. Undergraduates in the College of Liberal Arts and Sciences may take any course in the University for which they are eligible and for which space is available.

Transfer Students

The following criteria apply to the evaluation of transfer records:

- A three credit-hour course will satisfy a four-credit hour general education requirement (Only three credit hours, however, will be applied towards the 124 credit hours needed for graduation)
- Transfer students from four-year colleges must earn at least 30 credit hours in residence at Alfred University
- Transfer students from two-year colleges may receive a maximum of 66 credits from those two-year colleges

General Education Requirements for All Students

The general education program is divided into two parts: basic competencies and areas of knowledge. Students are expected to complete the basic competencies during the first two years of study. Students are encouraged, although not required, to complete the areas of knowledge during their first two years. These requirements may be satisfied either through proficiency examinations (which carry no academic credit) or course work.

Basic Competencies

I Written Communication

Each student must successfully complete the second semester of college writing. Students will be placed in the appropriate level course depending upon their scores in college entrance exams. The SAT II exam in writing is highly recommended.

II Foreign Language

Each student must successfully complete the second semester of the first year of one foreign language at the college level or pass a placement exam.

III Quantitative Reasoning

Each student must complete the Quantitative Reasoning Competency. This can be done in either of two ways:

1. score 80 or higher on the Math Competency Exam. The exam is offered four times each year and may be attempted as often as one likes. Students who attain 80 or higher are not required to take any mathematics course.
2. complete one of the following courses:

ENS 205	Environmental Data Analysis
HSP 282	Introduction to Logic
LA/SCI 123/124	How the World Works I and II (also fulfills "F")
LA/SCI 127	Doing Science (also fulfills "F" lab course requirement)
MAT 103 [1.]	Algebra and Functions
MAT 104 [2.]	Business Calculus
MAT 108 [3.]	Discrete Math
MAT 110 [3.]	Data Analysis in Environmental Studies
MAT 118 [3.]	Pre-calculus Mathematics
MAT 119 [4.]	Calculus I
POL/SOC 230	Introduction to Data Analysis & Statistics
PSY 270	Psychological Methods and Statistics

1. **Prerequisite: Score 50 or higher on the Math Competency Exam**
2. **Prerequisite: Score 70 or higher on the Math Competency Exam**
3. **Prerequisite: Score 60 or higher on the Math Competency Exam**
4. **Must take Calculus Readiness Exam**

Areas of Knowledge

A - Literature (4 credits required)
B - Philosophy or Religious Studies (4 credits required)
C - The Arts (4 credits required)
D - Historical Studies (4 credits required)
E - Social Sciences (8 credits required – 4 credits each in two of the following three categories): Psychology
Political Science or Economics
Sociology or Anthropology
F - Natural Sciences (8 credits required with one course including laboratory work)

For those students who earn no credit from proficiency examinations, twenty (20) credit hours are required in Basic Competencies. The Areas of Knowledge distribution requirements comprise thirty-two (32) credit hours.

Double Degree

The minimum requirements for a student to earn two bachelors' degrees from two different University units are successful completion of 148 credit hours, the general education requirements for each of the two Colleges, and the specific requirements for each of the two majors.

Degree Requirements (Majors)

The junior and senior years are chiefly devoted to studies in a field of specialization. Because this specialization may have a long-term impact on a student's career and life, careful planning of the program is essential. Since the field of specialization centers on a particular subject, it is commonly referred to as a major in that subject. Students are normally expected to complete at least half of their major requirements at Alfred but should consult the division chair about what credits may be transferred for the major. Students in the College of Liberal Arts and Sciences may choose from among the following:

Disciplinary Majors

Biology	Geology	Political Science
Chemistry	German	Psychology
Economics	History	Sociology
Elementary Education	Mathematics	Spanish
English	Philosophy	Theatre
French	Physics	

All courses required for a major must be completed with grades of "C" or better. Students may also be required to pass a comprehensive examination in the major. Some major programs require careful planning due to the prerequisite structure in the freshman year.

Interdisciplinary Majors

Communication Studies	Criminal Justice Studies	Gerontology
Comparative	Environmental Studies	Public Administration
Cultures	Fine Arts	
Computer Science	General Science	

Interdisciplinary majors require careful course selection. Specific requirements for interdisciplinary majors are to be found on the following pages.
Note: Students preparing for secondary school teaching should consult with the Chair of the education division as well as the Chair of the discipline in which they plan to specialize.

General Studies (interdepartmental major)

The General Studies or interdepartmental major offers students maximum flexibility in arranging a program to suit their individual interests, aspirations, and abilities. The program is especially appropriate for a student with definite academic objectives which do not fit into other regular programs, or when a student's objectives can be met through a broad, general course of studies. Students selecting this program need to work closely with their faculty advisors to be sure their appropriate professional and career goals are met.

In addition to the other college degree requirements, General Studies majors select an additional 40 credit hours from those disciplines covered by the Areas of Knowledge, including at least four credit hours from each of the six areas. In selecting this total of 40 credit hours, students are not limited to the 100 – 200 level courses. Students are also required to complete 24 credit hours of academic course work at the 300 level or above with at least a "C" grade.

Track II (self-designed major)

Track II, a self-designed major in the College of Liberal Arts and Sciences, offers students with non-traditional and inter-disciplinary interests an opportunity to become intimately involved in constructing their own educational program. Each major is student-initiated, interest-oriented and flexible, although it is also carefully structured and supervised. Each major requires a formal program proposal and subsequent program summary approved by a Faculty Advisory Board and the Dean of the College. Mature and self-directed students can prosper in this major.

In contrast to traditional "Track I" majors with a pre-established set of course requirements, Track II offers an "open" curriculum. In conjunction with a self-selected, three-member Faculty Advisory Board, each student chooses and coordinates courses and other educational experiences to fulfill his/her own educational goals. The individual attention received while working with the Advisory Board adds significantly to the value of this educational experience.

The program has three phases: a Foundation (Freshman) Year, an Inquiry Period (Sophomore and Junior years) and a Baccalaureate (Senior) year. In addition to taking regular courses, students are encouraged to incorporate independent studies, research, internships, workshops, conferences, and study either at other institutions or abroad, as major components of their programs. Students receive annual written evaluations of their progress from their faculty advisors in addition to course grades; they also complete a significant, creative Baccalaureate Project during the senior year.

Employers and graduate schools are impressed by the initiative and accomplishments of these self-directed students and their programs. Among the wide variety of student-designed Track II programs have been International Environmental Relations, Historic Preservation, Sports Medicine, Art Therapy, Physical Therapy, Creative Writing and Graphic Design, Religion and Ethnicity, Art History and Performing Arts Management, Psychology of Business Communications, Media Politics, Athletic Training and Fitness Management, Canine Training for Rehabilitation Assistance, Alternative Holistic Health and Medicine, Religions, Sacred Dance and Ritual, Masonry Science, Organizational Behavior, Art, Museum Studies and Entrepreneurship, Cultural Studies of Dance, and Quantum Cosmology.

The Minors

A minor may be selected to supplement the major field. Students are not required to have a minor; however, the study which results broadens the educational experience and enriches career possibilities. Students should refer to the list of minor programs offered and, in consultation with faculty advisors, determine if any are appropriate. Minors offered by other colleges of the University are also available to Liberal Arts and Sciences students. They are normally expected to complete at least half of the minor requirements at Alfred. The division chair should be consulted about matters regarding transfer credits for the minor.

For minors, the area of concentration requires at least 14 and no more than 24 credit hours, including introductory courses and courses in related fields. As with the major, all courses required for the minor must be completed with grades of “C” or better.

Anthropology
Art History
Astronomy
Biology
Chemistry
Coaching
Communication Studies
Computer Science
Criminal Justice Studies
Critical Discourse Studies
Dance
Economics
English/Literature
English/Writing
Environmental Studies
Equestrian Studies
Fine Arts
French
General Science
Geology
German
Gerontology
Health Studies
History
Mathematics
Music
Philosophy
Physics
Political Science
Psychology
Public Law
Religious Studies
Secondary Education
Social Science Research
Sociology
Spanish
Theatre
Violence Studies
Women’s Studies

Minors in Accounting, Business Administration and Health Planning and Management, offered by the College of Business, are available to students in the College of Liberal Arts and Sciences.

Internships

An internship is defined as a field or work experience undertaken by a student for academic credit in a setting related to that student's career plans or academic interests. Some internships involve participating in a formal program such as that sponsored by the State legislature in Albany. Other internships are established through personal or informal contacts between a supervising faculty member and an institution or agency willing to take on the responsibility for supervising an intern in the field setting.

An internship program may be part of a more comprehensive off-campus study program, such as Washington Semester. Internships may be paid or unpaid. Credit will not be given for work experience alone. Any internship experience must involve a formal attempt (e.g., in the form of a paper) to integrate the student's field experience with his/her academic interests. Student interns are supervised by an academic supervisor who is an Alfred University faculty member and by an on-site supervisor. The academic supervisor has ultimate responsibility for overseeing the internship. Evaluation of a student's performance is made by the academic supervisor in consultation with the on-site supervisor.

Cooperative Programs

Albany Semester
An Internship with the New York Assembly
Interns work in the office of a New York State Assemblyman doing legislative research, responding to constituent inquiries, and studying New York State public policy issues. A $1000 stipend helps defray the cost of living in Albany, and Alfred grants 12 credit hours for this excellent first-hand experience in New York State government.

Alfred/Alfred State College
Biology/Medical Laboratory Technician Major
Students spend three years at Alfred University and one year at Alfred State College. After completing the combined Biology/MLT major, the student earns a Bachelor of Arts in Biology and an Associate's degree as a medical laboratory technician. The combined broad-based liberal arts and sciences preparation and the technical training as an MLT gives the student a diverse set of graduate school and career options. For more details, refer to the full description of the Biology major.

4+1 Master of Business Administration
Liberal Arts/College of Business Program
The College of Business offers a 4+1 program for students majoring in Liberal Arts and Sciences. By completing the appropriate courses at the undergraduate level, an undergraduate student may successfully complete the requirements for a Masters in Business Administration (MBA) at Alfred University in one year after receiving his or her undergraduate degree.

Alfred/Columbia
Liberal Arts/Engineering Program
(Offered in conjunction with the School of Engineering and Applied Science, Columbia University.)
The combined plan enables students to attend the College of Liberal Arts and Sciences for an initial period of three years and the Columbia University School of Engineering and Applied Science for the last two years.

Upon program completion, students receive the BA degree from Alfred University and a BS in Engineering from Columbia University.

Students in this program have the advantage of receiving both a broad general training in liberal arts and a technical education in five years of study, rather than the longer period that usually would be required if both degrees were obtained separately. Students who choose to follow this combined program should consult the program advisor soon after arriving in Alfred.

Alfred/Duke University
Environmental Management Forestry Program
(Offered in conjunction with the School of Forestry and Environmental Studies at Duke University, Durham, NC.)
Alfred University participates in a cooperative program with the School of Forestry and Environmental Studies at Duke University through which students can earn a bachelor's degree at Alfred and a master's degree at Duke in a total of five years. Interested students are urged to consult with the program advisor by the beginning of the sophomore year for further details.

Alfred/New York University
NYU College of Dentistry Articulation Agreement
Alfred University participates in a cooperative program with the New York University College of Dentistry which enables students to complete fourth year requirements at Alfred while they are enrolled in the first year of NYUCD's Doctor of Dental Science program. Eligibility for admission to this program is contingent upon coursework completion and other criteria jointly established by the two institutions. Interested students should consult with the pre-health advisory program advisor soon after arriving in Alfred.

Washington Semester
A Cooperative Program with The American University
Upper-class students particularly interested in national government have an opportunity to spend one semester in Washington, D.C. in a cooperative program administered by the Department of Political Science and Public Administration of The American University. To qualify, a student must have an outstanding academic record at Alfred University and be recommended by the University. This program is coordinated in the Division of Social Sciences. Students in the New York State College of Ceramics at Alfred are responsible for any additional tuition costs. A Washington Semester in Economic Policy is available to Liberal Arts majors in economics.

U.N. Semester
A Cooperative Program with Drew University
Upperclass students particularly interested in international affairs have an opportunity to spend one semester studying the United Nations Organization in New York City. They enroll as students in the cooperative program administered by the U.N. Semester Program at Drew University. To qualify, students must have completed an introductory course in American Government or International Relations and be recommended by the University. This program is coordinated in the Division of Social Sciences.

Articulation Agreements
The College of Liberal Arts and Sciences has several articulation agreements with institutions which grant associate degrees. For further information contact the Office of the Dean, College of Liberal Arts and Sciences.

Alfred Research Grants for Undergraduate Students

Students in all colleges may apply for ARGUS funding for a research project of one-semester, a full-year, or a summer. Students write their own grant proposals after consulting with faculty on developing a research project. If funded, a student may receive a stipend of $1500 for a year or $750 for a semester. Grants also include money for supplies and materials. When the project is completed, students are expected to make both oral and written presentations to the University community. ARGUS scholars are encouraged and sometimes funded to report their research at professional meetings. For more information, students should look at the ARGUS home page on the University web site.

Major and Minor Requirements

Anthropology

Requirements for the Anthropology minor

AN 200	Cultural Anthropology	4
AN 202	Human Origins	4
Plus eight additional credit hours of course work in Anthropology and related areas to be chosen in consultation with the Anthropology minor advisor.		
Total credit hours		**16**

Art History

The minor in art history is available through the College of Liberal Arts and Sciences, with courses offered by the School of Art and Design in the New York State College of Ceramics. The minor gives students a broad basis of knowledge about art as it relates to history and culture, and exposes them to a variety of theoretical and methodological issues. It is loosely structured to allow students to explore the periods, cultures, and media which most interest them.

The minor is open to students throughout the University, but is particularly useful to students majoring in related disciplines, like history, performing arts, and anthropology. Art students who plan to pursue graduate work or careers in teaching and museum work should consider pursuing this minor.

The minor in art history consists of 25 credit hours of coursework, which must include at least 16 credits above the 200 level. With the permission of the Art History advisor, students may substitute 4 credit hours in an appropriate Liberal Arts and Sciences course.

The other 9 credits would ordinarily include Foundations of Art History (ARH 111 and 112) and Issues and Debates in Contemporary Art (ARH 211). For course descriptions see Courses of Instruction, NYS College of Ceramics, School of Art and Design, p. 247.

The Art History minor is also available through the School of Art and Design. See p. 126.

Astronomy

Courses in Astronomy are offered by the Physics faculty. Students may take a variety of courses to become acquainted with modern astronomical thought and observational technique. One may prepare for graduate study in astronomy or astrophysics by completing a Physics major and electing additional courses in Astronomy in the Astrophysics Concentration.

The John L. Stull Observatory at Alfred University is an unusually well-equipped facility devoted exclusively to the instruction of undergraduate students. Its six domes house a 9 inch refractor, reflectors of 14, 16, 20, and 32 inch apertures (the 32 inch is computer-controlled), two solar telescopes and two commercial 8 inch telescopes. An adjoining classroom building houses a darkroom and various auxiliary equipment including a set of CCD electronic cameras and a network of computers for displaying these images.

Requirements for the minor in Astronomy

AST 107	Elementary Astronomy Laboratory	2
AST 302*	Planetary Studies	2
AST 303*	Stellar Astronomy	3
AST 304*	Galactic Astronomy and Cosmology	4
AST 307	Observational Astronomy	2
Total credit hours		**13**

***Note: These courses have prerequisites. See course descriptions.**

Biology

The study of life is in an exceptionally exciting phase. Discoveries in the life sciences are occurring faster than their implications can be absorbed by society. It is our challenge to offer a liberal arts major that conveys the breadth, tools, and possibilities of contemporary biology.

Different pathways in the major provide a biological foundation for a variety of career interests including post-graduate study in medicine, dentistry, veterinary medicine or other health-related professions, post-graduate study in numerous biological disciplines from biotechnology to ecology and preparation for teaching high school biology. The curriculum facilitates double and co-majors with other disciplines and contributes to the overall natural science education serving as background for many career choices. For instance, students in the molecular life sciences will find special opportunities in the Biomedical Materials Engineering Science program in the College of Ceramic Engineering and Materials Science, and those with concerns in global and human ecology may participate in the interdisciplinary Environmental Studies Program. Students in other disciplines can develop a minor in Biology.

Course objectives are met through lectures, laboratory and field work, discussions, and seminars. Students are strongly encouraged to become involved in research projects under faculty supervision.

Requirements for the major

Each student selects a prescribed number of courses from the distribution categories related to his/her personal and career interests. Additional courses in chemistry, mathematics, and physics are required or recommended. A total of 47-52 credits is required for a Biology major. Students who wish to pursue a career in one of the health professions, molecular/cellular biology, secondary teaching, or certification as a medical laboratory technician, should complete Core A, below. Students interested in organismal/ecological aspects of biology and related graduate and career opportunities should complete Core B.

Core A (20 credits)

BIO 101/102	General Biology
BIO 225	Research Methods in Biology
BIO 252	Cell Biology
BIO 365	Genetics

Core B (20 credits)

BIO 101/102	General Biology
BIO 225	Research Methods in Biology
BIO 365	Genetics
*At least one of**	
BIO 311	Invertebrate Biology
BIO 322	Botany
BIO 345	Vertebrate Natural History
BIO 394	Ecology

*** Core B students may use any of the three remaining courses as distribution electives in appropriate categories.**

Students pursuing either Core must earn a minimum of 20 additional credit hours of electives with at least one course from each of the three distribution categories:

Cell/Molecular: BIO 252 (Molecular Cell Biology; not available as a distribution elective for majors in Core A); BIO 372 (Advanced Cell Biology); BIO 440 (Biochemistry); BIO 462 (General Microbiology); BIO 482 (Molecular Genetics); BIO 490 (Genetic Engineering Lab)

Organismal: BIO 311 (Invertebrate Biology); BIO 322 (Botany); BIO 332 (Histology); BIO 352 (Developmental Biology); BIO 375 (Comparative Vertebrate Biology); BIO 476 (Physiology); BIO 480 (Population Genetics)

Organisms in their Environment: BIO 345 (Vertebrate Natural History); BIO 370 (Plant Physiology & Physiological Ecology); BIO 394 (Ecology); BIO 396 (Aquatic Ecology); BIO 445 (Evolution)

Required related course work includes CH 105/106 (General Chemistry) and CH 310 or 315/316 (Organic Chemistry). Recommended related course work includes Introductory Physics (8 credits) and Math (8 credits). Selection of these courses depends on the student's postgraduate plans and is done in consultation with the faculty advisor.

Preparation for Secondary Education

Future science teachers take Core A (20 credits), distribution electives (20), and required related course work (11–16 credits in chemistry). Students should consult with faculty advisors in Biology and Education to select appropriate courses in biology and related disciplines.

Requirements for the Biology minor

A total of 24 credits is required for the minor in Biology: BIO 101/102 (8 credits), Biology courses selected in consultation with advisor (12), and CH 103 or 105 (4).

Chemistry

Chemistry as pure science attempts to describe and understand the transformations of matter and the physical properties of all substances. As an applied science it provides society with the materials needed for a technological age and the knowledge to assess the costs and benefits of that technology. Because it is a fundamental science concerned with the properties of all substances, its impact is far reaching. A knowledge of chemistry is essential not only to the student of disciplines such as biology, environmental studies, engineering, ceramics, medicine, and forensics, to name a few, but also to the person who wishes to be liberally educated. With many scientifically-based issues facing today's society, some knowledge of chemistry is extremely desirable.

The division offers a core major and an American Chemical Society (ACS) approved degree. The core major provides a firm background for entry into the job market as a chemist, for advanced study in the discipline, for advanced study in a related discipline or a foundation for various professional schools such as medicine, dentistry, veterinary medicine, law or library science. It is appropriate for most students wishing to have a double major as well as for students wanting to earn a secondary education minor. The ACS approved degree requires the core major plus six additional semester credit hours in various electives. Students completing the electives will be certified to ACS upon graduation and are immediately eligible to join ACS. Students who definitely intend to pursue graduate studies in chemistry or who desire a nationally certified degree should consider the additional course work.

A minor in chemistry is offered. The minor not only provides some breadth (14-15 credits), but also permits the student to tailor his/her studies to complement a major in other fields (5–6 additional credits). For example, a biology major might emphasize organic chemistry whereas a person in ceramic science might focus on physical, inorganic or analytical chemistry.

Requirements for the major

CH 105/106	General Chemistry	
or CH 115/116	General Chemistry, Advanced	8
CH 315/316	Organic Chemistry	8
CH 321	Introduction to Analytical Chemistry	4
CH 343/346*	Physical Chemistry	6
CH 345	Physical Chemistry Laboratory	1
CH 372	Inorganic Chemistry	3
CH 391	Junior Seminar	1
CH 423	Instrumental Analysis	3
CH 461	Advanced Chemistry Laboratory	2
CH 491	Senior Seminar	1
Total credit hours		**37**

***Liberal Arts and Sciences Chemistry majors must take CH 343/346 but Ceramic Engineering and Materials Science majors who also major in Chemistry may take CES 212,235 and 309 for equivalent content.**

Requirements for the ACS approved major

Above, plus at least six credit hours from CH 457, CH 414, CH 450, CH 462, CES 349, CES 402, and BIO 440. These credits must include some laboratory time (at least 94 clock hours).

Related Study

MAT 119/120	Calculus I and II	8
PHY 111 or 125	Physics I	4
PHY 112 or 126	Physics II	4

Requirements for the minor

CH 105/106	General Chemistry	
or CH 115/116	General Chemistry, Advanced	8
CH 310	Basic Organic Chemistry	
or CH 315	Organic Chemistry I	3-4
CH 343	Physical Chemistry I	
or CES 235	Thermodynamics of Materials	3
Plus 5-6 additional credits from the following:		
CH 316, CH 321, CH 345, CH 346*, CH 372		5-6
Total credit hours		**20**

***CES 212 and CES 309 may be substituted for 3 credits of CH 346 by Ceramic Engineering and Materials Science students**

Communication Studies

The Communication Studies major enables students to develop a critical, historical, and practical understanding of human communication as it occurs in a variety of contexts. The core courses examine elements of the process of communication in a program which is grounded in humanistic tradition and contemporary social science. The elective courses enable students to focus on specific contexts such as media studies or organizational communication.

This plan of study is designed not only for students planning to pursue careers as leaders in fields such as broadcasting, journalism, advertising, and public relations, but also for those who wish to acquire an awareness of general communications principles applicable to many careers. Moreover, since many Communication Studies courses investigate the impact of communication upon society, the major also provides a solid foundation for graduate study in Communications and related disciplines including Law, Business and the Social Sciences.

As a supplement to their classroom work. students are encouraged to work with the University's FM stereo radio station, WALF, and the student newspaper, Fiat Lux, as well as to complete an off-campus internship with a communications industry organization.

Requirements for the major

All students must complete a 24 credit hour core consisting of the following courses:

COM 101	Introduction to Communication Studies	4
COM 110	Mass Media and American Life	4
COM 205	Introductory Newswriting and Reporting	4
COM 300	Broadcasters, Advertisers and Audiences	4
COM 309	Persuasion: Reception and Responsibility	4
COM 410	Communication Ethics	4

Total credit hours	**24**

Additional Requirements

20 credit hours from among any of the following courses (at least 12 hours must be at the three or four hundred level; other courses are available subject to the approval of an advisor):

Media Studies Area

COM 225	Journalism History	3
COM 305	Popular Music and Society	3
COM 400	Technology and Communication	3
COM 404	Media Criticism	3
COM 405	Television Criticism	3
COM 425	Public Affairs Reporting	4
COM 475	Specialized Reporting	4
EGL 233	Film Criticism	4
EGL 234	Crime in Film	4
EGL 235	Comedy in Film	4
EGL 270	Special Topics in Film	2-4
EGL 275	Fiction into Film	4
SOC 233	Art and Popular Culture	4
HSH 376	Modern American Culture	4
POL 220	Political Analysis	2
POL 236	Media and Politics	2
POL 333	Public Opinion	2
POL 356	Movements	4

Organizational Communication Area

COM 200	Communication Theory	3
ECO 201	Introduction to Economics and Markets	4
	(prerequisite for all MKT courses)	
MKT 321	Marketing Principles and Management	3
	(prerequisite for most MKT courses)	
MKT 452	Marketing Research	3
MKT 480	Consumer Behavior	3
MKT 486	Promotional Strategy	3
MKT 490	International Marketing	3
MKT 495	Seminar in Marketing	3
MGT 328	Management and Organizational Behavior,	3
MGT 431	Organizational Theory	3
PSY 100	Introduction to Psychology	4
	(prerequisite for all PSY courses)	
PSY 201	Psychology of Adjustment	2-4
PSY 270	Psychological Methods and Statistics	4
PSY 280	Social Psychology	4
PSY 285	Environmental Psychology	4
PSY 305	Psychology of Women	3
PSY 310	Communication and Counseling Skills	2
PSY 313	Cognitive Processes	4
PSY 315	Sensation and Perception	4
PSY 414	Industrial/Organizational Psychology	4
SOC 352	Sociology of Organizations	4

General Communication Courses

COM 260/460	Special Topics	2-4
COM 320/420	Internship	1-4
COM 430	Communication Practicum (Journalism)	1-4

Requirements for the minor in Communication Studies

COM 101	Introduction to Communication Studies	4
COM 110	Mass Media and American Life	4
COM 205	Introductory Newswriting and Reporting	4
COM 300	Broadcasters. Advertisers, and Audiences	4
COM 309	Persuasion: Reception and Responsibility	4
COM 410	Communication Ethics	4
Total credit hours		**24**

Comparative Cultures

The Comparative Culture major makes it possible for students to gain an appreciation of cultural pluralism by studying various cultures and elements of culture while acquiring the tools of analysis and interpretation. Students achieve an understanding of the general nature of human culture and religion as well as more specific knowledge of particular societies and/or religious traditions. The major emphasizes the analytical methodologies of the complementary disciplines of Anthropology and History of Religions, fostering the cross-cultural and/or comparative study of such aspects of culture as myth, social organization, adaptive strategies, gender relations, kinship and descent, religious ritual, oral poetry, and visual and performing arts.

The curriculum includes core components (which should be completed early), elective courses and advanced study of a foreign language. It culminates in a major fieldwork project. Students are strongly encouraged to study for one or two semesters in a foreign culture.

I. Core (10 credit hours)

HSR 105	Introduction to World Religions	4
AN 200	Cultural Anthropology	4
AN 304	Language and Culture	2-4

II. Elective Courses (22 credit hours)

Courses from Anthropology, History of Religions and Art History of non-Eurocentric traditions. 16 credits must be above 300 level. Up to 8 credits from other disciplines may be substituted (with advisor's approval).

III. Fieldwork Project (8 credit hours)

Includes a 2 credit tutorial on methodological and/or hermeneutical issues related to the project. Two professors, with at least one a member of the major faculty, take part in the tutorial.

Total Core Requirements **40**

IV. Language Study (up to 14 credit hours)

(Minimum requirement is proficiency equal to university study through the second year. Language minors will be encouraged.

Total credit hours (up to 54)

Note: HSR 105, AN 200 and two semesters of foreign language (16 units in all) fulfill current LAS General Education requirements.

Elective Courses in Core Disciplines

AN 205	Introduction to Archaeology
AN 300	Africa and Africans
AN 302	The Nacirema
AN 303	Health and Culture
AN 307	Magic and Religion: An Anthropological Perspective
AN 312	Anthropology of Violence
HSR 240	Religion in America
HSR 252	Judaism and Islam
HSR 253	Hebrew Religious Tradition
HSR 254	Birth of the Christian Tradition
HSR 257	Greek and Roman Myths
HSR 307	Myth, Ritual, and the Creative Process
HSR 308	Artists, Shamans and Cosmology
HSR 324	Freud, Jung, and Religion
HSR 359	Philosophy and Religion in China
HSR 369	Buddhism
HSR 374	Myth, Yoga, and Philosophy of India
ARH 321	African Art I
ARH 322	African Art II
ARH 323	Oceanic Art
ARH 424	Pre-Columbian Art

Computer Science

The computer science program prepares majors for graduate work in computer science as well as for immediate employment after graduation. This program, under the auspices of the Division of Mathematics and Computer Science, offers both a major and a minor. The 45-hour interdisciplinary major requires 34 credit hours, with an additional 11 credit hours of electives. The minor has 20 required hours.

Requirements for the major

HSP 282	Introduction to Logic	4
MAT 108	Discrete Mathematics	4
MAT 119	Calculus I	4
CMP 156	Computer Science I	4
CMP 157	Computer Science II	4
CMP 210	Assembly Language Theory	4
CMP 270	Data Structures	4
CMP 280	Programming Languages	4
CMP 455	Senior Project	2

Electives

Of the required 11 credit hours to be selected from the following courses, 8 must be 400 level.

CMP 320	Software Engineering	4
CMP 340	Data Base Organization	4
CMP 360	Digital Logic and Computer Design	4
CMP 410	Graphics Organization and Theory	4
CMP 412	Computer Modeling and Simulation	4
CMP 415	Artificial Intelligence	4
CMP 417	Discrete Structures	4
CMP 421	Compiler Design	4

CMP 427	Computer Architecture	4
CMP 431	Operating Systems	4
CMP 465	Topics in Computer Science	2-4
CMP 466	System Analysis and Design	3
CMP 467	Decision Support Systems	3
CMP 495	Seminar in Information Theory	3
EED 210	Digital Logic	4
EED 315	Software Engineering	4
EED 373	Microprocessor Systems and Applications	4
MAT 312	Applied Statistics	3
MAT 438	Linear Algebra	4
MAT 445	Operations Research	4
MAT 447	Numerical Mathematics	4
Total credit hours		**45**

Requirements for the minor in Computer Science

The Computer Science minor enables students to become familiar with the computer, some of its uses, and some of the problems associated with its use. minor requirements are:

MAT 108	Discrete Mathematics	4
CMP 156	Computer Science I	4
CMP 157	Computer Science II	4
CMP 210	Assembly Language Theory	4
CMP 270	Data Structures	4
Total credit hours		**20**

Criminal Justice Studies

As Criminal Justice Studies majors, students examine types of criminal behavior in terms of environmental influences which foster such behavior, social and governmental efforts at control, and practices developed to effect rehabilitation. In general, students learn the application of social science findings to the problems of criminal behavior. The major also provides for practical experience through academic fieldwork courses that encourage students to apply classroom knowledge to actual situations. Faculty are drawn from the social sciences.

Requirements for the major

CJS 350	Seminar in Criminal Behavior, Etiology, Control and Rehabilitation	4
CJS 340	Concepts of Penology	4
CJS 460	Field Work in Criminal Justice	4
SOC 344	Deviance and Society (Prerequisite SOC 110)	4
SOC 345	Crime and Delinquency (Prerequisite SOC 110)	4
POL 232	Judicial Processes	2
POL 417	American Civil Liberties	2
PSY 385	Abnormal Psychology	4
Total credit hours		**28**

Electives

The student must select 16 credit hours from the following:

HSH 395	Crime, Law and Society in American History	2
PSY 280	Social Psychology	4
PSY 395	Death and Dying	4
HSP 207	Ethics	4
POL 313	State and Local Politics	4
POL 316	American Constitutional Law	4
POL/SOC 230	Intro to Data Analysis and Statistics	3
SOC 235	Socialization and Personality	4
SOC 343	Race and Ethnicity	4
SOC 352	Sociology of Organizations	4
SOC 431	Research Design and Strategies	4
CJS 322	Juvenile Justice	2
CJS 332	Focusing on Police	2
CJS 442	Special Topics in Criminal Justice	2-4
CJS 450	Independent Study	4

Students may find that knowledge of Spanish is useful in the criminal justice field.

Institutes

In addition to completing the foregoing courses, the Criminal Justice Studies major is required to attend at least two institutes. These are normally offered once a year for a day to a day and a half. They deal with specific issues facing professionals in the criminal justice area.

Requirements for the minor

POL 110	Introduction to American Politics	4
POL 232	Judicial Process	2
SOC 110	Introduction to Sociology	4
SOC 344	Deviance and Society	4
SOC 345	Crime and Delinquency	4
CJS 340	Concepts in Penology	4
Total credit hours		**22**

Critical Discourse Studies Minor

This minor introduces students to contemporary theory and to the debates which are centered on such theory. Issues discussed include the foundations of modernist and post-modernist critical studies, the role of human reason and theories of knowledge (epistemology), the study of methodologies and critical interpretation (hermeneutics), and language and its relationship to thought. Courses are broadly interdisciplinary, with special emphasis on such key thinkers as Nietzsche, Habermas, Mouffe, Kristeva, Derrida, Lyotard, Foucault, Burke, Heidegger, and other contemporary theorists.

Required Core Courses (6 credit hours)

CDS 201	Introduction to Critical Discourse Studies	2
CDS 301/HSP 305	Postmodern Theory Hermeneutics and Post-Structuralism	4

Critical Perspectives (minimum of 10 credit hours)

CDS/POL 341	Modern Political Theory	4
CDS/HSP 312	Nineteenth-Century Philosophy	4
CDS/HSP 313	Twentieth-Century Philosophy	4
CDS/HSH/ FNA 350	The Birth of Modernism	4
CDS/HSP 209	Philosophy of the Arts II	4
CDS/HSP 326	Nietzsche	4
CDS/HSP/ WST 380	Women, Knowledge, and Reality	4
CDS/HSH 391	Historiography and Historical Methods	4
CDS/EGL 360	Literary Criticism & Theory	2-4

Electives (4 credit hours)

CDS/EGL 305	History of the English Language	4
CDS/AN 304	Language and Culture	2-4
CDS/ML 240	Language and Society	2
CDS/PSY 325	Language and Thought	4
CDS/COM 309	Persuasion	3
CDS/COM 404	Media Criticism	3
CDS/COM 405	Television Criticism	3
CDS/COM 410	Communication Ethics	3
CDS/EGL 332	Twentieth-Century American Visions	4
CDS/EGL 281	Literature in Science	4
CDS 320-324	Special Topics in Critical Discourse Studies	2-4
CDS 450	Independent Study	1-4
Total credit hours		**20**

Economics

The primary objective of the economics program is to study economic problems, theories, and policies within the context of the liberal arts educational tradition. Two major options are offered to meet students' differing needs: the General Option stresses the breadth and depth of economic thought, while the Business Option focuses on professional applications of economics. The Business Option also provides most prerequisite requirements for graduate MBA programs. Economics majors are encouraged to take advantage of the various minors in business administration subjects open to Liberal Arts and Sciences students.

Study in economics leads to careers in both the private and public sectors. Graduates work in management, banking, and law, in government, and as teachers. The economics major provides an excellent foundation for graduate study in law, public policy, foreign affairs, and business.

A Washington Semester in economic policy is available to economics majors through The American University in Washington, D.C. The semester includes intensive study of economic policy issues as well as seminars with government economists and other officials.

Requirements for the major

Core – all options

ECO 201	Introduction to Economics and Markets	4
ECO 202	Principles of Macroeconomics	3
ECO 331	Money and Banking	3
ECO 445	Managerial Economics	3
ECO 495	Special Topics	3
Total core credits		**16**

General Option

Three elective upper division economics courses (ECO 300 and above)	9
(An applied course in data analysis or quantitative methods, e.g., BUS 260, SOC/POL 475, or PSY 312, chosen in consultation with the advisor, may substitute for one economics elective)	
Two additional courses in economics, political science or sociology, or ACC 215, MKT 321, or FIN 348 chosen in consultation with advisor	6-8
Total credit hours	**31-33**

Business Option

Three elective upper division economics courses (ECO 300 and above)		9
(An applied course in data analysis or quantitative methods, e.g. BUS 260, SOC/POL 475, PSY 312, chosen in consultation with the advisor may substitute for one economics elective.)		
ACC 215	Financial Accounting I	3
FIN 348	Managerial Finance I	3
MKT 321	Marketing Principles	3
Total credit hours		**34**

Supporting Courses (all options)

MAT 104 or 119	(Calculus)	4
BUS 113, MAT 331, SOC/POL 230 or PSY 270	(Introductory Statistics)	3 or 4

Requirements for the minor in Economics

The following requirements must be satisfied in order to earn a minor in the study of Economics:

ECO 201	Introduction to Economics and Markets	4
ECO 202	Principles of Macroeconomics	3
ECO 495	Special Topics	3
Two additional upper division economics courses (ECO 300 and above)		6
Total credit hours		**16**

Education

Housed in the Division of Education are a major in Early Childhood/Childhood Education and a minor in Adolescence Education, Middle Childhood Specialist - Special Subjects. (Refer to the Graduate School Catalog for information on graduate programs offered by the Division of Education.)

Early Childhood/Childhood Education

Students completing the program meet the academic requirements of the New York State Education Department for certification in Early Childhood/Childhood Education.

Students who major in Early Childhood/Childhood Education receive an integrated blend of professional education methods coursework and field based opportunities in area schools that enable them to apply theory to classroom situations. These field-based experiences expose students to a diverse number of educational environments.

Students majoring in Early Childhood/Childhood Education must complete coursework in the arts and sciences that is rich in breadth and depth and fulfill requirements in basic competencies and areas of knowledge in the following subjects: written communication, mathematics, computer, literature, foreign language, arts, social science, historical studies and natural science.

Academic Area of Concentration

Students majoring in Early Childhood/Childhood Education must fulfill additional requirements in an academic area of concentration. Students select an academic area that is aligned with the current New York State Learning Standards. Possible academic areas include English, Mathematics, Science, and Social Studies (History). Over half the coursework in the academic area of concentration must be taken at the advanced (300-400) level.

Admission

At the end of their sophomore year, students may apply for admission into the Early Childhood/Childhood Education program. To be admitted, students must first interview with a member of the Education faculty, have an overall 2.5 GPA in their liberal arts coursework, and achieve a 2.75 GPA in the prerequisite education courses (ED 230 and ED 341). In addition, each candidate for the program must have successfully passed the Liberal Arts & Science (LAST) section of the New York State Teacher Certification Examinations prior to admittance into the program.

The Education portion of the program starts in the spring semester of the students' junior year, and includes field-based coursework in early childhood/childhood curriculum, orientation, literacy, integrated methodology of social studies, math and science. The required concurrent field experience in two different placements in an area school system is designed as an opportunity to blend theory with experiential application. The following fall semester students are placed in area schools for student teaching. Courses in literacy methods applications, and classroom measurement and evaluation are designed to assist students to plan lessons that incorporate the New York State Learning Standards.

Prerequisite Courses

ED 230	Psychological Foundations of Education	3
ED 341	Social Foundations of Education	3

Core Courses

Spring Semester - Junior Year

ED 374	Integrated Methods: Social Studies, Science, Mathematics and Computer Application	6
ED 375	Early Childhood/Childhood Practicum	3
ED 471	Methods of Teaching Literacy	6
ED 474	Orientation to the Early Childhood/Childhood Classroom	3

Fall Semester - Senior Year

ED 472	Competency Skills in Teaching Literacy	3
ED 473	Assessment in the Early Childhood/Childhood Classroom	3
ED 461	Student Teaching	12

Spring Semester - Senior Year

SED 456	Human Development: Exceptionality	3

Certification

Adolescence Education, Middle Childhood Specialist - Special Subjects
Preparation for a career in Adolescence, Middle Childhood Education combines an academic major in a particular field, such as English or biology, with a minor in the Division of Education. Adolescence Education, Middle Childhood Specialist subjects include biology, chemistry, earth science, English, French, mathematics, social studies, and Spanish. All students completing the program will receive certification in Adolescence Education. It is possible to receive an additional certification to teach Middle Childhood Education by completing additional coursework.

Students majoring in Special Subjects (Art and Business)
Students minoring in Adolescence, Middle Childhood Specialist and Special Subjects Education may be enrolled in the College of Liberal Arts and Sciences, the College eof Business, or the School of Art and Design of the New York State College of Ceramics.

A student preparing to teach in one of these areas should consult the Director of Adolescence, Middle Childhood and Special Subjects Education before planning a program of major studies.

Adolescence Education - Overview of the Program
Each candidate must complete an academic major in the subject to be taught, together with professional education courses. In addition, a one-year program in the college-level study of a language other than English is required (total of 6 to 8 credit hours). The requirements include a full semester of student teaching.

Initial Phase
In the initial phase of the program students enroll n ED 230 - Psychological Foundations of Education and ED 341 - Social Foundations of Education. These first courses in which students enroll are designed to give a basic foundation of knowledge in several broad areas, as well as an introduction to the public school by requiring observations and participation in local public school classrooms.

Second Phase
In the second phase, students enroll in the following coursework: ED 345 - Education Fieldwork, ED 489 - Current Teaching Methods: Secondary Subjects and ED 404 - Diagnostic & Remedial Techniques in Literacy. These courses are taken after a student satisfactorily completes the foundation coursework in Education (Ed 230 and ED 341), but prior to student teaching. In these courses, students gain experience in public schools and develop a knowledge base in teaching methodology.

Final Phase
In the final phase of the program, students enroll in student teaching while taking coursework simultaneously. ED 405 - Literacy in the Content Areas and ED 457 - Seminar in Teaching and Professional Development are taken concurrently with ED 461 - Student Teaching.

Course Requirements

- Completion of Basic Competencies and Areas of Knowledge required for Liberal Arts and Sciences.
- Completion of academic major in Liberal Arts and Sciences.

General Pedagogical Core

ED 230	Psychological Foundations of Education	3
ED 341	Social Foundations of Education	3

Specific Pedagogical Core

ED 345	Education Fieldwork	2
ED 404	Diagnostic & Remedial Techniques in Literacy	3
ED 405	Literacy in the Content Areas	3
ED 457	Seminar in Teaching & Professional Development	6
ED 461	Student Teaching	12
ED 489	Current Teaching Methods: Secondary Subjects	3

Middle Childhood Extension Certificate

Those students who wish to complete additional certification in Middle Childhood must complete all coursework required for the Adolescence certification. Additionally, students must complete ED 488 - Current Teaching Methods: Middle Childhood Subjects.

Admittance into the Program

To be admitted into the program, applicants must have the recommendation of a faculty member from their major division, together with a 2.5 cumulative GPA and a 2.75 average in ED 230 and ED 341. In addition, candidates must have passed the appropriate teacher examinations.

Special Subjects (Art and Business) - Requirements for the minor

Special subjects include art and business. Students majoring in art and business may complete coursework in Education to receive certification to teach in those areas. Each candidate completes a major in the subject, together with professional education courses. A full semester of student teaching is required. Certification in these areas includes all grade levels (Childhood - Adolescence).

Admittance into the Program

To be admitted into this program, applicants must have the recommendation of a faculty member from their major division, together with a 2.75 cumulative GPA and a 3.0 average in ED 230 and ED 341. In addition, candidates must have passed the appropriate teacher examination.

English

The study of English fosters critical thought and imaginative insight. It also heightens an awareness and appreciation of the power, beauty, and passion of the written word. English majors learn to examine the world and their relationships to it though courses which emphasize analysis and ways in which literature reflects culture. Through the experience of writing essays, stories, poems, and plays, students gain knowledge of the subtleties of language and respect for the exigencies of form. Class discussions increase students' opportunity, in Thoreau's words, to "live deliberately"; critical and creative writing promote their fluency with ideas and language.

Requirements for the major

The major serves both the student who regards the study of English as a vital component of a liberal arts education and the future critic and writer. English majors graduate to pursue careers in teaching, writing, advertising, public relations, publishing, college administration, business and related fields, or they go on to graduate schools in literature, writing, communications, journalism, library science, law, and business.

English majors are encouraged to assume responsibility for the direction of their education by developing a course of study based on their goals. From the numerous courses offered (see listings in the back of catalog), a total of 40 semester hours in English is required. Students must complete 12 hours of study at the 200 level, as follows: EGL 201, The Language of Literary Art; EGL 223, Survey of British Literature; EGL 241, Survey of American Literature. A minimum of 28 additional hours must be drawn from literature and writing courses at the 300 level. Of the 40 required hours, up to half (20 hours) may be taken in creative writing. EGL 410, English Honors Thesis, is required only for those students seeking Honors in English and may be counted toward the minimum of 40 hours required for the major. EGL 450, Independent Study, may not be counted toward the minimum of 40 hours required for the major.

EGL 102, Writing II, is strongly recommended as a foundation course for all English majors.

Prerequisites: EGL 201, The Language of Literary Art, for advanced writing courses; either EGL 223, Survey of British Literature, **or** EGL 241, Survey of American Literature, for advanced literature courses.
Total Credit Hours: 40

Requirements for the minor in English

Students may concentrate in either Literature or Writing:

Requirements for a minor in Literature:

18 credits of course work, 8 of which must be selected from among:

EGL 201	The Language of Literary Art
EGL 223	Survey of British Literature
EGL 241	Survey of American Literature

A minimum of 10 additional credits must be selected from 300-level courses in literature.
Prerequisites: The 200-level requirements, listed above, must be completed before beginning 300-level courses.
Total Credit Hours: 18

Note: EGL 450, Independent Study, cannot be counted toward the minor in Literature.

Requirements for a minor in Writing:

18 credits of course work including EGL 201, The Language of Literary Art, and not more than four additional credits in writing at the 200 level. A minimum of 10 additional credits must be selected from 300-level courses in writing.
Prerequisites: EGL 201, The Language of Literary Art, is a prerequisite for all advanced writing courses.
Total Credit Hours: 18

Note: EGL 450, Independent Study, cannot be counted toward the minor in Writing.

EGL 102, Writing II, is strongly recommended as a foundation course for both the minor in Literature and the minor in Writing. EGL 223, Survey of British Literature, **or** EGL 241, Survey of American Literature, is also strongly recommended for writing minors. Either of these survey courses satisfies the Area of Knowledge requirement in Literature (A) within the College of Liberal Arts and Sciences.

Environmental Studies

Since technological advances in our society have been accompanied by many life-threatening effects upon our physical surroundings, it has become a good citizen's responsibility to understand major environmental concepts. Some of us will pursue careers on behalf of the environment, trying to determine our species' suitable place within it.

The Environmental Studies major offers a multidisciplinary background and encourages looking at environmental problems from several points of view. Environmental projects and field experiences augment classroom learning. Faculty members are drawn from biology, geology, geography, mathematics, psychology, chemistry, political science, economics, and sociology.

Students have the option of choosing an Environmental Studies major with either a natural science or a social science emphasis. A third option is the environmental science track. ENS majors strongly interested in environmental careers or graduate training are encouraged to also complete requirements for a full major in a traditional academic discipline. Many of the same courses will meet the requirements of both majors.

Note: A student interested in environmental studies should be aware of the opportunity for earning a master's degree in environmental management from Duke University, in a cooperative five-year plan with Alfred University. See the program advisor for more details.

Requirements for the major – Natural Science Emphasis

A. Core requirements

ENS 101	Environmental Studies I – Natural Science	4
or ENS 103	Principles of Geography	4
ENS 102	Environmental Studies II – Social Science	4
MAT 110	Data Analysis for ENS	4
or ENS 205	Environmental Data Analysis	4
ENS 240	Environmental Research Procedures I	3
ENS 241	Environmental Research Procedures II	3
ENS 365	Junior Seminar	1
ENS 440	Research Planning	2
ENS 465	Senior Seminar	2
ENS 470	Senior Year Project	2
or ENS 495	ARGUS Project	3-6
POL 214	Politics and Environment	2
ECO 201	Introduction to Economics and Markets	4

B. Breadth requirements

Two courses from among the following:

BIO 100	Modern Biology with Human Implications	4
or BIO 101	General Biology I	4
CH 103	Basic Chemistry	4
or CH 105	General Chemistry	4
or CH 115	General Chemistry, Advanced	4
ENS 220	Introduction to GIS	4
GEO 101	Physical Geology	4
PHY 111	Introductory General Physics I	4
or PHY 125	Physics I	4

Two courses from among the following:

AN 200	Introductory Cultural Anthropology	4
AN 310	Cultural Anthropology and Disease	4
ECO 312	Environmental Economics	3
EGL 293	A Place in the Universe	2
ENS 201	Environmentalism	2
ENS 308	International Environmental Issues	4
ENS 415	Natural Resources Management	3
HSP 207	Ethics	4
POL 240	Deep Ecology	2-4
POL 315	Environmental Law	2
POL 345	Global Ecopolitics	4
PSY 285	Environmental Psychology	4
SOC 376	Technology, Values, and Environment	4
SOC 388	Populations	4

C. Natural Science emphasis electives

Three courses (at least 11 credits) from among those listed, with no more than two 100-level courses.

BIO 102	General Biology II	4
BIO 311	Invertebrate Zoology	4
BIO 322	Botany	4
BIO 345	Vertebrate Natural History	4
BIO 394	Ecology	4
BIO 396	Aquatic Ecology	4
CH 106	General Chemistry II	4
or CH 116	General Chemistry, Advanced II	4
CH 310	Basic Organic Chemistry	3
or CH 315	Organic Chemistry I	4
CH 316	Organic Chemistry II	4
CH 321	Introduction to Analytical Chemistry	4
ENS 320	Advanced GIS	4
ENS 325	Water Quality Management	4
ENS 351	Environmental Biogeochemistry	4
GEO 201	Surficial Geology	4
GEO 301	Structural Geology	4
GEO 307	Stratigraphy and Sedimentation	4
GEO 425	Geomorphology	4
GEO 464	Hydrogeology	4
PHY 112	Introductory General Physics II	4
or PHY 126	Physics II	4

Requirements for the major – Social Science Emphasis

A. Core requirements

ENS 101	Environmental Studies I – Natural Science	4
or ENS 103	Principles of Geography	4
ENS 102	Environmental Studies II – Social Science	4
ENS 240	Environmental Research Procedures I	3
ENS 241	Environmental Research Procedures II	3
ENS 365	Junior Seminar	1
ENS 440	Research Planning	2
ENS 465	Senior Seminar	2
ENS 470	Senior Year Project	2
or ENS 495	ARGUS Project	3-6
MAT 110	Data Analysis for ENS	4
or ENS 205	Environmental Data Analysis	4
or POL 230	Introductory Data Analysis & Statistics	3
or SOC 230	Introductory Data Analysis & Statistics	3
or PSY 270	Psychological Methods & Statistics	4
or BUS 113	Business Statistics	4
POL 214	Politics and Environment	2
ECO 201	Introduction to Economics and Markets	4

B. Breadth requirements

Two courses from among the following:

BIO 100	Modern Biology with Human Implications	4
or BIO 101	General Biology I	4
CH 103	Basic Chemistry	4
or CH 105	General Chemistry	4
or CH 115	General Chemistry, Advanced	4
ENS 110	Methods in Environmental Science	4
ENS 220	Introduction to GIS	4
GEO 101	Physical Geology	4
PHY 111	Introductory General Physics I	4
or PHY 125	Physics I	4

C. Social Science emphasis electives

Five courses (at least 18 credits) from among the following:

AN 200	Introductory Cultural Anthropology	4
AN 310	Cultural Ecology and Disease	4
ECO 202	Principles of Economics, Macro	3
ECO 312	Environmental Economics	3
EGL 293	A Place in the Universe	2
ENS 201	Environmentalism	2
ENS 308	International Environmental Issues	4
ENS 320	Advanced GIS	4
ENS 415	Natural Resources Management	3
HSP 207	Ethics	4
POL 212	American State Governments and Politics	2
POL 240	Deep Ecology	2-4
POL 315	Environmental Law	2
POL 345	Global Ecopolitics	4
POL 411	Public Administration	4
PSY 280	Social Psychology	4
PSY 285	Environmental Psychology	4
SOC 376	Technology, Values, and Environment	4
SOC 388	Populations	4

Requirements for the major – Environmental Science Track

A. Core requirements

ENS 101	Environmental Studies I – Natural Science	4
or ENS 103	Principles of Geography	4
ENS 102	Environmental Studies II – Social Science	4
ENS 240	Environmental Research Procedures I	3
ENS 241	Environmental Research Procedures II	3
ENS 365	Junior Seminar	1
ENS 440	Research Planning	2
ENS 465	Senior Seminar	2
ENS 470	Senior Year Project	2
or ENS 495	ARGUS Project	3-6
MAT 110	Data Analysis for ENS	4
or ENS 205	Environmental Data Analysis	4
MAT 119	Calculus I	4

B. Breadth requirements

Twenty credit hours from the following:

BIO 101	General Biology I	4
CH 105	General Chemistry I	4
CH 106	General Chemistry II	4
ENS 220	Introduction to GIS	4
GEO 101	Physical Geology	4
MAT 120	Calculus II	4
PHY 111	Introductory General Physics I	4
or PHY 125	Physics I	4
PHY 112	Introductory General Physics II	4
or PHY 126	Physics II	4

C. Depth requirements

Three Courses (totaling at least 11 credit hours) from the following:

BIO 322	Botany	4
BIO 394	Ecology	4
BIO 396	Aquatic Ecology	4
ENS 325	Water Quality Management	4
CH 310	Basic Organic Chemistry	3
or CH 315	Organic Chemistry	4
CH 321	Introduction to Analytical Chemistry	4
ENS 320	Advanced GIS	4
ENS 351	Environmental Biogeochemistry	4
GEO 201	Surficial Geology	4
GEO 464	Hydrogeology	4

Requirements for the Environmental Studies minor

ENS 101	Environmental Studies I – Natural Science	4
ENS 102	Environmental Studies II – Social Science	4
ENS 240	Environmental Research Procedures I	3
ENS 241	Environmental Research Procedures II	3

plus 8 credits of electives, selected by the student and minor advisor, chosen from the lists of natural science and social science electives (see above) and integrated to meet the student's objectives in environmental study.

Total credit hours **22**

Note: The State University of New York College of Technology at Alfred offers a number of applied courses in a variety of environmental areas. Selections from among these offerings may be taken for credit at Alfred University. Advisors can assist in such course selections; in some cases these may substitute for courses listed above.

Fine Arts

The major in Fine Arts, leading to the BA degree in the Liberal Arts and Sciences, combines studio work in the arts with studies in art history, art theory and criticism, and cultural studies. The program draws faculty from the College of Liberal Arts and Sciences, and from the N.Y.S. College of Ceramics.

Fine arts majors develop basic skills in the visual arts, an understanding of how to think about art making and performance, and a grasp of the interpretative problems that enter into the contemporary arts.

The BA program is distinguished from the BFA program in the College of Ceramics by its greater emphasis upon the cultural setting of the arts, its stress on questions of interpretation, its broad grounding in the general education program of the College of Liberal Arts and Sciences, and its interdisciplinary ties to the Division of Human Studies and the Performing Arts. There is no portfolio requirement for admission to the Fine Arts program.

The student who wishes to prepare for a career in art therapy or in art education should consult with the director of the Fine Arts major for a proper selection of courses in Psychology or in Education. In addition to these career options, recent graduates have opened their own studios, worked in galleries, and taken graduate programs in the areas of art, art therapy, and law.

Requirements for the Fine Arts major:

Total credit hours		**62**

Core requirements

FNA 101-104	Fine Arts I-IV	16
HSP 208	Philosophy of the Arts I	4
ARH 111-112	Foundation to Art History	6
FNA 400	Fine Arts Seminar	4
Total core requirements		**30**

In addition to the core requirements, students must complete one of the three concentrations below:

I Visual Arts Concentration

Visual studio electives	24
(12 must be 300 level or above)	
Theory elective	4
Art History elective	4
Total credit hours	**32**

II Art History and Theory Concentration

Art History electives	16
Theory electives	8
Additional Art History/Theory electives	8
Total credit hours	**32**

III Performance Concentration

1. Performance core studios: THR 211, DAN 275	5
2. Studio Electives in THR, DAN, MUS, ART*	18-19
3. Core Theory course (THR 305 or HSR 307)	3 or 4
4. Theory Elective*	4
Total credit hours	**30-32**

*Studio and Theory Elective: Should be chosen in consultation with advisor to form a unified curriculum in Performance. In Music only 100 level courses count toward requirement.

Requirements for the Fine Arts minor

ARH	Art History electives	6
HSP 208	Philosophy of Art	4
ART	Studio Art electives	12
Total credit hours		**22**

General Science

Requirements for the major

MAT 119	Calculus I	4
MAT 120	Calculus II	4
a total of 18 credit hours in either biology, chemistry, geology or physics		18

plus a total of eight credit hours in each of the other three sciences from the following list:

Biology

BIO 101	General Biology I	4
BIO 102	(continuation of BIO 101)	4

Chemistry

CH 105	General Chemistry	4
CH 106	(continuation of CH 105)	4

Geology

GEO 101	Physical Geology	4
GEO 104	Historical Geology	4
GEO 105	Environmental Geology	4

Physics

PHY 111	Introductory General Physics	4
PHY 112	(continuation of PHY 111)	4
Total credit hours		**50**

Requirements for the minor

The minor in General Science consists of eight credit hours in each of three of the above sciences, chosen from the above list. In geology, four hours may be an upper-level course.

Geology

Studying geology helps students to gain an appreciation for their planet, its history, and the processes which operate within it. Students may select courses for enjoyment, choose courses in conjunction with other studies, or take courses in preparation for careers in geology. The major provides a background useful for employment or further studies in geology or a related field such as environmental studies, physical geography, planning, engineering, law or business.

A geology major at Alfred includes an introductory level course; required courses in structural geology, mineralogy and petrology; advanced studies; and field experience.

Requirements for the major

One introductory course chosen from GEO 101, GEO 103, GEO 104, GEO 105, GEO 106, GE0 110		*2-4*
The following three courses:*		
GEO 301	Structural Geology	4
GEO 340	Mineralogy	4
GEO 422	Petrology	4
Sixteen credits selected from the following:		
ENS 351	Environmental Biogeochemistry	4
GEO 201	Surficial Geology	4
GEO 307	Stratigraphy and Sedimentation	4
GEO 408	Tectonics	4
GEO 414	Geophysics	4
GEO 424/524	Clay Mineralogy	2
GEO 425	Geomorphology	4
GEO 440	Glacial Geology	4
GEO 444	Geochemistry	4
GEO 464	Hydrogeology	4

Field Experience (any of the following)**

GEO 304	Field Methods	2
GEO 466/467	Geology in the Field	3,4
A summer field camp offered by another institution		

Students intending to pursue the study of geology as a profession should take the following courses in addition to those listed above:

GEO 101/104	Physical Geology, Historical Geology
MAT 119	Calculus I
PHY 111/112	General Physics
or	
PHY 125/126	Physics I and II
CH 105/106	General Chemistry

and two additional upper level geology courses. These students are also required to take one of the options mentioned above under Field Experience.

***Certain courses offered by the College of Ceramics may be substituted for GEO 340 and GEO 422. Consult a departmental advisor for details.**

**** Other field activities may be used to fulfill this requirement. Arrangements should be made prior to the end of the junior year.**

Requirements for the minor

A Geology minor may be obtained by completing (with grades of "C" or better), one 100-level geology course and 16 credit hours of upper level geology courses. These may include up to eight hours taken from CES 210, CES 252, CES 360 or CES 401.

Other geology courses available as electives are:

GEO 103	Earthquakes and Volcanoes
GEO 105	Environmental Geology
GEO 110	Lunar Geology
GEO 309	Computer Simulations in Geology
GEO 432	Oceanography
GEO 456	Paleontology
GEO 495	ARGUS Project

Gerontology

We are already feeling the impact upon our society of the rapidly increasing number of people sixty-five and older. In the long run it will probably be as great a change as the previous shift of population from rural to urban centers. How we should prepare to meet the needs of this growing number of older citizens is a crucial concern.

The gerontology major and minor offer an interdisciplinary approach to understanding the aging process and the new problems society is facing with the aged. The student majoring in gerontology studies psychological, social, political, biological, and long-term health care aspects of aging. The major also provides for the application of classroom knowledge to real-life situations through a supervised internship. Participating faculty members are drawn from psychology, biology, sociology and political science.

Requirements for the major

PSY 100	Introduction to Psychology	4
SOC 110	Introduction to Sociology	4
BIO 219	Physiology of Aging	4
PSY 265	Social Development	4
or PSY 365	Cognitive Development	4
PSY 270	Psychological Methods and Statistics	4
or POL/SOC 230	Intro to Data Analysis and Statistics	3
GRO 300	Adult Development and Aging	4
PSY 310	Communication and Counseling Skills	2
GRO 350	Special Topics in Gerontology	2
or GRO 470	Senior Seminar in Gerontology	2
GRO 422	Cognition and Aging	2
SOC 253	Social Welfare Institutions	2
PSY 395	Death and Dying	4
GRO 490	Gerontology Internship	4
Total credit hours		**39-40**

Requirements for the minor

PSY 100	Introduction to Psychology	4
or SOC 110	Introduction to Sociology	4
GRO 300	Adult Development and Aging	4
GRO 350	Special Topics in Gerontology	2
GRO 470	Senior Seminar in Gerontology	2

Electives (choose 11 hours):

BIO 219	Physiology of Aging	4
PSY 310	Communication and Counseling Skills	2
HPM 200	Health Care Delivery Systems	3
SOC 253	Welfare Institutions	2
PSY 395	Death and Dying	4
Total credit hours		**23**

Health Studies Minor

The minor in Health Studies provides an interdisciplinary and inter-college opportunity for students to formally examine and explore diverse aspects of health care in the United States and abroad.

Requirements for the minor

HPM 200	The Health Care Delivery System	4
SOC 349	Medical Sociology	3
Select an additional 13 credit hours from the following:		
AN 303	Health and Culture	4
AN 310	Cultural Ecology and Disease	4
AN 312	Anthropology of Violence	2-4
BIO 100	Modern Biology with Human Implications	4
BIO 110	Medical Terminology	2
BIO 219	Physiology of Aging	4
BIO 230	Nutrition in Health and Disease	2
HPM 205	Public Health Issues and Concepts	3
PSY 300	Adult Development and Aging	4
PSY 335	Health Psychology	2-4
PSY 391	Neuropsychology	4
PSY 395	The Psychology of Death and Dying	4
WST 255	Issues in Women's Health Across the Lifespan	2
Total credit hours		**20**

Note: Additional courses, independent studies, or internships may be counted toward the minor with the approval of the Health Studies minor advisor.

History

"Bunk," Henry Ford called history. "A pack of tricks we play on the dead," said the French writer Voltaire. And yet we all know that a society's understanding of what it is and what it wants to be can be grounded only upon an understanding of what it has been. Our history shapes our identity.

Alfred's history program offers a thorough grounding in not only American society, but European and some non-Western societies as well. It covers eras of war and peace, reaction and revolution, and approaches the past comprehensively by analyzing political, cultural, social, intellectual and military development.

Attention is given to the needs of both the student who regards historical study as a vital component of a general liberal arts education and the student who plans to become a professional historian.

Among recent graduates are lawyers, people in business, professional historians, legislative aides, teachers and civil servants.

Requirements for the major

From the numerous courses offered (see listings in back of catalog) a total of 34 credit hours in history is required. Of these hours, 26 must be drawn from the 300 or 400 level, and the student must complete eight hours each in European and American history at the 300 or 400 level.

Total credit hours **34**

Requirements for the minor

The minor in history requires completion of two of the following courses: HSH 103 (World Civilizations I), HSH 104 (World Civilizations II), HSH 211 (American History I), HSH 212 (American History II) plus 12 credits of history above the 300 level.

Total credit hours **20**

Note: Historians and other faculty in the Division of Human Studies are responsible for Historical Reflections, a journal of intellectual and cultural history published three times a year.

Mathematics

The mathematics program serves a variety of purposes:

- maintaining a vigorous and flexible program for mathematics majors
- providing the necessary mathematical foundations for engineering and science students
- offering an introduction to modern quantitative methods for students of management, economics, and the social sciences

The mathematics major gives the student a sound foundation in modern mathematics and its applications. The major is quite flexible, allowing for emphasis on pure or applied mathematics. In recent years mathematics majors have found excellent placement in a number of fields, including actuarial, computer applications and Ph.D. study.

Requirements for the major

MAT 119	Calculus I	4
MAT 120	Calculus II	4
MAT 121	Calculus III	3
MAT 322	Differential Equations	3
MAT 402	Advanced Calculus	4
MAT 407	Modern Algebra	4
MAT 438	Linear Algebra	4

plus 10 credit hours in mathematics courses numbered above 240.

Total credit hours **36**

Related Study

CMP 156	Computer Science I	4

Most students follow one of the following three options:

Business Option
The Business Option is for students preparing for a mathematics-oriented career in the business world. This option emphasizes statistical and decision-making techniques. Students are encouraged to take various business courses as electives, along with the following mathematics courses:

MAT 313	Mathematical Statistics	4
MAT 445	Operations Research	4
MAT 447	Numerical Mathematics	4

Scientific Option
The Scientific Option emphasizes the application of mathematics to the physical sciences. Interested students are advised to take science courses, such as physics, as electives, as well as the following mathematics courses:

MAT 313	Mathematical Statistics	4
MAT 426	Advanced Engineering Mathematics	4
MAT 447	Numerical Mathematics	4

Secondary Education Option
The Secondary Education Option is for students who plan a secondary school teaching career. In addition to the required Education program, students must take:

MAT 313	Mathematical Statistics	4
MAT 476	Geometry	3

Requirements for the minor
The minor in mathematics requires 22 credit hours of mathematics courses numbered 119 and above. It must include MAT 121 and at least one of the courses MAT 402, MAT 407, MAT 426, MAT 438, MAT 445, MAT 447. Courses should be selected in consultation with the mathematics minor advisor.

Total credit hours	**22**

Modern Languages

An increasing number of careers demand proficiency in a second language. More students are choosing to study modern languages for professional enhancement every year. Others select foreign language study to broaden their intellectual horizons, to enjoy the literature of other countries and times, or to be able to travel with greater independence. Students in the College of Liberal Arts and Sciences are required to successfully complete the second semester of the first year of a foreign language or pass the placement exam. Students who plan to seek certification as foreign language teachers should consult with the chair of the Education Division.

French
The Modern Languages Division offers a major in French in which students acquire proficiency in speaking, understanding, reading and writing. French majors at Alfred acquire basic knowledge by taking core requirement courses in three areas: French language, culture, and literature. Beyond this core, students are offered a series of elective courses allowing them to expand their knowledge in all three areas, or to specialize in one. Recent French majors have entered a variety of career paths including teaching, international business and technology, and government service.

Requirements for the major in French

(Prerequisites: MLF 101, 102, 201, 202 or equivalent)

A. Core course: all of the following		
MLF 301	Reading French Texts	3
MLF 302	Advanced French Grammar and Composition I	3
MLF 304	French Literature I	3
MLF 305	French Literature II	3
MLF 306	Advanced French Conversation	3
MLF 307	Contemporary French Culture	3
B. Elective courses: choose 9 credits from among the following:		
MLF 303	Advanced French Grammar and Composition II	3
MLF 308	French Film Criticism	3
MLF 401	The Art of French Translation	3
MLF 402	French Speaking Africa	3
MLF 450	Independent Study	3
MLF 480	Topics in French	3
Total credit hours		**27**

It is expected that French majors will pursue some independent study. They are also encouraged, although not required, to spend at least a semester in a French language Study Abroad program. (Contact the Study Abroad Office)

Requirements for the minor in French

(Prerequisites: MLF 101, 102, 201, 202 or equivalent)

Students wishing to minor in French take three required courses (MLF 301, MLF 302, MLF 306) for a total of 9 credit hours. They then select a minimum of six hours from the major level elective courses.

Total credit hours **15**

German

The Division of Modern Languages offers both a major and minor in German. Either option enables students to attain proficiency in speaking, comprehension, reading and writing. The study of a foreign culture broadens students' horizons and increases their self-awareness. German majors frequently combine the major with other disciplines which call for an understanding of German culture and language. Study for one or two semesters in a German-speaking country (generally during the Junior year) is expected of all majors and strongly suggested for the minor. The Study Abroad Office on campus will help students find a suitable program. Alfred University offers an exchange program in Trier for Business students and in Erlangen for German Engineering students.

Requirements for the major in German

(Prerequisites: MLG 101, 102, 201, 202 or equivalent)

A. Core Courses		
MLG 301	German Literature I	3
MLG 302	German Literature II	3
MLG 305	Advanced German Conversation/Composition	3
MLG 307	German History and Culture	3
Three 400-level courses		9
MLG 450	Independent Study	3
Core credit hours		**24**

Study Abroad credit may transfer to satisfy the above requirements.

B. Elective Courses

Choose six credits from the following. Other 300- and 400-level courses may be accepted in lieu of the courses below with approval from the major advisor.

BUS 457	International Business	3
ECO 458	International Eco/ Finance	3
HSH 330	Modern Germany	4
HSH 321	Modern Europe I	4
HSH 322	Modern Europe II	4
HSH 343	World War I	2
HSH 347	World War II	4
HSP 312	19th Century Philosophy	4
MLL 120	Introduction to Linguistics	2
MLL 240	Language and Society	2
Elective Credits		**6**
Study abroad credit may transfer to satisfy these courses		
Total credits for major		**30**

Requirements for the minor in German

(Prerequisite: MLG 101, 102, 201, 202 or equivalent)

Students wishing to minor in German take four required courses (MLG 301, MLG 302, MLG 305, and MLG 307). Study Abroad credit may transfer to satisfy up to three of these required courses.

Total credit hours **12**

Spanish

The Modern Languages Program offers a Spanish major giving students a proficiency in speaking, listening, reading, and writing. Through a core or requirements, Spanish majors at Alfred acquire basic knowledge in three areas: Hispanic language, culture, and literature. Beyond this core, students are offered a series of elective courses allowing them to expand their knowledge in all three of the areas or to specialize in one. Although majors in Spanish generally are interested in teaching, some decide to use their language proficiency in business, government service or community services. Study abroad is strongly recommended for both majors and minors. The Study Abroad Office on campus will help students find a suitable program.

Requirements for the major in Spanish

(Prerequisites: MLS 101, 102, 201, 202 or equivalent)

The major program in Spanish consists of the following six required courses (21 hours):

MLS 300	Advanced Spanish Practica	3
MLS 309	Introduction to Critical Analysis	3
MLS 310	Peninsular Culture and Literature I: Middle Ages – Eighteenth Century	3
MLS 311	Peninsular Culture and Literature II: Nineteenth and Twentieth Century	3
MLS 312	Spanish American Culture and Literature I: Pre-Columbian – Eighteenth Century	3
MLS 313	Spanish American Culture and Literature II: Nineteenth-Twentieth Century	3

Plus any three of the following elective courses (nine hours):

MLS 400	Latinos/as in the U.S	3
MLS 402	El Siglo de Oro	3
MLS 403	Readings in Modern Peninsular Literature	3
MLS 404	Readings in Modern Spanish American Literature	3
MLS 450	Independent Study	1-3
MLS 480	Topics in Hispanic Literature	3
Total credit hours		**27**

It is expected that Spanish majors will pursue some independent study. Although not strictly required, it is also expected that majors will spend at least one semester in a Spanish language Study Abroad program. (Contact the Study Abroad Office)

Requirements for the minor in Spanish

(Prerequisites: MLS 101, 102, 201, 202 or equivalent)
Students wishing to minor in Spanish take four required courses (MLS 300, MLS 309 (unless waived by instructor), 1-3 or MLS 310 or 311 or MLS 312 or 313 for a total of nine or twelve credit hours. They select one or two additional course from the major level elective courses.

Total credit hours	**15**

Performing Arts

The Division of Performing Arts, comprised of the Theatre, Music and Dance Programs, teaches and nurtures lively individuals to develop as critical thinkers and performing artists in an ever changing world. Whether a student is pursuing an academic major or minor or is looking for a creative outlet, all students have the opportunity to be involved with Performing Arts at Alfred. Auditions for all productions and performance groups are open to all students, regardless of year or major. A wide range of courses and numerous performance opportunities are available for any students who wish to take advantage of them. Over twenty-five performance events are produced each year by the Division.

The Division of Performing Arts offers a major in Theatre and minors in Music, Dance and Theatre. Students are encouraged to participate all disciplines, gaining exciting and valuable performance experiences in a wide variety of areas.

Dance

The Dance Program, offered through the Division of Performing Arts, is for students who have chosen other academic majors but want to keep dance active in their lives. The program is open to all students regardless of experience who want to explore the many diverse aspects of this form of expression in a non-threatening and creative environment. Technique classes are offered in many areas (ballet, modern, jazz, improvisation, ethnic) as are courses in choreography. Instruction, beyond official course offerings, includes guest artist master classes and periodic dance company residencies.

Performance opportunities abound. These include a recital style Dance "Showing" in the Fall and a full Concert in the Spring. Both are faculty guided and provide numerous opportunities for student performance and choreography. The AU Dancers Union is a highly active and energetic student organization that works in partnership with the faculty.

Other performance opportunities include senior dance projects and participation in residency concerts. Dependent on funding availability, students also have the opportunity to attend and participate in the annual American College Dance Festival.

Requirements for the Dance minor:

DAN 110	Fundamentals of Dance	2
DAN 275	Improvisation/Composition I	2
DAN 280	Dance History	4
DAN 350	AU Dance Theatre	4
DAN 375	Improvisation/Composition II	2
Electives in dance technique courses (8 credits)		
DAN 220/320	Modern Dance	2
DAN 230/330	Ballet I	2
DAN 240/340	Jazz	2
DAN 450	Independent Study	1-4
Total credit hours		**22**

Music

All AU students have many opportunities for musical study and performance, regardless of degree major or minor. In addition to introductory music theory, ear training, and special topics courses, students can take classes in areas such as piano, voice, strings and woodwinds and/or study privately in voice or a variety of instruments. They may even choose to learn to play the Davis Memorial Carillon with lessons from the University Carillonneur.

Students have unlimited access to fine pianos and practice rooms. String, woodwind and brass instruments are available. The Division of Performing Arts offers a Music Minor

Numerous vocal and instrumental ensembles, large and small, abound at AU, providing students with a wide range of opportunities for performance. These ensembles, both vocal and instrumental, are open to all students. Select groups require auditions. Students also may choose to participate in smaller chamber ensembles.

Requirements for the Music minor

MUS 110	Music Appreciation	4
MUS 120	Fundamentals of Music I	4
MUS 221	Class Piano I	2
MUS 222	Class Piano II	2
MUS 260	Special Topics	4
MUS 160-179	Music Ensembles	4
MUS 100-109; 300-309	Applied Lessons	4
Total credit hours		**24**

Theatre

All students, regardless of academic major, are enthusiastically encouraged to participate in faculty and student directed productions and to take Theatre courses. Performance opportunities and production options abound for those pursuing a Theatre degree. All Theatre majors, in addition to core requirements, electives, and related courses, are actively involved and encouraged to participate in all aspects of the annual main-stage productions. Opportunities are available in acting, all areas of design (scenic, lighting, costume, sound, props), stage management, construction, scenic painting, directing and producing.

Theatre majors are prepared to move into a broad range of theatre-related occupations or graduate school, with emphases in performance, design and technical areas.

Requirements for the Theatre major

Core Requirements:

THR 101	Introduction to Theatre	4
THR 111	Technical Theatre	4
or		
THR 210	Principles of Theatrical and Performance Design	3
Note: students with design/tech emphasis must take both THR 111 and THR 210		
THR 241	Acting I	4
THR 303	Theatre History I	4
THR 304	Theatre History II	4
THR 451	Directing I	3
THR 452	Directing II	3
or		
THR 471	Senior Project	2-4
Total credit hours		**(minimum) 28**

Electives in Theatre: (12 credits)

THR 190	The Performing Arts: A Global Perspective	4
THR 205	Women in American Theatre	2
EGL 205	The Play's the Thing! – Playwriting	4
THR 221	Stage Makeup	2
THR 242, 342, 442	Performance Lab I, II, III	3
THR 305/AN 305	Cultural Perspectives in Theatre and Performance	3
THR 311	Scene Design	3
THR 321	Costume Design	3
THR 331	Lighting Design	3
THR 332	Stage Sound	2
THR 341	Acting II	3
THR 160, 260, 360	Theatre Practicum	4
THR 380	Internship	2-4
THR 411	Advanced Projects in Theatrical Design and Technology	1-4
THR 441	Acting III	3
THR 450	Independent Study	2-4
THR 452	Directing II	3
THR 460	Special Topics	1-4

Related Fields: (6 Credits)

ART 111	Painting and Drawing	4
ART 121	Sculpture	4
ART 133	Photography	4
ART 171	Foundations of Art History I	3
ART 172	Foundations of Art History II	3
DAN 110	Fundamentals of Dance	2
DAN 280	Dance History	4
DAN 220,230,240, 320,330,340	(All Dance technique classes)	2
DAN 275,375	Improvisation/Composition I; II	2
DAN 350	Alfred University Dance Theatre	2
EGL 214	Introduction to Drama	4

EGL 224	Introduction to Shakespeare	2-4
EGL 225	Shakespeare in Cinema	2-4
EGL 302	Greek Tragedy	2-4
EGL 311	Shakespeare's Comedies and Histories	4
EGL 313	Shakespeare's Tragedies	4
EGL 371	Dramatis Personae	4
HSP 208	Philosophy of the Arts	4
HSP 348	Aesthetics	4
HSR 307	Myth, Ritual and the Creative Process	4
HSR 308	Artists, Shamans and Cosmology	4
MUS 110	Music Appreciation	4
MUS 120	Fundamentals of Music I, II	4
MUS 160-179	Music Ensembles	2
MUS 100-109; 300-309 Applied Lessons		1, 2
MUS 220-222	Voice, Piano Classes	2
PE 105	Beginning Fencing	2
(other courses may be considered; must be approved by the Division Chair)		
Total credit hours required for major		**(minimum) 36**

A Theatre minor is also available for those students who wish to major in another field, yet devote serious effort to their development as theatre artists.

Requirements for the Theatre minor

THR 101	Introduction to Theatre	3
THR 111	Technical Theatre	4
or THR 210	Principles of Theatrical and Performance Design	3
THR 241	Acting I	4
THR 303	Theatre History I	4
THR 304	Theatre History II	4
THR 360	Theatre Practicum	2
THR 451	Directing I	3
Total credit hours		**23-24**

Philosophy

The philosophy program acquaints the liberal arts student with people's thought systems, teaches the skills of critical thinking and examines the application of these skills to the work of the other disciplines. A student who graduates with a major in Philosophy should be knowledgeable about the history of Western thought, capable of logical analysis of contemporary issues, and skilled in discovering the presuppositions and arguments of diverse thought systems. The philosophy major is encouraged to take interdisciplinary work. Philosophy is excellent preparation for government, business and service professions, and for graduate and professional schools.

Requirements for the major

Students choose one of two tracks:

General Philosophy

Required Courses: 12 credits

HSP 270	Greek Philosophy	4
HSP 301	Modern Philosophy	4
HSP 282	Logic	4

Elective Courses: 20 credits

HSP	Philosophy Electives	
	(12 credits must be above 300 level)	20

Total credit hours	**32**

Philosophy of Religions

Required Courses: 12 credits		
HSP 270	Greek Philosophy	4
HSP 301	Modern Philosophy	4
HSP 207	Ethics	
or HSP 349	Philosophy of Religion	4
Elective Courses: 24 credits		
HSP	Philosophy Electives	
	(4credits must be above 300 level)	8
HSR	Religion Electives	
	(8 credits must be above 300 level)	16
Total credit hours		**36**

Requirements for the minor

A minor in philosophy consists of 20 credit hours, distributed as follows:

Required for all students – either		
HSP 301	Modern Philosophy	
or HSP 270	Greek Philosophy	4
plus 16 additional credits in Philosophy including at least 8 above the 300 level.		
Total credit hours		**20**

Students may substitute up to 4 credit hours in religious studies or other courses closely related to philosophy in content or methodology. Substitutions must be approved by the faculty advisor for this minor.

Physical Education

The Physical Education division offers a wide variety of activity and theory courses, all of which are coeducational. Emphasis is placed on meeting individual needs. The division presents a broad range of beginning-level courses to help students develop skills in activities and seasonal sports that will carry over into later life. Advanced courses give students an opportunity to perfect techniques and skills in a sport. While skill and conditioning are important aspects of the courses, knowledge of rules, equipment, technique and strategy is stressed.

Electives

Students may take physical education courses not only to meet the graduation requirement of four credit hours, but also as electives (except in the School of Art and Design). A total of eight credit hours of physical education activity courses may be counted toward graduation credit. Credit toward graduation may not be received for beginning courses in any sport in which students have already passed a proficiency examination in a Lifetime Sport.

Varsity Athletics

Participation in a varsity sport for a season counts toward fulfilling one/half of the physical education requirement. Participation for a season in two different varsity sports fulfills the entire physical education requirement. Students do not receive a grade or academic credit for participating in a varsity sport.

Coaching

Since the coaching of sports has become an important adjunct to the teaching profession, theoretical courses in basketball, football, track and field, soccer, lacrosse, and volleyball are offered so that students my prepare either for professional coaching or for recreational purposes.

The coaching courses include discussions of etiquette in sports, values in mental attitudes, systems of offense and defense in appropriate sports, history, strategy, equipment, conditioning and care and prevention of athletic injuries.

Proficiency Testing for the Lifetime Sports option

Proficiency examinations are a mechanism for providing students with the opportunity to demonstrate that they have already acquired certain sports fundamentals, knowledge, and abilities, and are therefore, ready for advanced placement, a different activity or an exemption.

Since lifetime sports participation implies more than a superficial degree of exposure, the proficiency level is set above a minimum standard of performance. This standard is determined by the Physical Education faculty. The proficiency examination includes two parts, each of which may be passed separately. However, the written part must be passed before the practical.

Requirements for the minor in Coaching

BIO 230	Nutrition in Health and Disease	2
PE 237	Weight Training	
or PE 201	Cross Training	
or PE 102	Cardiofitness	2
PE 311	First Aid and CPR	2
PE 243	Philosophy, Principles and Organization of Athletics	3
PE 295	Psychology of Coaching	3

(Recommended: ATT 103 Care and Prevention of Athletic Injuries)

Theories and Techniques of Coaching

(Choose one of the courses below)

PE 312	Theory and Technique of Coaching Football	2
PE 313	Theory and Technique of Coaching Basketball	2
PE 314	Theory and Technique of Coaching Volleyball	2
PE 315	Theory and Technique of Coaching Lacrosse	2
PE 316	Theory and Technique of Coaching Track & Field	2
PE 317	Theory and Technique of Coaching Soccer	2
Total credit hours	**(minimum)**	**14**

Requirements for the minor in Equestrian Studies

Required Courses

PE 286	The Theory and Art of Equitation	4
PE 287	Equine Science	4
PE 288	Methods of Teaching English Riding	4
PE 289	Combined Training	4
Total credit hours		**16**

Physics

The physics major is for students who enjoy investigating the world around them by applying quantitative methods and fundamental physical principles. Appropriate preparation includes, if possible, high school physics and four years of high school mathematics. The major is an intensive and individualized program in both theoretical and experimental physics, designed to give each student sound preparation for continuing exploration of pure or applied physics in either industry or graduate school.

To ensure maximum flexibility in meeting student goals, four concentrations have been devised, well-suited to the mix of experiences available at Alfred University. All four make use of the core of courses outlined below but differ in the course choices in the physics electives portion of the major. While allowing students to concentrate in one area of physics, this plan makes it easier for them to complete a major in physics while also majoring in one of several engineering curricula.

Concentrations are as follows:
General Physics – The concentration that allows maximum breadth in students' physics preparation.
Astrophysics – This concentration makes use of the University's considerable astronomy resources through the Stull Observatory and our astronomy minor program.
Solid State Physics – A concentration taking advantage of the materials-related offerings of the School of Ceramic Engineering and Materials Science in the NYS College of Ceramics at Alfred University. Students interested in earning two degrees: a BA in Physics and a BS in Materials Science and Engineering will find this option most attractive. (See special requirements for "Double Degree" on p. 69.)
Mechanical Systems – This concentration includes the offerings in fluid mechanics, thermodynamics, heat transfer, and vibrating systems of Alfred's Mechanical Engineering program. It is particularly appropriate for students seeking two degrees: a BA in physics and a BS in Mechanical Engineering. (See special requirements for "Double Degree" on p. 69.)

In addition to these concentrations, we encourage students interested in other physics-related disciplines to discuss the possibilities of combining those interests with our major program.

Core Requirements for the major

First and Second Years:

PHY 125	Physics I	4
PHY 126	Physics II	4
PHY 225	Elementary Optics	2
PHY 226	Elementary Modern Physics	2

Third and Fourth years:

PHY 341	Advanced Physics Laboratory	2
PHY 401	Quantum Physics	4
PHY 421	Statistical and Thermal Physics	4
PHY 423	Advanced Mechanics	4
PHY 424	Advanced Electricity and Magnetism	4

Plus a minimum of eight credit hours from one of the four concentrations:

General Physics concentration – 8 credits from among:

PHY 342	Advanced Physics Laboratory	2
PHY 495	ARGUS Project	3-6

Any of the courses outlined in the other concentrations, with no more than four credits from any one concentration.

Astrophysics concentration – 8 credits from among:

AST 302	Planetary Science	2
AST 303	Stellar Astronomy	3
AST 304	Galactic Astronomy and Cosmology	4
AST 307	Observational Astronomy	2

Solid State Physics concentration – 8 credits from among:

CES 309	Properties of Ceramics II	3
CES 348	Atomic and Molecular Characterization	4
CES 424	Optical Properties of Glasses and Ceramics	3
CES 477	Elementary Spectroscopy	4
CES 541	Solid State Physics I	3
CES 542	Solid State Physics II	3

Mechanical Systems concentration – 8 credits from among:

MED 312	Fluid Mechanics	3
MED 391	Thermodynamics II	3
MED 425	Advanced Fluid Mechanics	3
MED 432	Advanced Heat Transfer	3
MED 440	Mechanical Vibrations	3

Total credit hours **38**

Requirements for the minor

Physics courses: PHY 125 Physics I, PHY 126 Physics II, PHY 225 Elementary Optics, PHY 226 Elementary Modern Physics and 8 hours of 300 and/or 400 level courses in physics(4 hours may be taken in astronomy).

Note: Since 300 and 400 level physics courses are only offered in alternate years, careful scheduling is necessary. PHY 125, PHY 126, PHY 225 and PHY 226 should be completed by the end of the sophomore year.

Political Science

The Political Science major attracts students who want to achieve a basic understanding of political processes. Courses in other disciplines can be chosen to complement an individual's particular orientation as a Political Science major. In addition to providing preparation for graduate study, this program is useful background for those intending to enter government service, legal study, business, teaching, or journalism.

The minor requirements are structured to give students a general understanding of the discipline, allowing enough flexibility for them to meet particular needs and interests.

Requirements for the major

POL 110	Introduction to American Politics	4
POL 220	Political Analysis	2
POL 230	Introduction to Data Analysis	3

One course in three of the following four groups:

Political Processes and Political Behavior

POL 331	Political Parties	4
POL 313	State and Local Government	4
POL 411	Public Administration	4

Political Thought:

POL 341	Modern Political Theory	4

Comparative Politics:

POL 251	Western Europe Politics	4
POL 252	Asian Politics	4

POL 261	Political Development in the Third World	4
POL 282	Latin American Politics	4

International Politics:		
POL 271	World Politics	4
POL 272	War and Peace	4
plus 14 additional credit hours in Political Science.		
Total credit hours		**35**

Requirements for the minor in Political Science

POL 110	Introduction to American Politics	4
POL 220	Political Analysis	2
POL 271	World Politics	4
plus ten additional hours in Political Science		
Total credit hours		**20**

Requirements for the minor in Public Law

POL 110	Introduction to American Politics	4
POL 232	Judicial Processes	2
POL 316	Constitutional Law	4
POL 417	Civil Liberties	2
plus one course from the following:		
SOC 345	Crime and Delinquency (Prerequisite SOC 110)	4
POL 233	Legislative Processes	2
POL 315	Environmental Law	2
Total credit hours		**14-16**
(plus four prerequisite credit hours if the student chooses SOC 345)		

Psychology

The psychology program allows majors and minors to pursue their educational and career goals, and also provides essential courses about human behavior for those students majoring in other fields. A wide variety of courses stressing the scientific and applied nature of the field is offered every semester. Opportunities for hands-on experience in practicum, research, and independent study courses are readily available.

The student who decides to major in Psychology has five program options:

The General Psychology Option encourages breadth of study and allows flexibility in course selection. For students who wish to have a comprehensive exposure to the discipline, it provides a general knowledge of human behavior and psychological functioning that is useful in many types of careers.

The Clinical/Counseling Psychology Option is for students who wish to have a career in the human services. This option offers basic counseling and clinical theory, supervised applied skills training and internship experience and prepares students for employment with various agencies or for graduate study.

The Experimental Psychology Option emphasizes the scientific aspects of psychology, including theory, research methodology, statistical and laboratory skills. The program prepares students for Ph.D. study, and/or careers in primary or applied research (e.g., government or industrial research labs).

The Business/Industry Option is for students interested in careers where psychology and business intersect. Such fields include advertising, marketing, personnel management, and human factors engineering. The program prepares students for graduate study or careers in business and industry.

The Child Psychology Option is for students interested in the social and cognitive development of children from infancy through adolescence. The program includes a supervised experience working with children, either conducting research or applying counseling skills. This option prepares students for graduate study or employment in child-related fields.

Requirements for the major

Option 1: General Psychology

Required courses:		
PSY 100	Introduction to Psychology	4
PSY 270	Psychological Methods and Statistics	4
PSY 391	Neuropsychology	4
PSY 470	Senior Seminar	2
One course from the following:		
PSY 313	Cognitive Processes	4
PSY 315	Sensation and Perception	4
PSY 350	Principles of Learning & Behavior Modification	4
Two courses from the following (limit – one Developmental course):		
PSY 265	Social Development	4
PSY 280	Social Psychology	4
PSY 300	Adult Development and Aging	4
PSY 365	Cognitive Development	4
PSY 382	Theories of Personality	4
plus electives in Psychology to equal a total of 36 credit hours		
Total credit hours		**36**

Option 2: Clinical/Counseling Psychology

Required courses:		
PSY 100	Introduction to Psychology	4
PSY 270	Psychological Methods and Statistics	4
PSY 310	Communication and Counseling Skills	2
PSY 382	Theories of Personality	4
PSY 385	Abnormal Psychology	4
PSY 391	Neuropsychology	4
PSY 470	Senior Seminar	2
PSY 495	Clinical Procedures	4
PSY 496	Clinical Practicum	4
One course from the following:		
PSY 265	Social Development	4
PSY 300	Adult Development and Aging	4
PSY 365	Cognitive Development	4
One course from the following:		
PSY 313	Cognitive Processes	4
PSY 315	Sensation and Perception	4
PSY 350	Principles of Learning and Behavior Modification	4
Total credit hours		**40**

Option 3: Scientific Experimental Psychology

Required Courses:

PSY 100	Introduction to Psychology	4
PSY 270	Psychological Methods and Statistics	4
PSY 312	Psychological Research and Design	4
PSY 391	Neuropsychology	4
PSY 470	Senior Seminar	2
Two courses from the following:		
PSY 313	Cognitive Processes	4
PSY 315	Sensation and Perception	4
PSY 350	Principles of Learning and Behavior Modification	4
Two courses from the following (limited to one Developmental course)		
PSY 265	Social Development	4
PSY 280	Social Psychology	4
PSY 300	Adult Development and Aging	4
PSY 365	Cognitive Development	4
PSY 382	Theories of Personality	4
Six credit hours from the following:		
PSY 340	Research Techniques	2-4
PSY 450	Independent Study	2-6
Total credit hours		**40**

Option 4: Business/Industry

Required Courses:

PSY 100	Introduction to Psychology	4
PSY 270	Psychological Methods & Statistics	4
PSY 280	Social Psychology	4
PSY 302	Psychological Measurement	4
PSY 310	Communication and Counseling Skills	2
PSY 391	Neuropsychology	4
PSY 414	Industrial/Organizational Psychology	4
PSY 470	Senior Seminar	2
One course from the following:		
PSY 265	Social Development	4
PSY 300	Adult Development and Aging	4
PSY 365	Cognitive Development	4
PSY 382	Theories of Personality	4
One course from the following:		
PSY 313	Cognitive Processes	4
PSY 315	Sensation & Perception	4
PSY 350	Learning and Behavior Modification	4
Related study: 9 hours from the following:		
HPM 200	The Health Care Delivery System	3
HPM 205	Public Health Concepts/Issues	3
MGT 328	Management & Organizational Behavior	3
*MGT 431	Organizational Theory	3
*MGT 472	Human Resources Management	3
*MKT 321	Marketing Principles and Management	3
*MKT 452	Marketing Research	3
*MKT 480	Consumer Behavior	3
*MKT 486	Promotional Strategies	3
*ED 520	Career Development & Planning	3
***Courses with prerequisites or requiring permission from instructor**		
Total credit hours		**44**

Option 5: Child Psychology

Required Courses:

PSY 100	Introduction to Psychology	4
PSY 265	Social Development	4
PSY 270	Psychological Methods and Statistics	4
PSY 301	Parenting Seminar	2
PSY 365	Cognitive Development	4
PSY 391	Neuropsychology	4
PSY 470	Senior Seminar	2
One course from the following:		
PSY 280	Social Psychology	4
PSY 382	Theories of Personality	4
One course from the following:		
PSY 313	Cognitive Processes	4
PSY 315	Sensation and Perception	4
PSY 350	Learning and Behavior Modification	4
One course from the following:		
PSY 380	Child Psychopathology	3
PSY 381	Child Interventions	3
Four credits from the following:		
PSY 375	Practicum	2-4
PSY 340	Research Techniques in Child Psychology	2-4
PSY 496	Clinical Practicum (at an appropriate site)	4
Total credit hours		**39**

Requirements for the minor

Required Core:

PSY 100	Introduction to Psychology	4
PSY 270	Psychological Methods and Statistics	4
Content Group I (one course)		
PSY 313	Cognitive Processes	4
PSY 315	Sensation and Perception	4
PSY 350	Principles of Learning & Behavior Modification	4
PSY 391	Neuropsychology	4
Content Group II (one course)		
PSY 265	Social Development	4
PSY 280	Social Psychology	4
PSY 300	Adult Development & Aging	4
PSY 365	Cognitive Development	4
PSY 382	Theories of Personality	4
PSY 385	Abnormal Psychology	4
Electives in Psychology (eight credits required)		
Total credit hours		**24***

***Note: eight hours must be at the 300 or 400 level**

Public Administration

The interdisciplinary public administration major presents students with a realistic understanding of what public administrators do, enables them to decide whether they are interested in pursuing a career in public service, and helps them develop some basic skills frequently used in entry level government jobs.

Understanding the policy-making process in areas of major national concern, such as energy, environment, and economic management is important for public administrators and citizens alike. Study opportunities in Washington D.C., Albany, and in local public agencies are an integral part of the program.

Requirements for the major

Core Course Requirements		
ACC 215	Financial Accounting I	3
ACC 216	Managerial Accounting	3
ECO 201	Introduction to Economics and Markets	4
ECO 202	Principles of Macroeconomics	3
POL 110	Introduction to American Politics	4
POL 212	American State Government	2
POL 411	Public Administration	4
POL 460	Internship in Public Administration	4
SOC 230	Intro to Data Analysis & Statistics	3
Additional Course Requirements		
Twelve credit hours from among the following courses:		
POL 312	Public Budgeting	2
POL 313	American Urban Politics	4
POL 414	Public Policy and the Elderly	4
ECO 465	Public Finance	3
SOC 352	Sociology of Organizations	4
MGT 328	Management and Organization Behavior	3
MGT 431	Organization Theory	3
MGT 472	Human Resources Management	3
Total credit hours		**42**

Religious Studies

The Religious Studies minor allows students to gain new intellectual perspectives on their own religions, those of other cultures, and the nature of religion in general. Courses in both the Eastern and Western traditions and in comparative topics explore the religious experience of various peoples by examining the many ways that men and women have expressed their fundamental intuitions about themselves and their universe. Studying religions helps students to discover more about themselves and about the complex international world.

The study of religions is inherently interdisciplinary and includes such matters as the philosophical ideas of Augustine and Nagarjuna; the moral values of Confucius, Gandhi, and Martin Luther King; religious communities such as the Buddhist sangha and the Rev. Jim Jones' Peoples Temple; artistic accomplishments such as the cathedral at Chartres and Tibetan mandalas; myths such as the Zuni creation account and the Mahabharata; and rituals such as the Jewish Passover and the Ghost Dance of the American Indian.

Because religious beliefs, rituals and values bear upon all aspects of human life, the study of religion complements majors in many areas, such as literature, history, philosophy, the arts, education, and the social sciences. The study of religion also contributes a great deal to careers in the humanities and social sciences, and also enhances career opportunities in such areas as education, journalism, communications, international affairs, business, social work, counseling, the health professions, and, of course, the religious professions.

Requirements for the minor in Religious Studies

The minor consists of 20 credit hours, distributed as follows:
One course in the Western religious traditions, one course in the non-Western religious traditions and 12 additional credits.

Students may substitute up to four elective credit hours in Philosophy, History, Anthropology, English, Psychology, or Sociology courses closely related to Religious Studies in content or methodology. Substitutions must be approved by the advisor.

Sociology

The sociological method makes possible the systematic comparison of data from varied types of groups, societies, cultures and institutions. In this effort the student of sociology endeavors to formulate generalizations about the nature and causes of human social behavior.

As vocational preparation, the study of sociology provides an understanding of interpersonal and intergroup relationships. Sociology majors at Alfred University go on to careers in such areas as social work, law, public health, business, and social research.

Requirements for the major

Core Area		
SOC 110	Introduction to Sociology	4
SOC 230	Introduction to Data Analysis and Statistics	3
SOC 420	Social Theory: A Survey	4
SOC 431	Research Design & Strategies	4
Electives		20
Total credit hours		**35**

The following Anthropology courses may be counted as electives toward the Sociology major:

AN 204	Language and Culture	2
AN 302	The Nacirema	2 or 4
AN 300	Africa and Africans	2 or 4
AN 303	Health and Culture	4
AN 307	Magic and Religion	4

Requirements for the minor in Social Science Research

SOC 110	Introduction to Sociology	4
SOC/POL 230	Introduction to Data Analysis & Statistics	3
SOC 431	Research Design & Strategies	4
SOC/POL 475	Data Analysis Lab	4
Electives		
Select 6 credit hours from among the following:		
SOC 250	Practicing Sociology	2
POL 220	Political Analysis	4
POL 333	Public Opinion	2
SOC 460	Special topics (with permission of minor advisor)	2-4
Total credit hours		**21**

Requirements for the minor in Sociology

SOC 110	Introduction to Sociology	4
SOC 420	Social Theory: A Survey	4
SOC 431	Research Design and Strategies	4
Plus eight additional credit hours		8
Total credit hours		**20**

Violence Studies

The interdisciplinary minor in Violence Studies offers students the opportunity to focus critically on one of the most important and complex issues of social life. Through varied disciplines and courses, students examine the nature of violence at personal and societal levels, in the United States and abroad, in modern industrial societies and in preliterate societies, in the past and the present.

Requirements for the minor

Required courses:

AN 312	The Anthropology of Violence	2-4
PSY 120	Nonviolent Crisis Intervention	1

Elective courses:

Students must choose at least two courses from either the list of Humanities options or from the list of Social Science options and at least one from the other set of options. At least one of the electives should be at the 300 level or higher.

Humanities options:

EGL 207	The Vietnam War in American Literature	4
EGL 234	Crime on Film	4
EGL 290	War and Imagination	4
EGL 302	Greek Tragedy	2-4
EGL 312	Shakespeare's Tragedies	4
HSH 301	America in War During the 20th Century	4
HSH 302	The Vietnam War	4
HSH 303	The Civil War Era, 1830-1877	4
HSH 322	Modern Europe II Nationalism and Imperialism	4
HSH 330	Modern Germany	4
HSH 343	World War I	2
HSH 345	The Russian Revolution	2
HSH 346	History of European Fascism	2
HSH 347	World War II	4
HSH 395	Crime, Law and Society in American History	2

Social Science options:

CJS 322	Juvenile Justice	2
CJS 332	Focusing on Police	2
CJS 340	Concepts of Penology	4
CJS 517	Social Control, Corrections and Rehabilitation	3
POL 272	War and Peace	4
POL 463	Revolutions	2-4
SOC 344	Deviance and Society	4
SOC 345	Crime and Delinquency	4

Supporting activities:

In consultation with the minor advisor, appropriate internships or activities may contribute toward the Violence Studies minor.

Total credit hours required **17**

Women's Studies

The interdisciplinary Women's Studies minor examines scholarship and research relating to women and to their special contributions.

The objectives of the minor are to provide a theoretical and practical structure within which to study issues of concern for women; to promote an understanding of the historical and biosocial contexts which shape our awareness of womanhood; and to encourage independent reading and study.

The Women's Studies minor is supportive of various majors. Students are invited to complete a minor in Women's Studies or to select courses of particular interest. All program courses can be used as electives and many count toward a major in traditional disciplines. Participating faculty are drawn from throughout the entire university.

Requirements for the minor

Required Core		
WST 105	Women in Society	4
WST 450	Independent Study	2
Elective Courses		
Choose 12 or more credits from at least two groups (I,II,III,IV)		
I: Humanities		
English		
WST 206	Poetry Workshop	2
WST 218	Autobiography	2-4
WST 254	Women Writers	2-4
WST 256	Multicultural Literature	2-4
WST 308	Women Writers of the Middle Ages	4
WST 372	Feminist Poetics	4
WST 381	International Women Writers	4
History		
WST 324	Gay American History	4
WST 361	American Women: History and Herstory	4
WST 413	Women in the Ancient World	4
WST 414	Women in Medieval and Early Modern Europe	4
Philosophy		
WST 380	Women, Knowledge, and Reality	2-4
II: Social Sciences		
Sociology		
WST 253	Social Welfare Institutions	2
WST 346	Sociology of Sex and Gender	4
WST 348	Sociology of Families	4
Psychology		
WST 305	Psychology of Women	4
III: Fine and Performing Arts		
Fine Arts		
WST 377	Women in Art	4
Performing Arts		
WST 205	Women in American Theatre	2
IV: Women's Studies		
WST 255	Issues in Women's Health Across the Lifespan	2
WST 450	Independent Study	1-4
WST 490	Internship	1-4

Pre-Professional Studies: Law and Health-related Professions

These pre-professional advising programs are for students who wish to prepare for studying law or medicine, dentistry, veterinary medicine and other health-related professions. The program does not constitute a major. Participants major in an academic discipline of their choice. While most students choose to major in Chemistry or Biology for the pre-health program and in the humanities or the social sciences for the pre-law program, majors in academic areas as diverse as art, engineering, business and any of the liberal arts disciplines are possible.

Pre-health students should work with their primary academic advisor in consultation with a health-related professions advisor from the very beginning of the freshman year since it takes careful planning to see that both major and pre-professional requirements are completed on schedule. Students should give serious consideration to selecting a major as early as possible and be prepared to file a major program plan of study by the end of the sophomore year.

Pre-law students do not follow a prescribed curriculum but should work with their major advisor in consultation with a pre-law advisor during the sophomore year.

Courses With Multicultural Content

The courses with substantial amounts of multicultural content fall into two groups:
1. courses primarily devoted to an in-depth study of a particular culture, using classical texts from those traditions and from scholarly commentaries, and
2. courses incorporating material from several non-Western cultures in a comparative study of a particular subject

Group I Courses:

AN 300	Africa and Africans
AN 312	Anthropology of Violence
EGL 382	African-American Literature
EGL 383	Harlem Renaissance
HSH 324	Gay American History (cross-listed as WST 324)
HSH 336	Modern China
HSH 337	History of Modern Japan
HSH 359	History of Chinese Thought (cross-listed as HSP and HSR 359)
HSH 386	History of American Slavery
HSH 392	History of Latin America
MLF 242	Paris: History, Art and Culture
MLF 307	Contemporary French Culture
MLF 402	French-speaking Africa
MLJ 101-202	Japanese Language sequence
MLS 312	Spanish American Culture and Literature I
MLS 313	Spanish American Culture and Literature II
MLS 400	Latinos /as in the United States
MLS 404	Readings in Modern Spanish American Literature
MLS 480	Topics in Hispanic Literature
HSP 359	History of Chinese Thought (cross-listed as HSH and HSR 359)
POL 252	Asian Politics
POL 262	African Politics
POL 282	Latin American Politics
HSR 105	Introduction to World Religions
HSR 252	Judaism and Islam
HSR 253	Hebrew Religious Tradition
HSR 359	History of Chinese Thought (cross-listed as HSH and HSP 359)
HSR 369	Buddhism
HSR 374	Myth, Yoga, and Philosophy of India
SOC 343	Race and Ethnicity
WST 324	Gay American History (cross-listed as HSH 324)

Group 2 Courses:

AN 200	Cultural Anthropology
AN 205	Introduction to Archeology
AN 302	The Nacirema
AN 303	Health and Culture
AN 304	Language and Culture
AN 305	Culture, Ecology and Disease
AN 307	Magic and Religion
AN 460	Special Problems in Anthropology
EGL 212	The Novel
EGL 254	Women Writers (cross-listed as WST 254)
EGL 256	Multicultural Literature
EGL 336	Literature of the Modern South

EGL 381	International Women Writers (cross-listed as WST 381)
ENS 103	Principles of Geography
ENS 308	International Environmental Issues
ENS 345	Global Ecopolitics (cross-listed as POL 345)
HSH 103	World Civilizations I
HSH 104	World Civilizations II
HSH 212	American History II
HSH 215	Medieval Culture
HSH 367	Prosperity and Depression: America 1919-1941
HSH 369	Europe and the Americas 1450-1750
HSH 422	The South in American History
HSH 468	History of American Education
MLF 480	Topics in French
POL 292	Special Topics in Political Science
POL 342	The Modern World-System
POL 345	Global Ecopolitics (cross-listed as ENS 345)
POL 261	Political Development in the Third World
POL 417	American Civil Liberties
PSY 280	Social Psychology
PSY 305	Psychology of Women (cross-listed as WST 305)
HSR 305	Comparative Mythology
HSR 307	Myth, Ritual, and the Creative Process
HSR 308	Artists, Shaman, and Cosmology
SOC 110	Introduction to Sociology
SOC 254	Class, Status, and Power
THR 250	Women in American Theatre (Cross-listed as WST 250)
SOC 346	Sociology of Sex and Gender (cross-listed as WST 346)
WST 105	Women in Society
WST 250	Women in American Theatre (cross-listed as THR 250)
WST 254	Women Writers (cross-listed as EGL 254)
WST 305	Psychology of Women (cross-listed as PSY 305)
WST 346	Sociology of Sex and Gender (cross-listed as SOC 346)
WST 380	Women, Knowledge, and Reality (cross-listed as HSP 380)
WST 381	International Women Writers (cross-listed as EGL 381)
WST 387	Women in Art (cross-listed as ARH 387)

Courses with multi-cultural content in the School of Art and Design:

ARH 321/322	African Art
ARH 374/574	History of World Ceramics
ARH 387	Women in Art (cross-listed as WST 387)
ARH 424	Pre-Columbian Art

Courses with multi-cultural content in the College of Business

BUS 349	Entrepreneurship in the 21st Century
BUS 457	International Business
ECO 412	International Economics
FIN 458	International Financial Marketing
MKT 490	International Marketing

New York State College of Ceramics

The College

The New York State College of Ceramics, a state supported unit of the State University of New York and a college of Alfred University, was established by an act of the New York State Legislature in 1900 for the purpose of advancing both the art and science of ceramics. Two internationally known programs have evolved from these beginnings: materials science and engineering and the full spectrum of visual fine arts. The College is organized into the **School of Ceramic Engineering and Materials Science** and the **School of Art and Design**. The programs are supported by the **Scholes Library of Ceramics**, the **Schein-Joseph International Museum of Ceramic Art**, and the **Department of Statutory Administration** comprising the administrative units necessitated by the College's affiliation with the State University of New York.

Enrollment has increased from 17 in 1900 under the tutelage of Charles Binns, an English potter and visionary, to a student body of nearly 800 full time undergraduate and graduate students in the 2000-01 school year taught by more than 50 faculty members. The undergraduates currently enrolled come from all regions of New York State (57 New York counties), 33 other states and 9 foreign countries. In the fall of 2000, 90 graduate students from 11 countries and the United States were enrolled in the College’s masters or doctoral degree programs. Many international agreements are in place, making it possible for both faculty and students to experience different perspectives on art and science.

The College's academic programs lead to the B.S. degree in Ceramic Engineering, Glass Engineering Science, or Materials Science and Engineering; the B.F.A. with numerous concentrations in art and design; the M.S. in Biomedical Materials Engineering Science, Ceramic Engineering, Glass Science, or Materials Science and Engineering; the M.F.A. in Ceramic Art (through the Divisions of Ceramic Art and Three-Dimensional Studies) or Electronic Integrated Arts; and the Ph.D. in Ceramics or Glass Science. Specific degree requirements are outlined on the following pages.

Buildings and Equipment

Students in the fine art, engineering and materials science programs have access to an incredible array of facilities. The College occupies a number of buildings on the Alfred University campus, including Charles Harder Hall, Binns-Merrill Hall, the Hall of Glass Science & Engineering, McMahon Engineering Building and Scholes Library.

Harder Hall contains many of the studios and labs for the School of Art and Design, including ceramics, sculpture, wood design, printmaking, photography, graphic design, electronic imaging, video, drawing and painting facilities, and art history lecture and seminar spaces. The building's central courtyard surrounds an impressive kiln room, containing both gas- and electric-fired kilns; the ceramic studios and glaze labs are in close proximity. Gallery space is available for faculty and student shows, as well as for a wide range of special exhibitions.

The School of Ceramic Engineering and Materials Science is housed mainly in the three-story John F. McMahon Engineering Building which provides approximately 56,000 square feet of space for laboratories, classrooms and offices. Students are able to gain invaluable hands-on experience with high-tech and traditional processing and characterization equipment, starting in the freshman year with engineering communications and processing courses.

Newly renovated Binns-Merrill Hall houses activities and faculty from both academic programs, including laboratories for processing and testing ceramic and glass products, X-ray and microscopy, research and development, as well as lecture and seminar rooms. Drawing, neon, hot glass and sculpture studios, and administrative offices are also located in Binns-Merrill. The Hall of Glass Science & Engineering houses laboratories and faculty offices supporting the glass engineering programs.

The Scholes Library is a significant resource in the areas of ceramic engineering and art; its print and non-print resources are more fully described on p. 60. The Schein-Joseph International Museum of Ceramic Art at Alfred is housed in temporary quarters on campus as plans proceed for a new building, now in the design stage.

The College is equipped with the finest and most complete facilities for ceramic and glass engineering and visual fine art education in the world. Undergraduates have access to engineering laboratories that are equipped with apparatus and machinery needed for raw material processing, glass making, batch mixing, batch preparation, spectroscopy, electron microscopy, SIMS, X-ray, and mass spectrometry. The machine shop and physical plant department provide valuable support services for the College's teaching and research programs.

School of Art and Design

The following concentrations are available:

Ceramics
Electronic Integrated Arts
Graphic Design
Two-Dimensional Study
Three-Dimensional Study

Students may also pursue a minor in art history, obtain K-12 certification in art education, or select from a core of psychology classes to prepare for graduate study in art therapy. Elective credits may also be applied toward the study of other academic areas offered by Alfred University.

The School of Art and Design offers two professional degrees, the Bachelor of Fine Arts and the Master of Fine Arts. The BFA degree programs have two main objectives: 1) to help students develop the commitment and skills necessary to pursue a professional career in art and 2) to prepare students for graduate study in various art programs offered by graduate schools throughout the United States and abroad.

Freshman Foundation

Foundation comprises the freshman studio experience. It is designed to be a thorough preparation for study at the upper levels of the BFA curriculum. The Foundation program enjoys a rich history, which has been influenced by institutions as varied as the Bauhaus and Black Mountain College. Foundation offers an integrated approach to exploring concepts and building skills pertinent to contemporary art practice in any field. Team Teaching and larger group dynamics foster a unique environment where students work with faculty from various disciplines while realizing the capacity to collaborate, gain appreciation for the ideas of others, and develop a critical voice.

Fall Semester, the class is divided into two groups of approximately 65 students each who spend two days a week developing drawing skills from traditional subject matter and two days exploring 2-D and 3-D projects. These projects incorporate a variety of materials with a focus toward creative problem solving. The Freshman year strongly emphasizes group discussion and critique in both the drawing and studio components.

Wednesdays are devoted to Freshman Seminar – the form and content of which changes weekly in response to ideas being presented and discussed. Activities may include watching films or videos, visiting artist presentations, concerts, or discussion of current art issues.

In addition to studio courses Fall Semester, students also study English Composition and Western Civilization – an introductory world history course.

Spring Semester of Freshman Foundation is comprised of four individual workshops where 20 to 25 students work with one to two faculty for a period of six weeks. The content of these workshops varies according to the needs of the program. Recent offerings have included Shadow and Light, Building Strategies, Consequence, and Color and Form. During this semester, in addition to the second half of Western Civilization, students also study the changing role of art over time. The first of Foundation to Art History courses surveys ancient times through the Middle Ages. By learning about artists' lives and the cultural contexts in which they worked, students gain a better understanding of the context in which their own art may be made and viewed.

Sophomore Year

Following Freshman Foundation, sophomores begin to design their own course of study. Students may select two studios per semester in which to work. Individual work spaces are available in most studios from the sophomore level on. Possible studio selections may include: ceramics, electronic strategies, glass, graphic design, metal, painting, photography, paper studies, printmaking, robotics, video and sonic arts, web media, and wood.

At this level, the focus is on acquainting students with various technical, craft, and aesthetic issues specific to various disciplines. Each class meets for two half-days per week.

Sophomores are also required to take one semester of drawing in addition to the second half of Foundation in Art History (Fall) and Contemporary Issues and Debates (Spring). Issues and Debates introduces students to critical theory and current issues in art. The course features lectures, guest presentations, and open discussion.

Junior Year

The School of Art and Design offers concentrations as opposed to major areas of study. Concentrations allow students more latitude to define and redefine their interests and creative abilities. By the end of the junior year, students' work should naturally become more focused. Incorporating acquired conceptual and technical skills, students at this level are able to bring a personal vision to their artmaking.

The junior year is also the time to take advantage of study abroad opportunities and to gain valuable internship experience. Many options are available.

Senior Year
Seniors work independently in studio, meeting weekly with at least two faculty advisors. In addition to studio work, students participate in seminars conducted by visiting artists, group discussions, and critiques. Defining their own direction, seniors produce a consistent body of work, drawing on individual experiences and acquired skills. The momentum gained during the final year prepares students for the demands of professional studio activity. Graduating Art and Design students leave Alfred as accomplished technicians and highly motivated young artists and designers.

Senior Shows
The culmination of the senior year is the senior thesis exhibition. During the final two weeks of the academic year, the studios and galleries of the school of Art and Design are transformed into quality exhibition space to display graduating seniors' best work. The opening of Senior Shows is one of celebration that includes parents as well as many other guests. Final reviews and faculty critiques take place for several days following the shows.

The Graduate Program
Three Master of Fine Arts programs are offered at the School of Art and Design: Ceramic Art, Sculpture/Dimensional Studies, and Electronic Integrated Arts. All MFA students receive an assistantship.

Entry into these programs is highly competitive. Those interested in learning more about the individual programs should contact the School directly at (607) 871-2442 or e-mail whitelz@alfred.edu. Application materials may be obtained from the Graduate Admissions Office, One Saxon Drive, Alfred University, Alfred, NY 14802-1205.

Degree Requirements
Minimum requirements for a Bachelor of Fine Arts degree in Art and Design or Art Education are as follows:

Art and Design		**Art Education**	
Studio	72	Studio	68
Art History	17	Art History	17
Liberal Arts	25	Education	30
Free Electives	14	Liberal Arts	12
Physical Education	4*	Physical Education	4*
Total credit hours	**132**	**Total credit hours**	**131**

***Dance and certain coaching courses may be counted as electives. All other Physical Education courses may count ONLY toward the University Physical Education requirement.**

Freshman Foundation	**Semester 1**	**Semester 2**
Studios**	ART 101	ART 102
Art History		ARH 111
Liberal Arts	HSH 103	HSH 104
Liberal Arts	EGL 101 or 102	

Sophomore Year	**Semester 3**	**Semester 4**
Studios**	ART 200	ART 200
	ART 200	ART 200
Art History	ARH 112	ARH 211

Major Studies Program	Semester 5	Semester 6
Studios**	8 credit hours	8 credit hours
Liberal Arts/Art History	4 credit hours	4 credit hours
Electives	4 credit hours	4 credit hours

	Semester 7	Semester 8
Studios**	8 credit hours	8 credit hours
Liberal Arts/Art History	4 credit hours	
Electives	4 credit hours	8 credit hours

****Studio courses are assessed a fee for special materials. This fee may vary from $1.00 to $50.00 per credit hour.**

Minor in Art History

This minor provides a broad base of knowledge about art as it relates to history and culture, exposes students to a variety of theoretical and methodological issues and helps them develop critical and analytical skills that can be applied to art making.

The art history minor is available to BFA students who have successfully completed Art History Foundation required courses (ARH 111, ARH 112 and ARH 211). Sixteen additional credits in art history at the 300 and 400 level are required to complete the minor.

The art history minor, offered by the School of Art and Design, is also available through the College of Liberal Arts and Sciences. See p. 74.

School of Ceramic Engineering and Materials Science

Ceramic Engineering | **Glass Engineering Science** | **Materials Science and Engineering**

Introduction

The School of Ceramic Engineering and Materials Science offers Bachelor of Science degrees in Ceramic Engineering, Glass Engineering Science, and Materials Science and Engineering. These programs are accredited by the Accreditation Board of Engineering and Technology (ABET). The School also offers Master of Science degrees in Ceramic Engineering, Glass Science, Materials Science and Engineering, and Biomedical Materials Engineering Science, and Ph.D. degrees in Ceramics and Glass Science. The undergraduate degree programs are described in detail in the sections that follow. All faculty members in the School have doctoral degrees, and all are engaged in teaching and research. Much of the research in the School is funded by industry, which helps to keep faculty members and students aware of industrial needs in materials processing, development, and properties. Courses in the School are taught by faculty members, who often bring recent research results or examples from industry into their classroom teaching. Undergraduate students have opportunities to participate in research programs in the School and/or to participate in co-operative education or internship programs that have developed out of faculty contacts with industry. These and other ways for students to bring flexibility and diversity to their undergraduate education are discussed below.

Mission Statement

- to provide graduates of high quality;
- to provide academic programs that enable undergraduate students to develop a strong foundation in the science and engineering of ceramics, glasses, composites, and other engineering materials;
- to provide students with substantial instruction and hands-on laboratory activity in processing, characterization, and properties of ceramics, glasses, metals, and polymers, using modern instrumentation;
- to produce graduates who can participate effectively while working in teams, communicate effectively, and develop, evaluate, and design economically feasible solutions to problems using diverse knowledge bases, and
- to provide well-prepared graduates for ready employment and advancement in the materials industries and graduate studies.

Commonality and Diversity

The School of Ceramic Engineering and Materials Science offers three undergraduate degree programs: Ceramic Engineering, Glass Engineering Science, and Materials Science and Engineering. Each of these degree programs leads to a Bachelor of Science degree.

The heritage of the School lies in its programs in glass and ceramics. More ceramic engineers in the United States have graduated from Alfred University than from any other single program. We have used this glass and ceramic tradition to provide the solid foundation for our newest degree in Materials Science and Engineering. Nowhere else in the country will you find a Materials Science program with such a strong focus on glass and ceramics. We have a perspective on materials that is unique and that is powerful.

Some people think that Ceramic Engineering, Glass Engineering Science, or Materials Science and Engineering are narrow fields of engineering. That perception is far from the truth. Think about it. You can study glass, ceramics, metals, polymers, composites, and other combinations of materials. You can concentrate on mechanical properties, or on electrical, magnetic, or optical properties. You can focus on processing, on product design, on materials development, on materials characterization. You can investigate bulk materials, powders, thin films, coatings, fibers, whiskers, polycrystalline materials, single crystals, natural materials, and synthetic materials. You can use computer modeling to study the structure and behavior of materials or to predict their response to mechanical, thermal, or electrical loads. You can look at energy conservation, prevention of pollution, or recycling. These are not narrow fields, rather they are fields that are wide open to people with imagination.

Our programs are designed to have the first three semesters of study in common. That way, students have some time to learn more about the three degrees and to make an informed choice about which one will be the major. Most students decide on their major at the end of their freshman year, but the decision can be made as late as the end of the sophomore year. Students have the opportunity through technical electives to tailor their degree program to their specific interests. Many students choose to get a minor in another area, or earn a double degree. Details about the three degree programs offered by the School of Ceramic Engineering and Materials Science are in the following sections.

Cooperative Education (Co-op) and Internships

Undergraduate students have the opportunity to gain experience in a real engineering, research or manufacturing project at a company or national laboratory. Students in the co-op program commonly work during one of their junior semesters during which they receive 2 academic credits; the sponsor pays a salary and some expenses. Co-op work sites for students in our program are extensive and are distributed from Maine to California in companies big and small. Quality work experience is considered to be extremely valuable by employers hiring graduates for permanent positions. Over 70% of our students participate in a co-op or an internship (summer employment) in an engineering environment before graduating.

Study Abroad

Opportunities exist abroad for our students to study in their major without impeding progress toward the degree, at the following institutions.

- University of Erlangen-Nürnberg; University of Clausthal, Germany
- University of Parma; University of Modena, Italy
- Ecole Nationale Superieure de Ceramique Industrielle, Limoges, France
- University of Sheffield, England
- Kansai Gaidai University, Japan
- University Jaume I, Castellon, Spain

Students going to a non-English speaking country must complete language study through at least the first college year. An intensive language course abroad precedes study at the host institution. Knowledge of a foreign language and culture is considered quite valuable by employers operating in a global economy.

Program Summary

Freshman Year

Students begin their engineering studies on day one. The Freshman Foundation year provides study and experience in materials science, materials processing, engineering communications, calculus, chemistry, physics, a humanities elective and a seminar. The computer-based engineering communications course introduces the student to a variety of software, and supports each student in developing report preparation skills and research and communication on the World Wide Web. A Freshman Seminar supports the transition from high school into a collegiate program.

Sophomore Year

In the sophomore year, students continue with calculus and differential equations, physics, materials science, thermodynamics, microscopy, thermal processes, mechanics of materials, and humanities electives. Program differentiation begins with a required course in powder processing for students in ceramic engineering and glass engineering science. Students planning for Study Abroad in a non-English-speaking country should complete study through at least one college year of the language (language placement exams are given just before the beginning of classes each fall semester). Students planning for the minor in Biomedical Materials, pre-dentistry, or pre-medicine should begin their study of biology in the sophomore year (see below).

Junior Year

Concentration in the student's major occurs in the junior year. Core courses for all three programs include courses in the properties of solid materials, thermal analysis techniques, and determining structural arrangements of atoms in materials using x-ray diffraction and chemical spectroscopy. Required courses specific to the degree program are ceramic processing and electrical engineering in ceramic engineering; glass laboratory, industrial glass, and hot glass behavior in glass engineering science; and metals, polymers, and composites in materials science and engineering.

Senior Year

The senior year involves two semesters of research thesis that culminates in a formal poster presentation and a manuscript bound in Scholes Library. The capstone course involves working in a student team on a broad-based manufacturing. Oral reports and a team project report are requirements in the capstone course. Carefully selected technical electives and social science and humanity electives are a large component of the senior year.

Degree Requirements

Minimum requirements for the degree (Bachelor of Science) are indicated below:

Math	17
Chemistry	8
Physics	8
Materials and Engineering and Technical Electives	80
Humanities	20
Unrestricted	4
Total Credit Hours	**137**

Students attend a seminar each semester that provides a broadening of the educational experience. Each student must complete 137 credit hours and 4 credits of physical education. Humanities and social science courses must contain an historical and/or theoretical component (others may be taken for credit but do not fulfill the requirement). At least one humanities/social science course must be selected from three of the following areas:

1. Literature; Philosophy or Religion; 2. History; 3. Social Sciences; 4. Modern Language and Literature; 5. Art and Art History. A written communications requirement is satisfied by EGL 102 (Writing II) or a particular SAT or ACT test score (see advising form).

Ceramic Engineering

The Field

Ceramics are materials of basic living, of advanced technology, and of extreme environments. You encounter traditional ceramics every day of your life—dinnerware, bathroom fixtures, floor and wall tiles, cement and brick structures. You also encounter advanced ceramics every day, but often hidden from view—components in electronic devices (computers, CD players, cellular phones), sensors in automobiles, igniters in appliances. Finally, ceramics are often used in manufacturing other materials and products—refractories that contain molten metals, filters for molten materials, insulators for furnaces, cutting tools, abrasives, and wear-resistant components. In a nutshell, ceramics are some of the oldest and some of the newest materials we use. The field is small, but highly diverse, growing, and wide open for bright people with imagination. Many issues that impact energy conservation, recycling, and other environmental concerns can only be solved by the use of ceramics, including some that haven't been invented yet.

Careers in Ceramic Engineering

Ceramic engineering graduates have many career paths to choose from. Many become process engineers, ensuring that manufacturing operations run smoothly and developing improvements that enhance production efficiency and save energy. Others work in technical sales, explaining materials and products, and working with customers to achieve the best match between needs and products. Some are engaged in developing new materials and processes, or in testing materials and components. Of course, some choose to continue their education, achieving a Masters or Ph.D., and then going into research and/or teaching. Many ceramic engineering graduates, regardless of their initial path, achieve management positions (supervisors, plant managers, directors of research, etc.), and many end up owing their own companies. You can do a lot with a ceramic engineering degree; it's up to you.

CE Program Objectives

1) To produce students who are prepared to learn, work, and solve problems in Ceramic Engineering practice as either beginning (entry level) engineers in industry or as graduate students in a materials engineering program. 2) To have a course of study that provides the elements that are essential to a practicing Ceramic Engineer, namely: fabrication processing; materials characterization, properties and performance; materials selection and design; and, the mathematics and science that provide the theoretical foundation for successful ceramic engineering practice. 3) To emphasize effective communication-orally, in writing, graphically, and electronically-in both formal and informal presentation situations. 4) To provide instruction and practice in the rigors and demands of professional performance emphasizing engineering teamwork. 5) To ensure exposure throughout the curriculum to the ethics and responsibilities of Ceramic Engineering, including guidelines and examples of appropriate responses to ethical dilemmas. 6) To incorporate design and modeling processes as applied to ceramic systems, and provide meaningful opportunities for independent creative work that includes elements of design in the context of ceramic systems. 7) To encourage global awareness of contemporary social and political issues and how these relate to technology.

Ceramic Engineering Curriculum

The minimum requirements for the Bachelor of Science in Ceramic Engineering are:

Mathematics	17
Chemistry	8
Physics	8
Engineering courses, required	62
Engineering courses, elective	18
Humanities	20
Unrestricted electives	4
Total credit hours	**137**

Lower-Division Curriculum

Freshman Year

Semester 1

MAT 119	Calculus I	4
CH 105	General Chemistry I	4
CES 101	Materials Processing	3
CES 110	Materials Science I	3
CES 120	Engineering Communications I	3
Freshman Seminar		0
Total Credit Hours		**17**

Semester 2

PHY 125	Physics I	4
MAT 120	Calculus II	4
CH 106	General Chemistry II	4
CES 121	Engineering Communications	3
Humanities or Social Science		4
Freshman Seminar		0
Total Credit Hours		**19**

Sophomore Year

Semester 3

MAT 121	Calculus III	3
PHY 126	Physics II	4
CES 212	Materials Science II	3
CES 235	Thermodynamics of Materials	3
Humanities/Social Science or CES 205 – Powder Processing		3
Seminar		0
Total Credit Hours		**16**

Sophomore Year

Semester 4

MAT 322	Differential Equations	3
CES 205	Ceramic Powder Processing	3
CES 220	Mechanics of Materials	3
CES 241	Thermal Processes in Materials	3
CES 252	Microscopy	3
Humanities		3
Seminar		0
Total Credit Hours		**18**

Upper-Division Curriculum

Semester 5

MAT 312	Applied Statistics	3
CES 307	Thermal & Mechanical Properties	3
CES 336	Electrical Engineering	3
CES 342	Ceramic Processing Principles	3
CES 348/349	Spectroscopy/X-ray Characterization	2
Humanities		4
Seminar		0
Total Credit Hours		**18**

Semester 6

CES 302	Introduction to Glass Science	3
CES 305	Properties Laboratory	3
CES 309	Electrical, Optical & Magnetic Properties	3
CES 348	Spectroscopy	2
Technical Elective		3
Humanities		3
Seminar		0
Total Credit Hours		**17**

Semester 7

CES 461	Thesis	2
CES 474	Engineering Operations	4
Technical Elective-Engineering		3
Technical Elective		3
Technical Elective		3
Humanities/Unrestricted Elective		2
Seminar		0
Total Credit Hours		**17**

Semester 8

CES 462	Thesis II	2
Technical Elective-Engineering		3
Technical Elective		3
Technical Elective		3
Unrestricted elective		4
Seminar		0
Total Credit Hours		**15**

Glass Engineering Science

The Field

Glasses have been used for thousands of years--in drinking glasses, storage bottles, prized decorative objects, and jewelry. Glasses have these same uses today, but glasses are truly high-technology materials used in optical applications, as sophisticated windows that control light and heat, and in fiber optics that make high-speed, high-capacity voice and data communications possible. Glasses are essential components of many medical devices, such as X-ray tubes, endoscopes, and lasers. Advanced testing is being done on using small glass spheres, injected into the bloodstream, to carry radiation or chemotherapy agents directly to the liver to attack cancer in the liver. Most glass products are made from abundant raw materials, such as sand and soda, and glasses are recyclable. In fact, in some countries, glass containers are made using over 90% recycled glass. There are numerous opportunities for new applications for glass, the development of new glasses, and further efficiencies in glass manufacturing. You can't imagine life today without glass, and that will be even more the case in the future.

Careers in Glass Engineering Science

Glass engineering science graduates are highly sought after by the glass industry, and by companies that use glasses in processes or products. The Glass Engineering Science program in the School of Ceramic Engineering and Materials Science is unique. There simply isn't another program like it in the United States. Graduates can oversee glass production, work on developing new processes and products, test glass products, or work in technical sales. Many choose to continue their education, obtaining a Masters or Ph.D., preparing themselves for research or teaching at a college or university. With time, and the time may be very short, many will become managers or owners of their own companies. There is no "glass ceiling" with a Glass Engineering Science degree; the sky's the limit!

GES Program Objectives

1) To provide broadly educated engineers and scientists for the Glass Industry, related industries and Graduate Schools. This education should be both technical and non-technical, encompassing societal, ethical and environmental issues.

2) To provide a program with a specific emphasis on the vitreous state, from which could be obtained a fundamental understanding of these materials, their processing and manufacture, more so than would be obtained from a traditional Materials Science Curriculum. 3) To insure a good grounding in the fundamentals of applied math, science, engineering and the experimental method that will be needed to keep pace with the evolving technologies of the 21st Century. 4) To encourage a multi-disciplinary approach to problem solving, providing ample opportunities to work in teams and for opportunities for expression both orally and in the written word. 5) To encourage global awareness of contemporary social and political issues and to encourage students to become positive role models as leaders and mentors. 6) To ensure continuous opportunities to work with a Faculty who are collectively well versed in all aspects of the field of Glass Science and Engineering through classroom contact, laboratory research opportunities and Research Center activities.

Glass Engineering Science Curriculum

Minimum requirements for the Bachelor of Science in Glass Engineering Science are:

Mathematics	17
Chemistry	8
Physics	8
Engineering courses, required	64
Engineering courses, elective	16
Humanities	20
Unrestricted electives	4
Total credit hours	**137**

Lower-Division Curriculum

Freshman Year

Semester 1

MAT 119	Calculus I	4
CH 105	General Chemistry I	4
CES 101	Materials Processing	3
CES 110	Materials Science I	3
CES 120	Engineering Communications I	3
Freshman Seminar		0
Total Credit Hours		**17**

Semester 2

PHY 125	Physics I	4
MAT 120	Calculus II	4
CH 106	General Chemistry II	4
CES 121	Engineering Communications	3
Humanities or Social Science		4
Freshman Seminar		0
Total Credit Hours		**19**

Sophomore Year

Semester 3

MAT 121	Calculus III	3
PHY 126	Physics II	4
CES 212	Materials Science II	3
CES 235	Thermodynamics of Materials	3
Humanities/Social Science or CES 205 – Powder Processing		3
Seminar		0
Total Credit Hours		**16**

Sophomore Year

Semester 4

MAT 322	Differential Equations	3
CES 205	Ceramic Powder Processing	3
CES 220	Mechanics of Materials	3
CES 241	Thermal Processes in Materials	3
CES 252	Microscopy	3
Humanities		2
Seminar		0
Total Credit Hours		**16**

Upper-Division Curriculum

Semester 5

MAT 312	Applied Statistics	3
CES 302	Introduction to Glass Science	3
CES 348/349	Spectroscopy/X-ray Characterization	2
CES 307	Thermal and Mechanical Properties	3
CES 308	Glass Laboratory	2
Humanities		4
Seminar		0
Total Credit Hours		**17**

Semester 6

CES 305	Properties Laboratory	3
CES 309	Electrical, Magnetic, Optical Properties	3
CES 336	Electrical Engineering	3
CES 348/349	Spectroscopy/X-ray Diffraction	2
Technical Elective		3
Humanities		4
Seminar		0
Total Credit Hours		**18**

Semester 7

CES 430	Industrial Glass and Glass-Ceramics	3
CES 474	Engineering Operations	4
CES 461	Thesis I	2
Technical Elective		3
Technical Elective		3
Humanities		4
Seminar		0
Total Credit Hours		**19**

Semester 8

CES 304	Mass Transport in Glass and Melts	3
CES 462	Thesis II	2
Technical Elective – Glass		3
Technical Elective		4/3
Unrestricted Elective		4
Seminar		0
Total Credit Hours		**16/15**

Materials Science and Engineering

The Field

Many applications today require broad-based materials knowledge. For example, the pans in one line of gourmet cookware are pressure-cast aluminum with a permanent, non-stick, plasma-sprayed ceramic coating, fitted with polymer handles that are oven safe to 500 °F, and having glass lids. Each material must fulfill its role, but all must be compatible and function together. A materials engineer may specialize in a specific material class (ceramics, metals, polymers) or a specific area of materials science (electrical properties, mechanical properties, processing, testing, etc.), but should possess a broad background in materials science and engineering. Increased emphasis on cost, weight, and size reduction, while still improving product performance, creates challenges for monolithic materials, and opportunities for composites and other new materials. Miniaturization of components frequently is limited by the interactions of dissimilar materials at a microscopic scale. A materials engineer must be able to optimize the overall performance of complex systems involving several materials.

In many industries, several materials may be competing for the same market (e.g., polymer composites versus metallic aircraft structures, and ceramic versus metallic engine components). In these applications, a materials engineer must be able to make an unbiased decision in selecting the best material (or combination of materials), which requires a fundamental understanding of the properties and performance of each of the competing materials.

Careers in Materials Science and Engineering

The broad technical base of the Materials Science and Engineering degree prepares graduates for employment in a wide range of industries, including electronics, automotive, and aerospace, as well as for graduate school in engineering and science. Graduates of this program are particularly well suited to work for smaller companies that need materials engineers with a broad background, rather than people specialized in particular fields. Many companies involved in manufacturing require engineers with this broad materials background who can specify materials selection, oversee production, or maintain quality control.

In addition, independent testing and consulting companies must also be able to provide support for a wide range of customer needs. Engineering managers must be able to direct engineers and scientists with varied backgrounds. Both of these career options require the ability to communicate with different materials disciplines and to make sound engineering decisions based on knowledge from the different disciplines.

The B.S. in Materials Science and Engineering is a wonderful foundation. What you do to build on it is limited only by your imagination.

MSE Program Objectives

1) To provide a program that enables graduates to pursue careers in the materials industries, graduate studies in Materials Science and Engineering and related fields, and/or advanced studies leading to other professional careers such as medicine, dentistry, law, and business. 2) To provide graduates with a strong foundation in the fundamentals of science and engineering and opportunities to apply these principles to the four integrated aspects of materials systems (structure, processing, properties, and performance.)

3) To enable students to develop the ability to formulate and solve contemporary materials' design and selection problems using experimental, statistical, and computational methods. 4) To provide students with substantial hands-on laboratory experience in materials characterization, processing, fabrication, and properties measurement using modern equipment standard in industrial and research environments and with ample opportunities to analyze, interpret, and communicate experimental results. 5) To encourage students to participate in team activities which integrate social, financial, and the technical aspects of engineering and to provide a forum for students to communicate the outcomes of such activities. To emphasize effective communication--orally, in writing, graphically, and electronically, both formally and informally. To encourage students to develop the necessary interpersonal skills to work as a member of a team. 6) To encourage global awareness of contemporary social, ethical, and political issues and to encourage students to become positive role models as employees, coworkers, leaders, and mentors.

Materials Science and Engineering Curriculum

The minimum requirements for the Bachelor of Science in Materials Science and Engineering are:

Mathematics	17
Chemistry	8
Physics	8
Engineering courses, required	53
Engineering courses, elective	27
Humanities	20
Unrestricted electives	4
Total credit hours	**137**

Lower-Division Curriculum

Freshman Year

Semester 1

MAT 119	Calculus I	4
CH 105	General Chemistry I	4
CES 101	Materials Processing	3
CES 110	Materials Science I	3
CES 120	Engineering Communications I	3
Freshman Seminar		0
Total Credit Hours		**17**

Semester 2

PHY 125	Physics I	4
MAT 120	Calculus II	4
CH 106	General Chemistry II	4
CES 121	Engineering Communications	3
Humanities or Social Science		4
Freshman Seminar		0
Total Credit Hours		**19**

Sophomore Year

Semester 3

MAT 121	Calculus III	3
PHY 126	Physics II	4
CES 212	Materials Science II	3
CES 235	Thermodynamics of Materials	3
Humanities/Social Science or CES 252 – Microscopy		3
Seminar		0
Total Credit Hours		**16**

Sophomore Year

Semester 4

MAT 322	Differential Equations	3
CES 220	Mechanics of Materials	3
CES 241	Thermal Processes in Materials	3
Humanities		4
Humanities or Applied Statistics		4
Seminar		0
Total Credit Hours		**17**

Upper-Division Curriculum

Semester 5

MAT 312	Applied Statistics	3
CES 348/349	Spectroscopy/X-ray Characterization	2
CES 306	Polymers I	3
CES 307	Thermal & Mechanical Properties	3
CES 309	Electrical, Magnetic & Optical Properties	3
CES 332	Transport Properties	3
Seminar		0
Total Credit Hours		**17**

Semester 6

CES 348/349	Spectroscopy/X-ray Diffraction	2
CES 438	Metals I	3
CES	Technical Elective – Materials	3
CES	Technical Elective	3
CES	Technical Elective	3
Humanities		4
Seminar		0
Total Credit Hours		**18**

Semester 7

CES 474	Engineering Operations	4
CES 461	Thesis I	2
CES	Technical Elective – Materials	3
CES	Technical Elective	3
CES	Technical Elective	3
Humanities		2
Seminar		0
Total Credit Hours		**17**

Semester 8

CES 462	Thesis II	2
Technical Elective - Materials		3
Technical Elective		3
Technical Elective		3
Unrestricted Elective		4
Humanities		2
Seminar		0
Total Credit Hours		**17**

Minors for Students in CEMS Programs

Students enrolled in any of the School's undergraduate degree programs may take one of the following minors: Glass Science and Technology, Photonic and Optical Materials, Biomedical Materials. The requirements for these minors are given below.

Glass Science and Technology Minor

Required Courses (8 credits)

CES 302	Introduction to Glass Science	3
CES 308	Glass Laboratory	2
CES 430	Industrial Glass and Glass-Ceramics	3
Plus at least 6 credits from among the following:		
CES 304	Mass Transport in Glasses and Melts	3
CES 326*	Co-op in Glass	2
CES 418	Optical Glasses	3
CES 42y	Optical Spectra of Solids	2
CES 426	Advanced Glass Science	3
CES 450*	Independent Study in Glass	1-3
CES 461/462*	Senior Thesis in Glass	4
CES 487	Introduction to Photonics	3
Total credit hours		**14**

***with permission of instructor and minor advisor.**

Photonics Minor

Required Courses (8 credits)

CES 302	Introduction to Glass Science	3
CES 428	Fundamentals of Optical Behavior	2
CES 487	Introduction to Photonics	3
Plus at least 7 credits from among the following:		
CES 308	Glass Laboratory	2
CES 316	Electroceramics	3
CES 326*	Co-op in Opt. Matl./Photonics	2
CES 418	Optical Glasses	3
CES 42y	Optical Spectra of Solids	2
CES 450*	Independent Study in Optical Matl/Photonics	1-3
CES 461/462*	Senior Thesis in Optical Matl/Photonics	4
EED 330	Device Electronics	3
EED 440	Communications Systems Engineering	3
EED 444	Optical Fiber Communications Systems	3
EED 475	Image Processing	3
EED 490	Laser Theory and Applications	3
PHY 225	Elementary Optics	2
PHY 401	Quantum Physics	4
PHY 424	Advanced Electricity and Magnetism	4
Total credit hours		**15**

***with permission of instructor and minor advisor.**

Biomedical Materials Minor

Required courses (10 credit hours)		
BIO 252	Introduction to Cell Biology	4
CH 310	Basic Organic Chemistry	3
CES 486	Biomedical Materials	3
Plus at least four courses from the following (12-15 credit hours)		
CES 402	Polymer Characterization	3
CES 424	Optical Properties of Materials	3
CES 438	Introduction to Physical Metallurgy I	3
CES 464	Composite Design and Fabrication	3
BIO 372	Advanced Cell Biology	4
BIO 440	General Biochemistry	4
BIO 462	General Microbiology	4
BIO 482	Molecular Genetics	4
Total credit hours		**22-25**

Minors in Other Areas of Study

Minors in nearly every other area of study at the University are open to students in the School. Minors in mathematics, chemistry, and physics are very compatible with the three degree programs, since upper-level courses in these areas can be used as technical electives. A minor in Business is facilitated by allowing two courses required for the Business minor, MKT 321 and MGT 328, to count as technical electives. The Business minor can be used as the foundation for an MBA (see the section on MBA and Law Programs.)

Double Degrees

All students also have the option of obtaining two Bachelor degrees in two different units of the University. The minimum requirements for awarding two bachelor's degrees from two different University units to a student are successful completion of 148 semester hours, the general University graduation requirements, and the specific requirements for each degree. Students who wish to pursue double degrees should start as early as possible, and they need to have an academic advisor in each major.

Preparation for the Graduate Biomedical Materials Engineering Science Program

Our newest graduate offering is the Master of Science in Biomedical Materials Engineering Science. It is an interdisciplinary program with the Department of Biology at Alfred University with an emphasis on materials for biomedical applications. This program is open to students who have a B.S. in Biology or in Ceramic Engineering, Glass Engineering Science, or Materials Science and Engineering. Students in one of the School's degree programs who want to enter this graduate program should prepare for this by taking the minor in Biomedical Materials. Exceptional students who complete the minor in Biomedical Materials should be able to complete the MS in Biomedical Materials with one additional year of study at the graduate level.

Preparation for the Health Professions

An engineering education provides a strong background for continued study in the health professions. Interested students must choose electives wisely and maintain a high grade point average. Students must take biology (BIO 101 and 102) and organic chemistry (CH 315 and 316). An upper-level course in biology is recommended.

Medical schools are interested in students who are aware of current medical trends in our society and who have strong written, oral, and interpersonal skills. Students need to be able to articulate the origin of their interest in medicine and to demonstrate that interest through volunteer/internship experiences in health care facilities/settings. Interested students wanting more information about academic preparation and the application and admissions processes should consult with the Chair of the University Health Professions Advisory Committee.

Participation in Research

The School has more than $5 million of sponsored research annually. This research has a positive impact on the undergraduate programs in many ways, including by providing state-of-the-art equipment, by generating new knowledge that gets discussed in classes, and by maintaining contacts with industry. Also, many senior thesis projects are done in cooperation with companies or government laboratories. Opportunities for part-time work on funded research projects in the School are numerous. Many undergraduate students are hired for summer research positions in the School, and there are also opportunities for part-time work during the academic year.

MBA and Law Programs

Engineering graduates are well prepared for post-graduate study in an MBA or law program. Students in any of the School's undergraduate degree programs who complete the minor in Business also will have completed the foundation for the MBA at Alfred University. These students should be able to obtain an MBA at Alfred University in one year of graduate study. Engineering graduates also are well prepared for the study of law, including patent law.

The College

The College of Engineering and Professional Studies provides professional education at both undergraduate and graduate levels. The undergraduate units are the Division of Electrical Engineering, the Division of Mechanical Engineering and the Division of Athletic Training. The College offers graduate degrees in Electrical and Mechanical Engineering and School Psychology. These programs are marked by fine students, good facilities and a strong faculty dedicated to teaching, advising, creative activity and research as well as to professional service. (See current Graduate Catalog.)

The Mechanical and Electrical Engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (ABET) Upon graduating with a BS degree, students are eligible to take the Fundamentals of Engineering (FE) examination, the next step towards registration as a Professional Engineer. Having passed the FE examination, the remaining two steps are: 1) four years of relevant post-baccalaureate experience and 2) passing the Professional Engineering (Principles and Practices) examination.

A total of 16 credit hours in the humanities is required of all electrical engineering and mechanical engineering majors. In addition, basic competency courses in writing and communications must also be fulfilled. At least one course must be taken in three of the following areas:

- Literature, Philosophy, or Religion
- History
- Social Sciences
- Foreign Language and Culture

At least one advanced course must be taken in one of the areas selected.

Courses selected must provide breadth and depth rather than merely being unrelated introductory courses. Courses that involve performance must be accompanied by a substantial theory or history of the subject to receive credit as a Humanities or Social Sciences elective.

Division of Electrical Engineering

Electrical Engineering is the largest and most diverse field of engineering today. It deals with the practical application of electrical science and technology to the needs of society as well as to research in and development of new applications. Areas such as electronic information processing and communications, semiconducting devices, superconducting devices, computer systems, electronic instrumentation, power and machinery, control systems, and signal systems and analysis are covered. A minor in mathematics is easily obtained by Electrical Engineering students. A degree in Electrical Engineering, along with the professional engineer’s license, guarantees a wide variety of career options: industry, research, marketing, consulting, management, sales, teaching, graduate school, or government.

Program Objectives

- To prepare students for successful careers and lifelong learning
- To train students in analysis methods appropriate for use in problem solving
- To develop both oral and written communication skills
- To teach students to work collaboratively
- To teach students to use experimental and data analysis techniques
- To develop engineering design, simulation, and synthesis skills

- To teach students the importance of their professional and ethical responsibilities

Specializations

Electronic and Solid-State Circuitry

Microcircuitry is assisting the revolutions in information systems, instrumentation and controls, communications systems, and even automotive and consumer products. The microprocessor integrated circuit is altering operational methods in nearly all electrical engineering applications. Engineers who work in electronics design and development require knowledge of both electrical science and materials.

Communication Systems

Electrical engineers in this area may work in radio, television, telephone, or in satellite, microwave or fiber optics systems. This field requires knowledge of antennas, lasers, electromagnetic principles and electrical properties of materials.

Computers and Automatic Control

Modern computers process and control information. They are used for controlling the many production systems found in industrial plants and in data processing necessary in banks and other businesses. Computers provide career opportunities for large numbers of electrical engineers in design and development of both hardware and software.

Instrumentation and Measurement

Electrical engineers develop and use equipment that will detect and measure environmental parameters such as vibration, temperature, voltage, mass, and radiation. These areas require broad-based knowledge in electrical engineering and physics.

Power Generation, Transmission, Distribution and Use

The pervasive need for electrical energy for both industrial and private use guarantees job opportunities for electrical engineers who are concerned with all forms of power generation, transmission and distribution. Some electrical engineers may work on innovative energy conversion by solar, fuel cell, wind generation or other alternative sources.

High Temperature Superconductors

The emphasis is on the technology of optical and superconducting electronics for wide-band communication systems and information processing. Devices for optical electronics are analogous to those devices in common microelectronics, allowing for the switching, amplification and modulation of signals at optical frequencies. Similarly, switching devices in superconducting electronics allow for high-speed communications and logic systems. Immediate commercial applications in these areas are already available and expanding.

The Electrical Engineering Program

Special Features:

- coverage of mathematics, chemistry, physics and engineering basics
- coverage of electrical engineering (core) basics
- opportunity for specialization in individualized programs through technical electives in electrical, ceramic, or mechanical engineering; computer science, physics, or mathematics
- opportunity to obtain a minor in Business Administration and the platform for pursuit of the Master of Business Administration degree (MBA)

- individual selection of liberal arts courses through general education electives, including oral and written communications
- a cooperative education program which facilitates part-time employment in an electrical engineering-related industry
- a seminar each semester with technical or general interest topics presented by practicing engineers
- the use of alternate teaching strategies such as computer-aided instruction and the senior design project
- computer assignments in most electrical engineering courses
- opportunity to prepare for the professional engineering (NSPE) license
- possible membership in student professional organizations such as:
  The Institute for Electrical and Electronics Engineers
  The Society of Women Engineers
  The Association for Computing Machinery
  The National Society of Professional Engineers

Electrical Engineering Curriculum

Freshman Year

Semester 1

CH 105	Chemistry I	4
EED 100	Discoveries Laboratory	2
EGL	English	4
EGR 111	Introduction to Engineering	2
EGR 112	Computer Aided Design	2
EGR 171	Seminar I	0
MAT 119	Calculus I	4
Total credit hours		**18**

Semester 2

EGR 113	Introduction to Software Engineering	2
EGR 114	Computer Aided Design	2
EGR 172	Seminar II	0
MAT 120	Calculus II	4
PHY 125	Physics I	4
Humanities Elective		4
Total credit hours		**16**

Sophomore Year

Semester 3

EED 210	Digital Logic	4
EGR 271	Seminar III	0
EGR 260	Engineering Economy	3
MAT 121	Calculus III	3
PHY 126	Physics II	4
PE	Physical Education Activity Course	2
Total credit hours		**16**

Semester 4

EED 373	Microprocessor Systems	3
EGR 220	Circuit Theory I	4
EGR 272	Seminar IV	0
MAT 322	Differential Equations	3
PE	Physical Education Activity Course	2
Humanities Elective		4

Total credit hours	**16**

Junior Year

Semester 5

EED 320	Circuit Theory II	4
EED 330	Device Electronics	3
EED 315	Intro to Software Engineering	4
EGR 315	Engineering Statistics	3
EGR 371	Seminar V	0
EGR 291	Thermodynamics I	3
Total credit hours		**17**

Semester 6

EED 310	Signals and Systems	3
EED 390	Electronic Circuits	4
EED 495	Applied Complex Variables	3
EGR 372	Seminar VI	0
Humanities Elective		4
Total credit hours		**14**

Senior Year

Semester 7

EED 420	Engineering Design Methods	2
EED 482	Electric Machinery	3
EGR 471	Seminar VII	0
Technical Elective		3
Technical Elective		3
Technical Elective		3
Total credit hours		**14**

Semester 8

EED 421	Senior Design Project	4
EGR 212	Dynamics	3
EGR 472	Seminar VIII	0
Technical Elective		3
Technical Elective		3
Humanities Elective (advanced)		4
Total credit hours		**17**

The 4+1 BSEE/MBA Program

The Electrical Engineering Division, in cooperation with the College of Business, offers a program culminating in the Bachelor of Science in Electrical Engineering and the Master of Business Administration. The “4 + 1” program requires 31 credit hours of business courses at the undergraduate level to satisfy the College of Business MBA foundation requirements. Many of the total requirements can be substituted for courses required in electrical engineering, with the result that an engineering student only has to take an additional 15 credit hours of course work. The program allows a student to complete the BSEE in four years, and the MBA in one additional year. Please note that students choosing this option will also obtain an minor in Business Administration.

The Bio-Engineering Option

The Electrical Engineering Division, in cooperation with the Biology Division, offers a program culminating in a Bachelor of Science in Electrical Engineering with a concentration in Biology. The program requires 13 additional credit hours, for a total of 141.

The Computer Engineering Concentration Option

The Electrical Engineering Division, in cooperation with the Division of Mathematics and Computer Science, offers a program culminating in a Bachelor of Science in Electrical Engineering with a concentration in Computer Engineering. This option requires 8 additional credit hours, for a total of 134.

Technical Electives

Electrical Engineering students take a minimum of 15 credit hours of technical electives. These courses are chosen in consultation with the student's advisor to form an in-depth, coherent plan of study. A minimum of four hours of the required 18 must involve aspects of design.

Program Summary, Bachelor of Science Degree

English	4
Engineering Courses, required	63
Engineering Courses, electives	15
Humanities	16
Mathematics	14
Physics	8
Chemistry	4
Physical Education	4
Total credit hours	**128**

The Co-op Program

Pre-graduation employment in an engineering environment can be a vital part of undergraduate education. Students in the co-op program take two years to complete their junior year, spending approximately half-time in an approved work experience. Students are encouraged to participate in the co-op program, but it is not mandatory. They can earn credit for the co-op experience by registering for EED 325 and 326 (3 credit hours each).

Requirements for a Minor in Electrical Engineering

A minor in electrical engineering is accomplished by taking 16 hours from courses from EED 210 through EED 495 as listed on pp. 270-272, in addition to EED 220 or CES 336.

Laboratory Facilities

Circuits Laboratory

The circuits laboratory introduces students to fundamental DC and AC circuits including amplifiers, and to basic measurement procedures using ammeters voltmeters, ohmmeters frequency counters, function generators, oscilloscopes and a spectrum analyzer. Students use personal computers which link to an Internet server.

Digital Logic Laboratory

This laboratory introduces students to logic building blocks, digital logic circuits, multiplexor and demultiplexer circuit design, implementation of arbitrary truth tables, D and JK flip flops, designing and testing a counter, and designing and testing a shift register.

Microprocessor Systems Laboratory

The microprocessor systems laboratory introduces students to single board microcomputer systems, basic instructions, memory reference instructions, rotate and compare instructions, timing loops and counters, stacks and subroutines and interfacing experiments.

Electronic Circuits Laboratory

This laboratory introduces students to active circuit design. Includes the analysis and design of prototype circuits including single and multiple stage transistor amplifiers, operational amplifier circuits, linear bipolar and MOS circuits. Equipment is available for complete testing and operation as well as computer aided analysis and design.

Computer Laboratory

The IBM compatible personal computer laboratory is available for student use when not in use for course work. The software library has many general purpose and electrical engineering specific programs, Most of these are student versions of software used in industry. The University's mainframe VAX computer is also accessible.

Control and Communication Systems Laboratory

Students are introduced to the most frequently used control systems in industry, including position control, speed control, temperature control, and flow control; PI PD, and PID controller design; analog and digital communications. Includes AM and FM modulation, PAM, PCM, TDM and other digital signaling techniques.

Division of Mechanical Engineering

Mechanical engineering is the largest and most interesting field of engineering today. Together with other engineering professionals, they design all kinds of vehicles, machinery and equipment.

Mechanical Engineering education is an ideal background for professional entrance into industry, for developing one's own company, and for a variety of positions in \government agencies. Because undergraduate training is comprehensive, the mechanical engineer is in demand in many types of manufacturing, research and commercial organizations. He/she may be employed in the automotive, aerospace, electrical, chemical, solar, petroleum, plastics, or metal-processing industries. The work may involve one or several of the following: research and development, design and testing of products, equipment and systems, supervision of production, sales engineering, plant engineering, and administration. A bachelor's degree in Mechanical Engineering frequently precedes the study of law, business, or medicine, as well as graduate engineering studies.

In recent years, mechanical engineers work with others in newly developing technologies. Biomechanical engineers work with physicians to investigate the mechanics of the body and to design prostheses, implants, and other instruments and devices for medical purposes. Other mechanical engineers work closely with trainers and athletes todesign sports equipment. Certainly, most products and systems we deal with on a regular basis have been designed by the professional mechanical engineer.

The mission of the Mechanical Engineering Division is to provide a superior student-centered education within a small university environment. Our dedicated faculty place the highest value on the undergraduate teaching-learning process, while also being active in professional engineering societies and engaging in scholarly activities. Graduates of our program will understand the social and ethical implications of their engineering decisions, and be prepared to excel in the engineering profession.

Program Objectives

- To prepare students for lifelong learning
- To train students in analysis methods for use in problem solving
- To develop oral, written, and graphical communications skills
- To teach students to work collaboratively
- To teach students to use experimental and data analysis techniques
- To develop engineering design, simulation and synthesis skills
- To teach the importance of professional and ethical responsibilities

Mechanical Engineering Laboratories

The Mechanics of Materials Laboratory

This laboratory provides both general and special purpose equipment. Experiments are conducted which use a number of specialized laboratory test setups including deformation of cantilever and simply-supported beams, column deflection, stress distributions and stress concentration in beams, combined loading, impact loading, measurement of modulus of elasticity and Poisson's ratio, photoelastic stress analysis and brittle coating analysis. Lab instrumentation includes strain indicators with simulators and switch-and-balance units, storage scope with strain gage modules and computer interface, computer-interfaced height gage, weight scale, XY recorders, signal conditioners, and load cells. Data are collected for complete analysis using computers (PC's).

The Thermosciences Laboratory

This laboratory houses equipment for experiments in thermodynamics, fluid mechanics, and heat transfer. Rigs measure the thermodynamic performance of air conditioning systems and cooling towers. There are also test setups for investigating the solid body rotation of liquids, the performance of centrifugal pumps and fans and various characteristics of duct flows. Special test equipment is used to measure heat condition in solids, free and forced convection, radiation heat transfer and the performance of fins. A dynanometer for measuring engine performance is available. Instrumentation includes digital thermometers, signal conditioners, AD interfaces, psychomets, barometer, thermal anemometer, infrared radiometer, two channel function recorder with thermal module, matching network, thermal to AC converter, various manometers, pressure gauges, and pressure transducers. Data is analyzed using PC's and Lab Tech Notebook software.

The Engineering Vehicles Laboratory

This laboratory provides workspace for student projects such as the Mini Baja off-road vehicle. Available equipment includes welders, air compressor, drill press, band and chop saws, various hand tools and supplies.

The Computer Laboratory

This computing facility is shared by students enrolled in Mechanical Engineering and Electrical Engineering. It contains twenty-one up-to-date PC's and printers. Five of the computers are set up as work stations for high-level design in a unique Engineering Design Lab. Software includes Micro Cap Circuit, Microsoft Reference, Microsoft Visual C++, Office 2000, TK Solver, ABAQUS, ANSYS, Auto CAD, Mechanical Desktop, Microsoft Visual Basic, and MAT lab.

Bachelor of Science Degree Requirements

To graduate, students must complete 127 credit hours, in addition to the University's physical education requirement (up to 4 hours). They must also demonstrate written English competency. Depending on the student's SAT II Writing Subject Test, SAT Verbal, or ACT English score (whichever is available) up to eight credits of work may be waived in this area.

Mechanical Engineering Curriculum

Freshman Year

Semester I

CH 105	Chemistry I	4
EGL 101	Writing I*	4
EGR 111	Introduction to Engineering	2
EGR 112	Computer Aided Design	2
EGR 171	Seminar I	0
MAT 119	Calculus I	4
Total credit hours		**16**

Semester 2

CH 106	Chemistry II	4
EGR 113	Introduction to Software Engineering	2
EGR 114	Computer Aided Engineering	2
EGR 172	Seminar II	0
MAT 120	Calculus II	4
PHY 125	Physics I	4
Total credit hours		**16**

Sophomore Year

Semester 3

EGL 102	Writing II	4
EGR 271	Seminar III	0
MAT 121	Calculus III	3
MED 211	Statics	3
MED 233	Engineering Materials	3
PHY 126	Physics II	4
Total credit hours		**17**

Semester 4

COM 101	Introduction to Communication Studies	4
EGR 212	Dynamics	3
EGR 220	Circuit Theory I	4
EGR 272	Seminar IV	0
MAT 322	Differential Equations	3
MED 221	Mechanics of Materials	3
Total credit hours		**17**

Junior Year

Semester 5

EGR 260	Engineering Economy	3
EGR 291	Thermodynamics I	3
EGR 371	Seminar V	0
MED 312	Fluid Mechanics	3
MED 341	Kinematics & Dynamics of Machines	3
Humanities Elective		4
Total credit hours		**16**

Semester 6

EGR 372	Seminar VI	0
MAT 426	Advanced Engineering Math	4
MED 310	Heat Transfer	3
MED 344	Machine Design	3
MED 350	Mechanics of Materials Lab	2
MED 391	Thermodynamics II	3
Humanities Elective		4
Total credit hours		**19**

Senior Year

Semester 7

EGR 315	Engineering Statistics	3
EGR 471	Seminar VII	0
MED 330	Thermal Sciences Lab	2
MED 421	Senior Design I	3
MED	Elective	3
Humanities Elective		4
PE	Physical Education Activity Course	2
Total credit hours		**17**

Semester 8

EGR 472	Seminar VIII	0
MED 422	Senior Design II	3
MED 434	Manufacturing	3
MED	Elective	3
Humanities Elective		4
Technical Elective		3
PE	Physical Education Activity Course	2
Total credit hours		**18**

Summary of Requirements

Engineering Courses, Required	61
Engineering Courses, Elective	9
Humanities and Communication	23+(4)*
Mathematics, Science	34
Physical Education	(4)**
Total credit hours	**127 +(4)*+(4)****

The minimum cumulative grade point average for all engineering courses is 2.00. No engineering course with a grade of D+ or lower will count toward completion of degree requirements.

Transfer students must earn at least the last 30 credits hours at Alfred University.

*** See Writing Requirements**

**** See University Requirements**

The 4+1 BSME/MBA Option

The Mechanical Engineering Division, in cooperation with the College of Business, offers a program culminating in the Bachelor of Science in Mechanical Engineering and the Master of Business Administration. The "4+1" program requires 31 credit hours of business courses at the undergraduate level to satisfy the College of Business MBA foundation requirements. Many of the total requirements can be substituted for courses required in Mechanical Engineering, with the result that an engineering student has to take only an additional 12 credit hours of coursework. The program allows the student to complete the BSME in four years, and the MBA in one additional year. Students choosing this option will also obtain a minor in Business Administration.

The Manufacturing Option

The Mechanical Engineering Division offers a program culminating in a BSME with a concentration in manufacturing. This option is available for those considering advanced study and/or careers in manufacturing industries. Courses are selected from such areas as business, economics, and mechanical engineering. The BSME with a concentration in manufacturing may be completed in four years.

The Bioengineering Option

The Mechanical Engineering Division, in cooperation with the Biology Division, offers a program culminating in a BSME with a concentration in Biology. This option is available for those considering advanced study and/or careers in bioengineering or medicine. Courses are selected from such areas as biology and organic chemistry. Typically, an additional semester of coursework is required to complete all the requirements.

Division of Athletic Training

Students interested in applying for admission to Alfred University's Athletic Training Education Program are required to obtain a **minimum of 400 hours** observing in the athletic training room under the direct supervision of a certified athletic trainer (refer to p. 10 of the university catalog: Policy for Freshman Applicants to the University). The directed observation period will be a **minimum of two semesters**. The purpose of the directed observation period is to give prospective students an opportunity to observe the role and function of a certified athletic trainer in the management of health care problems associated with intercollegiate athletic participation. Students are given an opportunity to observe athletic trainers working in the following domains:

- prevention of athletic injuries
- recognition & immediate care of athletic injuries
- rehabilitation & reconditioning of athletic injuries
- health care administration
- professional development
- education and counseling

The emphasis in clinical directed observation is on the orientation and development of knowledge of the respective roles of Athletic Training personnel, and limited performance and/or direct application of technical skills and knowledge.

It is expected that directed observation students will attend all scheduled in-services and student athletic trainer meetings, as well as successfully complete the required competencies for first semester student athletic trainers. Students are also expected to enroll in the Athletic Training Basic Education Program (ATBEP) and complete the basic program during their freshman and sophomore years. The ATBEP consists of the following courses:

ATT 103	Care and Prevention of Athletic Injuries
ATT 201/202	Clinical Experience in Athletic Training I & II
ATT 210	Advanced Athletic Training
BIO 101	General Biology
BIO 103	Basic Human Anatomy
BIO 104	Basic Human Physiology
BIO 110	Medical Terminology
BIO 230	Nutrition in Health and Disease
CH 103 *or* 105	Basic Chemistry or General Chemistry
PE	Physical Education Activity Course
PE 311	First Aid & CPR
PHY 111	General Physics

After completing the mandatory directed observation period, the prospective student athletic trainer may apply for acceptance into the Athletic Training Education Program (ATEP). Application to the ATEP level consists of submission of a résumé, three letters of recommendation, transcripts, and evidence of successful completion of all requirements of the ATBEP. Interviews with the program faculty are also required. In order to be considered for acceptance into the ATEP the student must:

- have a cumulative grade-point average of 2.5 and a grade point average of 2.75 or better in the courses included within the ATBEP
- proof of current American Red Cross First Aid and CPR certification or certification as an Emergency Medical Technician
- complete an Athlete Training Education Program Application
- submit three (3) letters of recommendation
- undergo a formal interview with AU ATEP faculty
- completion of 400 verified hours of clinical experience and observation at Alfred University or approved affiliate
- student member of National Athletic Trainers' Association
- active member of Alfred University Student Athletic Trainers' Club
- completion of Basic Athletic Training Competencies (ATT 201/202)

Program Summary for BS in Athletic Training

Athletic Training courses	47
Physical Education Requirement	4
Natural Science courses	24
Liberal Arts Areas of Knowledge courses	44
Free Electives	6
Total credit hours	**125**

Basic Education Program Course Requirements

ATT 103	Prevention and Care of Athletic Injuries	4
ATT 201	Clinical Experience in Athletic Training I	1
ATT 202	Clinical Experience in Athletic Training II	1
ATT 210	Advanced Athletic Training	3
BIO 101	General Biology	4
BIO 103	Basic Human Anatomy	4
BIO 104	Basic Human Physiology	4
BIO 110	Medical Terminology	2

BIO 230	Nutrition in Health and Disease	2
CH 103 *or* 105	Basic or General Chemistry	4
PE	Physical Education Activity Course	2
PE 311	First Aid/ CPR	2
PHY 111	Introductory General Physics	4
Total credit hours		**37**

Athletic Training Education Program

ATT 301	Clinical Experience in Athletic Training III	1
ATT 302	Clinical Experience in Athletic Training IV	1
ATT 334	Physical Evaluation of the Lower Extremity	4
ATT 348	Physical Evaluation of the Upper Extremity	4
ATT 356	Theory & Techniques of Therapeutic Modalities	4
ATT 367	Theory & Techniques of Therapeutic Exercise	4
ATT 392	Biomechanics	3
ATT 393	Physiology of Exercise	3
ATT 401	Clinical Experience in Athletic Training V	1
ATT 402	Clinical Internship in Athletic Training	6
ATT 432	Administrative Aspects of Athletic Training	3
ATT 460	Research Design in Athletic Training	3
PE	Physical Education Activity Course	2
One of the following:		
PE 201	Cross Training	2
PE 102	Cardiovascular Fitness	2
PE 237	Weight Lifting	2
Total credit hours		**39**

Student Transfer Policy

If a student transfers to Alfred University with prior athletic training experience, he/she may petition to have the 400 hour directed observation requirement reduced or eliminated. The candidate must submit a letter of recommendation stating his/her qualifications from his/her former supervising athletic trainer. In order to be considered, the student must also complete the aforementioned criteria for acceptance (ATBEP prerequisites).

Academic Requirements

Once a student is formally accepted into the ATEP, he/she must adhere to the following guidelines and policies:

- Students must maintain admission requirements in order to remain in the program. Failure to maintain the published requirements will result in the student being placed on academic probation.
- If placed on academic probation, the student will have one semester to correct deficiencies. If she/he fails to correct deficiencies, the student will be suspended from the program.
- During probation from the ATEP, the student will not be permitted to pursue additional athletic training classes or accumulate additional clinical hours unless given written permission from the Director of the Program.

Athletic Training Room Hours Requirements

Upon successful completion of the ATBEP, the student must complete an additional **1100 verified clinical hours** while occupying a seat in the ATEP. This is required in order to meet NATA Certification requirements.

- Students will be required to submit a copy of their semester class schedule

- clinical hours will be assigned by the certified staff members according to class schedules.
- attendance is mandatory for all assigned clinical hours.
- Student athletic trainers must attain a minimum of 200 hours per semester (does not include summer preseason training camp hours)
- If a student does not meet the 200 hour requirement, he/she will be put on Probationary Status and must make up the hours during the next semester
- Students not fulfilling their Probationary Status requirements will be issued a Disciplinary Report and a notation will be made in the student athletic trainer's permanent file

Student Athletic Trainer Team Assignments

Students enrolled in the athletic training major are currently required to complete 1500 hours of clinical experience before qualifying to sit for the NATABOC examination. As a student enrolled in Clinical Experiences I-V, students rotate through a sport during each athletic season (ie. fall, winter, spring). In following this method, each student will get the opportunity to spend a season with 9 separate sports, therefore satisfying all requirements within sport classification for clinical experiences.

All students are required to work with both contact and non-contact sports as well as with men's and women's sports teams. The certified athletic training staff members will make team assignments. The needs of the student, athletic training program, and the athletic program will be considered when determining team assignments. Student athletic trainers assigned as team trainers are responsible for attending all team practice sessions and intercollegiate athletic contests.

At the completion of Clinical Experience V in the athletic training major, each student will have completed a rotation within their clinical experiences which would include at least one season of each of the following: one women's sport, one men's sport, one contact-collision sport, one strenuous sport and one limited-contact/impact sport. Students who transfer into the major may only have four semesters of assigned clinical experiences, but will still have satisfied the above requirements for completion of rotations.

Absences from Assigned Duties

Attendance will be taken on a daily basis. Missing more then three (3) assigned duties per academic year may preclude the student from continuing on in the Athletic Training major. Further information regarding disciplinary action can be found under the section titled "Student Athletic Trainer Disciplinary Policy" within the *Student Athletic Trainers' Handbook.*

Student Athletic Trainer Evaluations

Student athletic trainers will be evaluated two times during the academic school year (on or around November 15th & April 15th). Student athletic trainers will be evaluated by each staff athletic trainer during each semester. Each student athletic trainer will meet individually with each staff athletic trainer to discuss the evaluation

Professional Organizations Membership

Student athletic trainers are encouraged to apply for membership in the National Athletic Trainers' Association (NATA) and the New York State Athletic Trainers' Association (NYSATA) by the end of the sophomore year. Only students who have been members for at least one year are eligible to be considered for scholarships offered by these organizations. All ATEP students are required to join the NATA and NYSATA by the end of the first semester formally enrolled in the program.

Membership applications are available from the Athletic Training Education Program Director.

College of Business

The College

Mission Statement

In all of our actions we seek to assure that out students and faculty attain distinction in their personal, public and professional lives.

Our primary vehicle for this is the development and delivery of programs of instruction and scholarship in professional management. Recognizing that we live in a world in which technical advances, political shifts and social changes are all occurring rapidly, our principal objective is to be a dynamic learning organization that prepares our students for leadership roles in their professions. We will design our systems and provide for incentives to ensure that we address the need of all constituents for professional accomplishments; and that we build an on-going commitment to improving the quality of what we do.

In support of this mission the educational objectives of this organization are to:

1. Provide undergraduate and graduate programs that are excellent in quality, innovative in delivery, and relevant to current business practices.
2. Develop leadership and lifelong learning skills.
3. Provide and environment which fosters understanding and appreciation of cultural diversity and ethical conduct.
4. Support, conduct and disseminate scholarship in business.
5. Serve the community through programs and partnerships that enhance the intellectual quality of the region, and that enhance our core intellectual activities.
6. Provide active learning opportunities which develop distinction through the acquisition of professional business skills.

The **Accounting** degree program prepares students to become professional accountants. Those students interested in public accounting are encouraged to pursue the license to become a Certified Public Accountant (CPA); those interested in corporate or governmental accounting are encouraged to seek designation as a Certified Management Accountant (CMA). All students are urged to augment their accounting curriculum with a minor or coursework in those areas which are in great demand in accounting, such as Health Planning and Management (HPM) or Management Information Systems (MIS).

The **Business Administration** degree program prepares students for professional careers in areas such as accounting, business economics, family business, finance, management, marketing, management information systems, international business and entrepreneurship. Each Business Administration student chooses a faculty advisor who not only helps him or her explore career options but also recommends courses to be taken over the sophomore, junior and senior years.

The degree programs in the College of Business provide options within a sound liberal-professional education suitable for many post-graduation objectives ranging from immediate entry into the job market to graduate school. Alfred's program emphasizes leadership development and active "hands-on" learning. All students complete a Field Experience requirement in consultation with their advisors. Alfred's environment provides an opportunity for leadership development with a mix of curricular and co-curricular activities which provide students with opportunities to attain distinction.

The undergraduate business program at Alfred is professionally accredited by AACSB – The International Association for Managment Education, the preeminent accrediting body in business education at the college level. Accreditation certifies that the college has met high standards in its curriculum, faculty, class size and facilities.

Out of the approximately 1200 institutions of higher learning in the United States which offer business degrees, approximately one third are accredited by the AACSB. AACSB accreditation allows students to satisfy graduate school foundation equivalents for several of the nation's leading graduate school programs offering the MBA degree.

The College of Business has a variety of organizations to enrich student experience. These include the Financial Management Association, American Marketing Association, Association of Information Technology Professionals, Students in Free Enterprise, the National Career Women's Association, the Society for Human Resource Management, Phi Beta Lambda (Future Business Leaders), and the National Association of Accountants. In addition, the college has a Student-managed Investment Fund (SMIF) which allows students to participate in managing an active portfolio. The College also has national honor societies that recognize superior academic achievement by the students. These organizations include chapters in Alpha Iota Delta National Honor Society in Decision Sciences, Beta Gamma Sigma (exclusively for AACSB accredited schools), Delta Mu Delta Honor Society in Business Administration, Financial Management Association in Finance, and the Pacioli Honor Society in Accounting.

Recent Alfred graduates have attained positions in major international, national and regional accounting firms (KPMG-Peat Marwick, Price Waterhouse Coopers, BDO-Seidman, Hayes), in the financial services industry (Banker's Trust, Solomon, Citigroup, Dun and Bradstreet), in the information systems consulting arena (Anderson Consulting, Keane Associates, EDS, Hewitt), in marketing-oriented companies (Coca-Cola, Gallo, Kodak), and in technology oriented firms (Corning, Xerox).

Program

The College of Business offers two degree programs: Accounting and Business Administration. Business Administration majors are encouraged to meet with their advisor to review and explore career options and to select elective courses to meet each student's individual interests. The College also offers minors in Accounting, Business Economics, Family Business, Health Planning and Management, Management Information Systems and Business Administration.

College of Business students may minor in fields within or outside of the College. Lists of courses required for various minors are printed elsewhere in this catalog or may be obtained from the Registrar's Office.

The general course requirements for all College of Business students are listed below. Enrollment in business and economics courses numbered 300 or above requires junior standing of at least 54 semester credit hours.

General Course Requirements – Professional Core

ACC 215	Financial Accounting I	3
ACC 216	Managerial Accounting	3
BUS 457	International Business	3
or FIN 458	International Financial Management	3
or ECO 412	International Economics	3
or MKT 490	International Marketing	3
BUS 499	Policy Formulation & Administration	3
ECO 300/400	An advanced course in Economics	3
FIN 348	Managerial Finance	3
LAW 241	Legal Environment of Business	3
MGT 328	Management & Organization Behavior	3
MGT 485	Operations Management	3
MIS 190	Intro to Management Information Systems	3
MKT 321	Marketing Principles & Management	3

Arts and Sciences Core

Quantitative Methods		
BUS 113	Elementary Probability and Statistics	3
BUS 260	Operations Research	3
MAT 104	Business Calculus	4
MIS 101	Business Perspectives	3
Communications		
EGL 101	Writing I	4
EGL 102	Writing II[1.]	4
Economics		
ECO 201	Introduction to Economics and Markets[2.]	4
ECO 202	Principles of Macroeconomics	3

Social Sciences – A minimum of 3 credit hours chosen from among Anthropology, Political Science, Psychology, and Sociology. (SOC 230, POL 230 and ENS 102 may be taken but do not fulfill this requirement).
Natural Sciences – A minimum of 3 credit hours chosen from among Astronomy, Biology, Geology, Chemistry, Physics, Science, Environmental Studies 101 or CES 200.
Creative Disciplines – A minimum of 3 credit hours chosen from among Art, Dance, Design, Film, Music, Imaginative Writing, Creative Writing, (excluding courses used to satisfy the English requirement), Communications, and Theatre.
Humanities – A minimum of 3 credit hours chosen from among Foreign Languages, History, Literature, Philosophy (including Logic), and Religion.

Additional Requirements:

- Students are required to complete a Field Experience option selected from the following:
  1. Approved Internship (BUS 460)
  2. Advanced courses with Active Learning Component
  3. Approved Co-op
- Satisfy the University's Physical Education requirement.
- Maintain at least a 2.0 grade point average overall and 2.0 combined GPA in business and advanced economics courses.
- Complete a minimum of 30 credit hours in upper-division business courses.

1. Writing requirements are specified in the Catalog under General Education Requirements for Liberal Arts and Sciences, Basic Competencies, Written Communication.
2. Principles of Economics (ECO 201 and ECO 202) may be counted as either a business course or as an arts and sciences course at the discretion of the student. All upper division economics courses are counted as business courses.

Accounting Major

Requirements for Majors

The Accounting degree is designed to qualify students to sit for the CPA examination. Because course requirements for taking the examination are set by state law, the Accounting major's curriculum is tightly structured.

Accounting majors must take all those courses listed in the arts and sciences core, plus enough electives in that area to total a minimum of 60 credit hours. They must also take all the courses listed in the professional core, plus all courses listed below:

ACC 441	Auditing Theory and Practice	3
ACC 461	Financial Accounting II	4
ACC 462	Financial Accounting III	4
ACC 463	Applications of Advanced Accounting Principles	3
ACC 464	Financial Reporting and Analysis	3
ACC 470	Business and Personal Taxes	3
ACC 471	Cost Accounting	3
FIN	One additional Finance course	3
LAW 442	Commercial Law	3

A minimum of 120 credit hours, including acceptable transfer credit (but excluding physical education requirements) is required for graduation. Accounting majors must receive a grade of C or better in all accounting courses and in each of those listed above for the major.

Business Administration Major

Students opting for this degree must take all those courses listed in the professional core, plus enough electives in business and advanced economics courses to total a minimum of 48 credit hours. They must also take those courses listed in the arts and sciences core, plus enough electives in the arts and sciences to total a minimum of 60 credit hours. A total of 120 credit hours, including acceptable transfer credit (but excluding physical education requirements) is required for graduation.

The Business Administration major provides a high degree of flexibility. In consultation with a faculty advisor, a student is encouraged to explore career options, including graduate school, and to select business and non-business electives that provide a professional focus. Some examples of career options to consider include (but are not limited to):

Business Economics

Business Economics provides an excellent background for work in the fields of banking, finance, and other areas where an understanding of economics is required. The balanced coordination of economics and business administration courses is also appropriate for entry into a variety of civil service positions with the federal, state, and local government or entry into graduate school.

Family Business and Entrepreneurship

Students interested in the management of a Family Business or in the field of Entrepreneurship should consider courses in Entrepreneurship, Family Business Management, Estate Planning, Personal Finance, Succession Planning, and New Venture Development. Such courses are often taught as seminars focusing on

applied learning and interaction with professionals. In addition to these courses, students are encouraged to complete an internship in a family business.

Finance
Coursework in Finance prepares students to develop competencies in financial and communication skills to successfully deal with modern financial, industrial, and entrepreneurial challenges, domestic and world wide. Finance graduates have a wide range of opportunities in corporate finance, in investments, in non-financial corporations and in government agencies.

International Business
Students interested in International Business may combine elective business courses in international economics, finance and marketing with courses in foreign languages, culture studies and study abroad. This international dimension prepares students for a career in the multinational business world.

Human Resource Management and Organizational Development
This option provides training in tools and techniques needed to diagnose and solve contemporary management issues. It prepares students for positions in the fields of Human Resource Management, Consulting, General Management, and Production. Students are encouraged to take business electives, such as Total Quality Management, Organizational Theory, Human Resource Management, and Gender in the Workplace. In addition, course work in such areas as Industrial Psychology, Sociology, and Communication is strongly encouraged.

Management Information Systems (MIS)
The Management Information Systems curriculum provides students with a thorough grounding in Management Information Systems (MIS) concepts. Using MIS as a foundation, students are introduced to the decision-making process using the latest computer-based tools. The goal is to prepare students to function efficiently in today's heavily computer-dominated business environment. Students with an interest in MIS are encouraged to complete a minor in Computer Science.

Marketing
Students selecting advanced courses in Marketing develop a comprehensive understanding of business activities which affect the flow of goods and services from the producer to the consumer. In consultation with his/her academic advisor, a student may select business and non-business electives that will prepare him/her for a career in areas such as: Marketing Management, Consumer Socialization, Marketing Communication, Media Design, and Consumer Psychology.

Health Care Administration
The Health Planning and Management (HPM) minor prepares students for managerial and administrative positions in hospitals and nursing homes, in government agencies at the local, county, state and federal levels and in industry.

Minors in the College of Business

The College of Business has developed minors in Accounting, Business Administration, Economics, Family Business, Health Planning and Management, and Managment Information Systems. Students completing any of these minors must complete at least half of their course work at Alfred. Courses taken elsewhere numbered 300 or higher at Alfred must be taken at an AACSB-accredited school. An average of C or better must be attained in courses submitted for completion of the minor.

Accounting Minor for Non-College of Business Students*

ACC 215/216	Financial Accounting /Managerial Accounting	3/3
ACC 461	Financial Accounting II	3
BUS 113	Business Statistics (or equivalent)	3
BUS 260	Operations Research	3
ECO 201/202	Introduction to Economics and Markets/Macro	4/3
Plus two courses from among the following:		
ACC 462	Financial Accounting III	3
ACC 463	Applications of Advanced Accounting Principles	3
ACC 470	Business and Personal Taxes	3
ACC 471	Cost Accounting	3

Accounting Minor for College of Business Students

ACC 461	Financial Accounting II	3
Plus two courses from among the following:		
ACC 462	Financial Accounting III	3
ACC 463	Applications of Advanced Accounting Principles	3
ACC 470	Business and Personal Taxes	3
ACC 471	Cost Accounting	3

Business Administration Minor for Non-College of Business Students*

ACC 215/216	Financial Accounting/Managerial Accounting	3/3
BUS 113	Business Statistics (or equivalent)	3
ECO 201/202	Intro to Economics and Markets/Macro	4/3
FIN 348	Managerial Finance	3
MGT 328	Management and Organization Behavior	3
MKT 321	Marketing Principles and Management	3

Business Administration Minor for Engineering Majors*

ACC 215/216	Financial Accounting I/Managerial Accounting	3/3
ECO 201/202	Intro to Economics and Markets/Macro	4/3
FIN 348	Managerial Finance	3
MAT 312	Applied Statistics (or equivalent)	3
MGT 328	Management and Organization Behavior	3
MKT 321	Marketing Principles and Management	3

***A maximum of 30 credits in courses offered by the College of Business may be taken by non-business students.**

Economics Minor for College of Business Students

ECO 201/202	Intro to Economics and Markets/Macro	4
ECO 202	Macro Economics	3
ECO 495	Seminar in Economics	3
Two additional upper-level Economics Courses(ECO 300 and above)		6

Family Business & Entrepreneurship Minor for Non-College of Business Students

ACC 215	Financial Accounting	3
ECO 201	Intro to Economics & Markets	4
MGT 328	Organizational Behavior	3
BUS 200	Family Business Management	3
BUS 460	Internship (in a family business)	3
Plus 2 courses from among the following:		
ACC 470	Business & Personal Taxes	3
BUS 405	Real Estate Law	3
BUS/FIN 496	Estate & Financial Planning for Entrepreneurs	3
BUS 439	Entrepreneurship	3

Family Business & Entrepreneurship Minor for College of Business Students

BUS 200	Family Business Management	3
BUS 460	Internship (in a family business)	3
Plus 2 courses from among the following:		
ACC 470	Business & Personal Taxes	3
BUS 405	Real Estate Law	3
BUS/FIN 496	Estate & Financial Planning for Entrepreneurs	3
BUS439	Entrepreneurship	3

Health Planning & Management Minor for Non-College of Business Students

ACC 215/216	Financial Acctg/Managerial Acctg	3/3
BUS 113	Business Statistics (or equivalent)	3
ECO 201/202	Intro to Economics & Markets/Macro	4/3
Plus three courses from among the following:		
HPM 200	Health Care Delivery System	3
HPM 205	Public Health Concepts	3
HPM 495	Seminar in Health Planning & Management	3
MGT 472	Human Resource Management	3
SOC 349	Medical Sociology	4

Health Planning & Management Minor for College of Business Students

HPM 200	Health Care Delivery System	3
HPM 205	Public Health Concepts	3
HPM 495	Seminar in Health Planning & Management	3
SOC 349	Medical Sociology	4

Management Information Systems Minor for Non-College of Business Students

ECO 201	Intro to Economics and Markets	3
MGT 328	Organizational Behavior	3
MIS 290	Computer Programming (or equivalent)	3
MIS 465	Data Base Management	3
MIS 466	Systems Analysis	3
Plus 2 courses from among the following:		
CMP	400-level Computer Science Course	3/4
MIS 410	Networking Fundamentals	3
MIS 420	Electronic Commerce	3
MIS 468	Data Visualization	3
MIS 495	Seminar in Information Systems	3

Management Information Systems Minor for College of Business Students

MIS 290	Computer Programming (or equivalent)	3
MIS 465	Data Base Management	3
MIS 466	Systems Analysis	3
MIS 468	Data Visualization	3
Plus 1 course from among the following:		
CMP	400-level Computer Science Course	3/4
MIS 410	Networking Fundamentals	3
MIS 420	Electronic Commerce	3
MIS 495	Seminar in Information Systems	3

4 + 1 MBA Program Minor

The College of Business offers a 4 + 1 minor for students majoring in Liberal Arts and Sciences, Ceramic Engineering, Electrical Engineering, Materials Science and Engineering, and Mechanical Engineering. By completing the appropriate foundation courses at the undergraduate level, a student may successfully complete the requirements for a Masters in Business Administration (MBA) at Alfred University in one year after receiving his or her undergraduate degree.

Requirements for Liberal Arts and Sciences Majors

ACC 215	Financial Accounting I	3
ACC 216	Managerial Accounting	3
BUS 113*	Business Statistics (or an introductory statistics course)	3
BUS 260	Operations Research	3
ECO 201	Introduction to Economics and Markets	4
ECO 202	Principles of Macro Economics	3
FIN 348	Managerial Finance	3
MGT 328	Management and Organizational Behavior	3
MIS 101	Business Perspectives	3
MKT 321	Principles of Marketing	3

***MAT 312, POL 230, or PSY/SOC 270 may be substituted for BUS 113**

Requirements for Ceramic Engineering and Materials Science Majors

ACC 215	Financial Accounting I	3
ACC 216	Managerial Accounting	3
CES 120	Engineering Communications	3
CES 121	Engineering Communications II	3
CES 474	Engineering Operations	4
ECO 201	Introduction to Economics and Markets	4
ECO 202	Principles of Macro Economics	3
FIN 348	Managerial Finance	3
MAT 312	Applied Statistics	3
MGT 328	Management and Organizational Behavior	3
MKT 321	Principles of Marketing	3

Requirements for Electrical and Mechanical Engineering Majors

ACC 215	Financial Accounting I	3
ACC 216	Managerial Accounting	3
BUS 260	Operations Research	3
ECO 202	Principles of Macro Economics	3
EGR 111-114	Intro Engineering/CAD/Software Engineering/ Computer-Aided Engineering	8
EGR 260	Engineering Economy	3
EGR 315	Engineering Statistics	3
FIN 348	Managerial Finance	3
MGT 328	Management and Organizational Behavior	3
MKT 321	Principles of Marketing	3

Undergraduate Curriculum Outline

The following 8-semester sequence illustrates the curriculum as it is most often taken by students pursuing one of the two majors offered. Individuals may vary from this guideline depending upon their specific situations. Note that all upper-level accounting courses are offered only in the designated semester. Accounting students must earn a grade of C or better in all upper-level accounting courses.

Common First and Second Years

Semester 1		
BUS 113	Business Statistics	3
EGL 101	Writing I	4
MIS 101	Business Perspectives	3
Liberal Arts Elective		4
Total credit hours		**14**
Semester 2		
EGL 102	Writing II	4
LAW 241	Legal Environment of Business	3
MAT 104	Business Calculus	4
MIS 190	Information Systems	3
PE	Physical Education Activity Course	2
Total credit hours		**16**
Semester 3		
ACC 215	Financial Accounting	3
ECO 201	Introduction to Economics and Markets	4
Liberal Arts Elective		4
Liberal Arts Elective		4
Total credit hours		**15**
Semester 4		
ACC 216	Managerial Accounting	3
BUS 260	Operations Research	3
ECO 202	Principles of Macro Economics	3
Liberal Arts Elective		4
Liberal Arts Elective		4
Total credit hours		**17**

Accounting Curriculum Outline – Third and Fourth Years

Semester 5		
ACC 461	Financial Accounting II	3
ACC 471	Cost Accounting	3
FIN 348	Managerial Finance	3
Liberal Arts Elective		4
PE	Physical Education Activity Course	2
Total credit hours		**16**
Semester 6		
ACC 462	Financial Accounting III	3
ACC 470	Business and Personal Taxes	3
MGT 328	Management and Organizational Behavior	3
MKT 321	Marketing Principles and Management	3
Field Experience		1

Total credit hours	**14**

Semester 7

ACC 441	Auditing	3
ACC 464	Intermediate Accounting III	3
BUS 499	Business Policy	3
FIN	300-level Finance Elective	3
Liberal Arts Elective		4
Total credit hours		**16**

Semester 8

ACC 463	Advanced Accounting	3
ACC 495	Accounting Seminar	3
ECO	300-level Economics Elective	3
LAW 442	Commercial Law	3
Liberal Arts Elective		4
Total credit hours		**16**

Business Administration Curriculum Outline – Third and Fourth Years

Semester 5

FIN 348	Managerial Finance	3
MGT 328	Management and Organizational Behavior	3
MKT 321	Marketing Principles and Management	3
Liberal Arts Elective		4
PE	Physical Education Activity Course	2
Total credit hours		**15**

Semester 6

MGT 485	Operations Management	3
Business Elective		3
Business Elective		3
Business Elective		3
Liberal Arts Elective		4
Total credit hours		**16**

Semester 7

ECO	300-level Economics Elective	3
BUS 457	International Business	3
or ECO 412	International Economics	
or FIN 458	International Financial Management	
or MKT 490	International Marketing	
Business Elective		3
Business Elective		3
Liberal Arts Elective		4
Total credit hours		**16**

Semester 8

BUS 499	Business Policy	3
Business/Liberal Arts Electives		12
Total credit hours		**15**

Courses of Instruction
College of Liberal Arts and Sciences

Note: This is a list of the University's approved courses as of June 2001, offered annually unless otherwise noted. The official list of courses offered in a particular semester appears in the Schedule of Courses for that term

Anthropology

AN 200 - Cultural Anthropology 4 hours. This introductory course surveys the human condition in anthropological perspective. Emphasis is on the nature of culture, sociocultural evolution, human ecology, theoretical strategies, kinship, descent, gender, language, and belief systems. (E)

AN 202 - Human Origins 4 hours. An introduction to physical anthropology surveying evolutionary theory as applied to humans. Special emphasis on non-human primates, fossil man (hominid evolution) and the diversity of modern human populations. (E)

AN 205 - The Archeological View 2 or 4 hours. A survey of archeological principles, methods, and theories with special emphasis on archeology's role in understanding the past, the rise and fall of civilizations, and its varied uses by contemporary societies. (E)

AN 300 - Africa and Africans 2 or 4 hours. This course surveys African cultures and nations in a broad anthropological perspective, focusing especially on sub-Saharan Africa. Students examine selected ethnic groups, countries and contemporary issues to develop a view of Africa and Africans in the modern world. AN 200 recommended as a prerequisite.

AN 302 - The Nacirema 2 or 4 hours. American culture and society in cross-cultural perspective. This course emphasizes themes observed by international visitors and by anthropologists in cross-national studies. AN 200 recommended as a prerequisite.

AN 303 - Health and Culture 4 hours. An examination of the interaction of culture and biology in the broad realm of physical and mental health and illness. Topics include non-Western healers and healing practices, theories of disease and healing, cultural psychiatry, and epidemiology. Prerequisite: AN 200.

AN 304 - Language and Culture 2-4 hours. An introduction to anthropological linguistics emphasizing the origin, nature and evolution of human language; the Sapir-Whorf hypothesis, sociolinguistics (especially the linguistic aspects of gender and class), and nonverbal behavior. Prerequisite: AN 200. Recommended: ML 200-level.

AN 307 - Magic and Religion: An Anthropological Perspective 4 hours. An examination of the diversity to be found among human religious beliefs and practices. Includes the relationship between magic, science and religion, the functions of witchcraft, divination and spirit possession and the role of religion in cultural revitalization. Prerequisite: AN 200 or permission of instructor. (Sufficient demand)

AN 310 - Cultural Ecology and Disease 2-4 hours. Drawing from environmental studies, anthropology, and public health, this course examines contemporary and historic cultural practices which have had disease or disability consequences. The roles of changing ecological patterns as they relate to sociocultural practices, emergent and resurgent diseases, and relevant public policies are central to the course.

AN 312 - Anthropology of Violence 2-4 hours. Investigates violence in traditional and modern societies. Topics include ritualized violence, gender, the sociocultural construction and reinforcement of violent behavior in the United States, and programs aiming to reduce levels of violence. Prerquisite: AN 200 or SOC 110 and junior or senior standing.

AN 323 - Primate Behavior 2-4 hours. An introduction to non-human primates with emphasis on evolution, ecology, and social behavior. Prerequisite: AN 202.

AN 450 - Independent Study 2-4 hours.

AN 460/461 - Special Problems in Anthropology 2-4 hours. An open course varying in content from year to year which allows concentration on such specialized areas as gender and society, anthropological theory and methods, native cultures of North America, demography, and the like. Prerequisites: SOC 110 or AN 200 and junior or senior standing or permission of instructor. (Sufficient demand)

AN 470 - Anthropology Field Work 2-4 hours. Supervised on-site field work on an approved topic. Prerequisites: AN 200, junior or senior standing, and permission of instructor.

Astronomy

AST 103 - Introductory Astronomy 4 hours. A general survey of astronomy including our solar system, the nature of stars, the structure of our galaxy, and finally, an examination of other galaxies, quasars and other cosmic objects. (F)

AST 107 - Elementary Astronomy Lab 2 hours. Observation, supplemented by discussion of topics such as types of telescopes and auxiliary equipment, use of the Observatory, celestial coordinates and the use of reference materials, astronomical photography. (F)

AST 302 - Planetary Science 2 hours. A quantitative and comparative study of the nine known planets. Includes the physics of the interiors, surfaces, and atmospheres of the terrestrial planets/moons, and of the atmospheres and rings of the Jovian planets. Also includes the physics of planetary and solar system formation. Prerequisite: One year of college physics. (Sufficient demand)

AST 303 - Stellar Astronomy 3 hours. Part of an astronomy sequence recommended for students in the physical sciences and area science teachers. Emphasis on the observational and theoretical basis for understanding stellar structure and evolution, beginning with the Sun. Prerequisite: One year of college level physics and MAT 119. (Sufficient demand)

AST 304 - Galactic Astronomy and Cosmology 4 hours. Part of an astronomy sequence recommended for students in the physical sciences and area science teachers. Emphasis on the observational and theoretical basis of our knowledge of the Universe on the large scale. Topics include the structure of the Milky Way Galaxy, active and passive galaxies, and Cosmology. Prerequisite: One year of college level physics and MAT 119. (Sufficient demand)

AST 307 - Observational Astronomy 2 hours. An introduction to astronomical observing techniques and data reduction. Emphasis placed on image acquisition and manipulation to determine things like the morphologies, distances, motions, and luminosities of various objects. This course is intended for students with interest in astronomy and some background in physics and mathematics. Prerequisite: One semester of college physics, pre-or co-requisite: MAT 119. (Sufficient demand)

AST 495 - ARGUS Project 3 hours/semester; maximum 6 for two semesters. Undergraduate research project for ARGUS program students who are majoring in a natural science, including the natural science concentration in Environmental Studies. Prerequisites: minimum 2.8 GPA and 3.0 in major; proposal acceptance by faculty committee.

Biology

BIO 100 - Modern Biology with Human Implications 4 hours. A consideration of yourself as a living organism with emphasis on how your body functions, your genetics and evolutionary legacies, and your ecological relationship to other organisms that inhabit this planet. Three lectures and one two-hour laboratory. This is an introductory course primarily for students majoring in areas other than Biology who wish to fulfill a general education requirement in the natural sciences with laboratory. (F)

BIO 101 - General Biology I 4 hours. An introduction to the fundamentals of biological organization and activity. Topics include the chemical basis of life, cell structure and function, and genetics. Three lectures and one two-hour laboratory. Concurrent work in CH 105 is recommended. (F)*

BIO 102 - General Biology II 4 hours. A continuation of BIO 101, exploring the unity and diversity of life. Fundamentals of evolution, ecology, and behavior are introduced. Three lectures and one two-hour lab. Prerequisite: BIO 101. Concurrent work in CH 106 recommended. (F)*

***General Biology I/General Biology II is a two-semester sequence for students who plan to major either in biology or take additional course work in biology to complete requirements for another program. It is recommended that non-science majors with an interest in biology take BIO 100.**

BIO 103 - Basic Human Anatomy 4 hours. A study of the gross to microscopic bases of human structure and function. Students dissect the cat, examine charts, models and selected human and other mammalian materials. Required of sophomore BIO-MLT majors and athletic training majors. Three lectures and one three-hour laboratory. (F)

BIO 104 - Basic Human Physiology 4 hours. Primary concepts of human physiology with emphasis on the chemical bases for cellular activity, tissue function, organs, and organ systems. Required of sophomore BIO-MLT majors and athletic training majors. Three lectures and one two-hour laboratory. Prerequisite: BIO 103. (F)

BIO 110 - Medical Terminology 2 hours. This course focuses on various word-building strategies for learning to pronounce, spell, interpret and use medical and other technical terminology encountered in scientific literature and professions, and increasingly in the public press. Required of Athletic Training majors. No prerequisites.

BIO 219 - Physiology of Aging 4 hours. Examines both the expected changes in normal human aging as well as the pathologies of the aging process. Topics covered include digestive, cardiovascular, sensory, hormonal, musculoskeletal and urogenital systems as well as cellular metabolism and drug absorption. Required of Gerontology majors. Four lectures. (Alternate years)

BIO 225 - Research Methods in Biology 3 hours. Introduction to basic skills of biological research, including lab safety, computational methods, experimental designs, and scientific writing and presentation.

BIO 230 - Nutrition in Health and Disease 2 hours. A consideration of the fundamentals of nutrition to help understand the relationship of nutrition to growth, health and disease. Emphasis is placed on students acquiring the ability to critically read and evaluate consumer nutritional information and to develop effective health promoting skills. Required of junior athletic training majors. Four lectures. (F)

BIO 252 - Molecular Cell Biology 4 hours. This course is intended to help the student develop an understanding of the cell as a basic biological unit. Emphasis is placed on ultrastructure, organization, and function of cellular organelles, and the regulation of selected cell activities. Laboratories reinforce theoretical concepts and provide hands-on experience with modern molecular cell biology methods. Three lectures and one three-hour laboratory. Required for Core A majors. Prerequisites: BIO 101/102; CH 105; CH 106 recommended.

BIO 311 - Invertebrate Zoology 4 hours. An extensive study of selected species to illustrate invertebrate structure, biological relationships and adaptations to their habitats. Three lectures and one two-hour laboratory. Prerequisite: BIO 101/102. (Alternate years)

BIO 322 - Botany 4 hours. A phylogenetic exploration of plants, with emphasis on adaptation of structure and function to different environments. Topics include anatomy, physiology, evolution, ecology, and economic botany. Three lectures and one two-hour laboratory period. Prerequisite: BIO 102.

BIO 332 - Introduction to Vertebrate Histology 4 hours. Study of the basic organization of the tissues of the vertebrate body. Emphasis on the derivation of cells and tissues from undifferentiated precursors and development of specialization for functional activity. Principles of tissue preparation for microscopic examination included in lecture and laboratory. Two lectures, one three-hour lab and one hour additional preparation. Prerequisite: BIO 101/102. (Alternate years)

BIO 345 - Vertebrate Natural History 4 hours. A study of the systematics, adaptations and ecological relationships of representative species of living fish, amphibians, reptiles, birds and mammals. Laboratory includes examination of living and prepared specimens as well as field identification of animals in their natural habitats. Optional all-day field trip to Buffalo Museum, Zoo and Niagara Aquarium. Three lectures, one three-hour lab. Prerequisites: BIO 101 (Alternate years)

BIO 352 – Developmental Biology 4 hours. Descriptive and functional study of gamete formation, fertilization and progressive development and differentiation of plants and animals. Laboratory examination of prepared materials with additional exercises using live specimens to demonstrate developmental principles and experimental techniques Two lectures and two two-hour laboratory periods. Prerequisite: BIO 101/102. (Alternate years)

BIO 365 - Genetics 4 hours. Principles of classical, molecular and population genetics; including Mendelian and cytoplasmic inheritance; DNA recombination, linkage, and mapping; structure and replication of genetic material; the control of gene expression; mutation; Hardy-Weinberg theorem; and quantitative genetics. Application of concepts through investigative laboratories. Three lectures and one three-hour laboratory. Required for all biology majors. Prerequisites: BIO 102, CH 106 and CH 310 or CH 315 as co- or prerequisite.

BIO 370 - Plant Physiology & Physiological Ecology 4 hours. An exploration of plant function from the tissue to the whole organism level, with emphasis on interactions with the environment. Topics include plant-water relations, nutrition, energy and carbon cycling, development, and stress physiology. Three lectures and one three-hour laboratory. Prerequisites: BIO 101/102, CH 106; CH 310 or CH 315 recommended. (Alternate years)

BIO 372 - Advanced Cell Biology 4 hours. Designed to build on BIO 252, this course focuses on integrative and specialized cellular activities. Integrative cell functions include: cell-to-cell signaling, mechanical and structural properties, motility, and differentiation via specific interactions between cells. Specialized cellular activities include: molecular immunology, neuron structure and function, and the cellular bases of cancer. Four lectures with one reserved for discussion of current research publications. Prerequisite: BIO 252.

BIO 375 - Comparative Vertebrate Biology 4 hours. A comprehensive review of the structure, taxonomy, evolution, and biological relationships of vertebrates. Two lectures and two two-hour laboratories. Prerequisite: BIO 101/102. (Alternate years)

BIO 394 - Ecology 4 hours. Interactions of organisms and their environment with emphasis on populations, communities, and ecosystems. Three lectures and one three-hour laboratory. Prerequisite: BIO 101 or ENS 101. (Fall, alternate years)

BIO 396 - Aquatic Ecology 4 hours. Introduction to ecology of lakes, streams, and wetlands. Three lectures and one three-hour laboratory. Prerequisite: CH 103 or 105 or permission of instructor. (Fall, alternate years)

BIO 435 - Internship in Biology 2-16 hours. Off-campus research in consultation with faculty and project advisors. Open to junior, senior and graduate biology students.

BIO 440 - General Biochemistry 4 hours. Properties, biosynthetic pathways, and metabolism of carbohydrates, lipids, and nitrogenous compounds with related units on physical biochemistry, protein structure, bioenergetics and enzyme kinetics. Laboratories reinforce theoretical concepts and provide hands-on experience with modern biochemistry techniques and instrumentation. Three lectures and one three-hour laboratory. Prerequisite: BIO 101/102, CH 315/316

BIO 445 - Evolution 4 hours. An examination of the historical development of diverse evolutionary theories with an emphasis on the principles and processes that form the basis of modern evolutionary thought. Supportive examples drawn from plants and animals, from biochemical to population levels of organization. Discussions based on popular and scientific literature. Four lectures. Prerequisite: BIO 101/102. (Alternate years)

BIO 450 - Independent Study 1-4 hours. Intensive inquiry into a specific problem with an approved plan of study under the guidance of a faculty member. Required of all students who are candidates for graduation with honors in Biology.

BIO 462 - General Microbiology 4 hours. This course surveys the microbial world, with an emphasis on bacteria and viruses. The student will gain an understanding of how the study of microorganisms has paved the way for important advances in human health, agriculture, and food science. Major topic areas include structure/function, metabolism, genetics, biotechnology, and host-parasite relationships. The laboratory offers experience in aseptic handling of bacterial cultures as well as applications of classical and modern techniques for microbial identification and characterization. Three lectures and one three-hour laboratory. Prerequisites: BIO 101/102, CH 105/106; 310 or 315 pre- or co-requisite**.**

BIO 476 - Physiology 4 hours. Principles and problems concerned with the physiochemical responses and functioning of animal tissues and organs. Three lectures and one three-hour laboratory period. Prerequisites: BIO 101/102, CH 310 or 315.

BIO 480 - Population Genetics 4 hours. This course will introduce the student to the principles and practices of population genetics. Topics include sources and consequences of genetic variation, characterization of variation within and between populations, and current molecular methods applied to the study of population genetics. Four lectures. Prerequisites: BIO 365. (Alternate years)

BIO 482 - Molecular Genetics 4 hours. Designed to build on the BIO 252/372 sequence, this course surveys the molecular biology of the gene. Discussions of the latest paradigms for nucleic acid structure and function are presented. Topics include: regulation of DNA replication and transcription, post-transcriptional modification of RNA, chromatin structure, recombinant DNA techniques, functional genomics, and the latest genetic engineering methods. Four lectures with one reserved for discussion of current research publications. Prerequisite: BIO 252; BIO 372 recommended.

BIO 490 - Genetic Engineering Lab 4 hours. This intensive laboratory experience demonstrates the use of molecular biology methods to study cell structure and function for biotechnology applications. Students conduct genetic engineering research. Inquiry-based learning format in the Molecular Life Science Core Facility. Six hours of laboratory class time plus additional time TBA. Prerequisite: BIO 252; BIO 372 recommended as pre- or co-requisite.

BIO 495 - ARGUS Project 2-4 hours/semester; maximum 8 hours for two semesters. Funded undergraduate research project in biology. Prerequisites: Consult with the chair of the ARGUS committee or chair of the Division of Biology.

Graduate Courses

BIO 550 - Research 2 or 4 hours. Open primarily to graduate students, others by permission.

Chemistry

CH 100 - Preparation for Chemistry 2 hours. A course for students needing additional preparation for CH 105. Topics include use of significant figures, basic atomic structure, gram-mole-atom relationships, balancing and using chemical equations and the development of problem solving skills. Not open to students with credit in CH 103, CH 105 or CH 115.

CH 103 - Basic Chemistry 4 hours. Elementary chemistry covering the basic theories and techniques of inorganic chemistry and an introduction to organic and biochemical principles. Illustrated examples and experimental work are taken largely from life experiences. This is not intended to be a prerequisite for further work in the field. Two lectures, one demonstration, one laboratory, and one quiz per week. Prerequisite: score of 50% or better on AU Math Placement Exam recommended. (F)

CH 105 - General Chemistry I 4 hours. A systematic study of the fundamental principles, theories and calculations involved in chemistry. Basic concepts of bonding, chemistry of selected elements and their compounds, states of matter, stoichiometry, solution reactions, equilibrium, kinetics, electrochemistry, thermodynamics, nuclear chemistry, and an introduction to organic chemistry. Laboratory work includes experiments in stoichiometry, qualitative and quantitative analysis. Required for pre-health professionals and engineering, biology and chemistry majors. Two lectures, one demonstration, one laboratory and one quiz per week. Prerequisites: Score higher than 50% on AU Chemistry Placement Exam. For Liberal Arts and Science students, also a score of 60% or higher on AU Math Placement Exam. CH 105 is a prerequisite for CH 106. (F)

CH 106 - General Chemistry II 4 hours. CH 106 is a continuation of CH 105. Two lectures, one demonstration, one laboratory and one quiz per week. Prerequisite: CH 105 or CH 115. (F)

CH 115 - General Chemistry-Advanced I 4 hours. Topical outline same as CH 105/106, with more time devoted to understanding applications of basic chemical principles. Prerequisites: At least a B (85%) in high school chemistry, Math SAT score of 600 (ACT score of 27), a score of at least 75% on AU Chemistry Placement Exam, and for Liberal Arts and Sciences students, a score of 60% or better on AU Math Placement Exam. Students may not receive credit for both CH 105 and CH 115. (F)

CH 116 - General Chemistry-Advanced II 4 hours. CH 116 is a continuation of CH 115 Prerequisite: CH 115 or 105. Students may not receive credit for both CH 106 and CH 116. (F)

CH 310 - Basic Organic Chemistry 3 hours. A descriptive study of the structure and reactions of common aliphatic and aromatic compounds of carbon. For students interested in ceramics, materials science, environmental science, or ecology, but not suitable for chemistry majors or those interested in biochemistry, molecular biology, or the health professions. Prerequisite: CH 106 or CH 116 or permission of instructor.

CH 315 - Organic Chemistry I 4 hours. An introduction to the chemistry of carbon compounds, including the preparation of typical compounds and a study of their properties, reactions, and uses. Required of all pre-health professionals, some biology majors, and chemistry majors. Prerequisite: CH 106 or CH 116.

CH 316 - Organic Chemistry II 4 hours. Continuation of CH 315. Prerequisite: CH 315.

CH 321 - Introduction to Analytical Chemistry 4 hours. A study of classical analytical techniques involving equilibria of aqueous systems as well as simple modern analytical techniques involving the methods and instrumentation of spectrophotometry and separation science will be presented. Laboratory exercises will include inorganic synthesis, "traditional wet methods of analysis," and instrumental methods of analysis. Two lectures and two three-hour laboratories per week. Prerequisite: CH 106 or CH 116.

CH 343 - Physical Chemistry I 3 hours. Introductory physical chemistry. Gas laws, laws of thermodynamics, phase changes, multicomponent systems, chemical equilibrium. Three lectures and one discussion session per week. Prerequisites: CH 106 or CH 116, MAT 120 and PHY 112 or 126.

CH 345 - Physical Chemistry I Laboratory 1 hour. Ten to twelve experiments designed to demonstrate and amplify the principles discussed in CH 343. Pre- or co-requisite: CH 343 or CES 235.

CH 346 - Physical Chemistry II 3 hours. Intermediate physical chemistry. Kinetics, electrochemistry and quantum mechanics and spectroscopy. Three lectures and one discussion session per week. Prerequisite: CH 343 or CES 235.

CH 372 - Inorganic Chemistry 3 hours. Principles of inorganic chemistry with emphasis on periodicity, symmetry, molecular orbital theory, bonding, acid/base chemistry, and coordination chemistry. Prerequisite: CH 343 or CES 235.

CH 391 - Junior Seminar 1 hour. A special topics course with a varied format of outside speakers, faculty and student presentations, and discussion groups. Junior majors must register for one credit during one semester and for 0 credit the other semester. A No Report (NR) grade will be converted to a normal grade after a formal talk on a topic from current chemical literature is presented to the class during the spring semester. Attendance is mandatory.

CH 414 - Advanced Inorganic Chemistry 3 hours. Advanced concepts of group theory, and descriptive chemistry of the transition elements. Other topics include surveys of organometallic and bioinorganic chemistry. Prerequisites: CH 346 or equivalent and CH 372 or permission of instructor. (Sufficient demand)

CH 423 - Instrumental Analysis 3 hours. The theory and practice of modern instrumentation techniques and methods used in chemistry are presented. An in-depth look at spectroscopic, separation, and electrochemical methods and their associated instrumentation follow an introduction to instrumentation; interpretation of results is also covered. Required for chemistry majors. Prerequisites: CH 321, and CH 346 or equivalent.

CH 450 - Independent Study 2-4 hours. Intensive inquiry into a specific problem or topic under faculty guidance. An approved plan of study and a written final report are required. Oral reports may also be required. The study can be literature or laboratory oriented or both. Prerequisites: instructor permission and study plan approval before registration.

CH 457 - Advanced Organic Chemistry 2 hours. Organic reaction mechanisms and stereochemistry. Other topics may be included, depending upon the interests of those enrolled. Prerequisite: CH 316 (Alternate years)

CH 461 - Advanced Chemistry Laboratory I 2 hours. A laboratory course integrating synthesis, purification, analysis, and characterization of chemical species. Synthetic work includes use of controlled atmospheres, high temperatures and non-aqueous systems. Purification of compounds is by distillation and recrystallization, as well as by various chromatographic techniques. Analysis and characterization include both wet chemical and instrumental techniques. Co-requisite: CH 423. Prerequisites: CH 321 and CH 346 or equivalent.

CH 462 - Advanced Chemistry Laboratory II 1 or 2 hours. A more advanced laboratory course with the same goals as CH 461. (Sufficient demand) Prerequisite: CH 461.

CH 491 - Senior Seminar 1 hour. The seminar is an advanced special topics course with a varied format of outside speakers, faculty and student presentations, and discussion groups. Senior majors must register for one credit during one semester and for 0 credit the other semester. They will receive a No Report (NR) grade which will be converted to a normal grade after presenting a formal talk on a topic from current chemical literature during their last semester. Attendance is mandatory.

CH 495 - ARGUS Project 3 hours/semester; maximum 6 for two semesters. Undergraduate research project for ARGUS program students who are majoring in Chemistry. Prerequisites: instructor permission and proposal acceptance by ARGUS committee.

Graduate Courses

CH 520 - Chemical Principles 3 hours. (Sufficient demand)
CH 550 - Independent Study

Communication Studies

COM 101 - Introduction to Communication Studies 4 hours. An introduction to communication studies in a variety of contexts: intrapersonal, interpersonal, small group, and public. The class improves the student's understanding of communication as a process and facilitates day-to-day interactions.

COM 110 - Mass Media and American Life 4 hours. An examination of the evolution of American mass media and their cultural, economic, and social implications. Students analyze varied media vehicles (including newspapers, books, magazines, sound recordings, films, and television programs) with regard to content, form, and demographic impact.

COM 200 - Communication Theory 3 hours. The goals of this course are two-fold: 1) to present a survey of present social-scientific theories of communication which have generated both debate and research in the field and, 2) to develop a critical perspective toward theory by questioning both the underlying assumptions and the choices made by theorists as they develop their theories. Prerequisite: COM 101.

COM 205 - Introductory Newswriting and Reporting 4 hours. An introductory journalism course emphasizing news gathering and reporting a variety of basic news stories, including hard news, features and enterprise stories. Basic newswriting skills covered, including developing news judgement, style, structure, sources and interviewing techniques.

COM 225 - Journalism History 3 hours. Historical development of the American press from colonial times to the present. Emphasis on significant American publications, leading figures in journalism and evolving concepts of "press responsibility." Also addressed are the origins and development of television and radio journalism.

COM 260 - Special Topics in Communication 2-4 hours. This course provides opportunities for examining communication studies areas not covered in the regular offerings

COM 300 - Broadcasters, Advertisers, and Audiences 4 hours. A detailed overview of television and radio broadcasting and advertising in the United States. Because these businesses are dynamic systems (i.e., the changing products of interacting forces), the course examines how various factors – historical, cultural, political, legal, economic, and technological – affect the content and character of commercial radio and television. An attempt is made to answer the question: Why is the American broadcasting system the way it is? Prerequisite: COM 110.

COM 305 - Popular Music and Society 3 hours. This course explores the complex process through which sounds, lyrics, and music listeners have evolved since 1900. Students gain an understanding of how they both shape and are shaped by popular music.

COM 309 - Persuasion: Reception and Responsibility 4 hours. This course provides majors in communication studies and related areas with a foundation for rhetorical thinking. Critical issues in persuasion are addressed, along with a historical survey of rhetorical philosophy and theory. Students successfully completing the course will know expert opinions on issues concerning face-to-face persuasive communication. (Cross-listed as CDS 309)

COM 320/420 - Internship in Communication 1-4 hours. An off-campus independent study project. Students gain experience in the field of communications by serving as interns in either the print or broadcast areas of the media. When completed, a journal and final report is submitted to the appropriate faculty sponsor. May be taken during the summer. Prerequisite: junior standing.

COM 400 - Technology and Communication 3 hours. An exploration of questions raised by the introduction of new communication technologies with particular emphasis on the social and economic impact of telecommunications and computing, and their roles in education and national development. Prerequisite: junior/senior standing, or permission of instructor.

COM 404 - Media Criticism 3 hours. An exploration of the communicative dimensions of media artifacts: magazines, newspapers, films, television programs, and popular music recordings. Analyses are conducted from rhetorical, semiotic, genre, auteur, feminist, psychoanalytic, and Marxist perspectives. Prerequisite: junior/senior standing, or permission of instructor.

COM 405 - Television Criticism 3 hours. A detailed examination of the most popular genres of programming shows the way television not only reflects the "taken for granted" in our society, but also how the medium plays a role in determining how we view ourselves and the world in which we live. Prerequisite: junior or senior standing or permission of instructor.

COM 410 - Communication Ethics 4 hours. An exploration of ethical perspectives that pertain to communication in a variety of contexts, including interpersonal, small group, organizational, public and mass. Students learn to become more responsible senders and receivers of communication. Prerequisites: COM 101 and COM 110. (Cross-listed as CDS 410)

COM 425 - Public Affairs Reporting 4 hours. An introduction to public affairs reporting. Students report on topics drawn from government, business, science, environment and minority issues. Emphasis on improving news gathering skills in order to create more informative, accurate, and balanced news stories and features. Prerequisite: COM 205.

COM 430 - Communication Practicum in Journalism 1-4 hours. A lab course giving students practical print journalism experience under the supervision of a faculty member. Credit value assigned according to the extent of involvement. Prerequisite: Permission of instructor.

COM 475 - Specialized Reporting 4 hours. A workshop course in which students select and pursue a news beat. Students, working in a simulated newsroom environment will cover beats ranging from the courts to the Arts. Emphasis on developing quality beat coverage. Prerequisite: COM 205.

Computer Science

CMP 136 - Web Page Development 3 hours. This course is an introduction to the World Wide Web with information on search engines, sources for various types of information, Internet service providers, etc. There will be a discussion of HTML codes and students will receive instruction on creation of a simple web page, editing, and working with graphics, as well as planning and laying out a web site.

CMP 156 - Computer Science I 4 hours. An introduction to computer science, history, machine architecture, program design, algorithm development and programming concepts using the computer language C++. Students need not have prior programming experience. Co-requisite: Math 108 or permission of instructor. (Fall)

CMP 157 - Computer Science II 4 hours. A continuation of CMP 156, emphasizing program design and development, style, debugging and testing, algorithm analysis and programming concepts (string processing, recursion, simple data structures, etc.), using C++. Prerequisite: CMP 156, MAT 108 or permission of instructor. Co-requisite: MAT 119. (Spring)

CMP 210 - Assembly Language Theory 4 hours. This course covers introductory computer architecture, addressing methods and operations, representing program paradigms in assembler language, use, and libraries. Programming projects are required. Prerequisites: CMP 157 or demonstrated proficiency in some high level language, and MAT 108. (Spring)

CMP 270 - Data Structures 4 hours. This course examines forms of data representation in primary and secondary storage that are used in computer solutions to problems. It also undertakes an examination of algorithms with regard to efficiency, accuracy, maintainability, readability, robustness, style and portability. Prerequisites: CMP 157 or demonstrated proficiency in some high level language, and MAT 108. (Fall)

CMP 280 - Programming Languages 4 hours. This course introduces many of the central concepts of computer programming language design, and demonstrates their implementation on conventional computers. Several widely used programming languages are discussed, showing the relationships among variants of these concepts as they appear in different implementations, Programming projects are assigned in languages such as Fortran 77, Java, LISP, and Prolog. Prerequisites: CMP 157 or demonstrated proficiency in some high level language, and MAT 108. (Fall)

CMP 320 - Software Engineering 4 hours. This course investigates models of structured programming, top-down design, stepwise refinement and iterative enhancement. Students undertake the organization, management and development of a large software project. Prerequisites: knowledge of a structured high level language and MAT 119.

CMP 340 - Database Organization 3 hours. This course covers the physical and logical organization of data bases and data management systems. Topics include data organization and structure, relational, hierarchical and network approaches to data base construction. A project involving a student-designed data base is undertaken. Prerequisite: CMP 270 or equivalent.

CMP 360 - Digital Logic and Computer Design 4 hours. A study of Boolean algebra and the design of combinational and sequential logic circuits. The circuit design is then used in the design of a computer. Prerequisites: CMP 210, MAT 108.

CMP 410 - Graphics Organization and Theory 4 hours. This course includes the basic concepts of 2-D transformations, windowing, clipping, interactive and raster graphics as well as 3-D transformations and perspective, hidden line and surface techniques. Prerequisites: CMP 270, MAT 119.

CMP 412 - Computer Modeling and Simulation 4 hours. This course presents computer simulation techniques, including abstract properties of simulations modeling, analysis of a simulation run, and statistics. One or more general purpose simulation languages are discussed and programming projects are required. Prerequisites: CMP 270, 280, and MAT 119.

CMP 415 - Artificial Intelligence 4 hours. An introduction to the theory and techniques underlying the development of “intelligent” computer software. Emphasis is placed on programming techniques and languages used in artificial intelligence research. Students are required to design and implement programs that build game players, theorem provers, natural language understanding systems or other rudimentary artificial intelligence projects. Prerequisite: CMP 270.

CMP 417 - Discrete Structures 4 hours. A course introducing students to the theory of automata and finite grammar. Topics covered include context-free grammars, lexical analysis of context-free grammars, ambiguity, theory of parsing, and automatic parser generators. Other topics may be covered if time permits. Prerequisites: CMP 270, 280, and MAT 119.

CMP 421 - Compiler Design 4 hours. This course involves the construction of language translators, lexical and syntactic analysis, storage allocation and management, code generation, optimization and error recovery. A programming project is required. Prerequisites: CMP 270, CMP 280, and MAT 119.

CMP 427 - Computer Architecture 4 hours. This course is concerned with the structure, behavior, and design of computers and computer systems. Underlying design principles and performance evaluation are stressed. The "C" or "C++" programning language is used to write programs to investigate the architecture of available computers. Programming projects are required. Prerequisites: CMP 210, 270, 280 and MAT 119.

CMP 431 - Operating Systems 4 hours. An introduction to solving problems using cooperating parallel processes and to the concepts of operating systems design. Emphasis is placed on the use of operating systems from the programmer's point of view and on design of operating systems. Prerequisites: CMP 270, CMP 280 and MAT 119.

CMP 450 - Independent Study Credit to be arranged. Independent study is undertaken by the student under the supervision and guidance of the instructor. Open to qualified third and fourth year students.

CMP 455 - Senior Project 2 hours. This course requires students to complete an in-depth computer science project, chosen in consultation with the computer science major advisor. Projects normally involve extensive work in data handling, theoretical computer science and/or programming. Projects may be developed in conjunction with co-op programs, summer work and/or research programs, as well as intern/extern programs.

CMP 465 - Topics in Computer Science 2-4 hours. Special topics in computer science which may vary from year to year. Prerequisite: Permission of the department.

CMP 466 - System Analysis and Design 3 hours. Information system development beginning with a study of the decision-making process and the levels of decision-making to provide a framework for the information system. Emphasis is on information analysis and logical system design. Topics covered include information need analysis and information systems development methodology. Prototyping and development software are addressed and used. Prerequisites: MIS 190 or permission of instructor.

CMP 467 - Decision Support Systems 3 hours. A systems approach to understanding both organizational and technological functions of information theory. Focus is on developing an understanding of decision support systems within organizations with reference to concepts and applications. Course content includes system and information concepts, structure of systems, model formulation theory, and management of information systems concepts. Decision support system tools such as IFPS-PC are used. Prerequisites: MIS 190 or permission of instructor.

CMP 495 - Seminar in Information Theory 3 hours. A course serving as a capstone for the information theory emphasis. The course emphasizes information theory as related to planning, organizing and controlling information systems in the business environment. Focus is on case studies and/or consulting. Prerequisites: MIS 190 or permission of instructor.

Criminal Justice Studies

CJS 322 - Juvenile Justice 2 hours. This course analyzes the philosophies that have influenced juvenile justice policy implementation. The course uses a text and supplemental readings to illustrate the processing system that funnels juveniles from the time of their arrest to their release.

CJS 332 - Focusing on Police 2 hours. This course gives students an in-depth analysis of police operations. Discussions are centered on police operations and the social process involved in police-citizen contacts.

CJS 340 - Concepts of Penology 4 hours. A survey of correctional concepts and philosophy with emphasis on the correctional institution as a community and the sociology of confinement. Additional focus on penal reform, correctional administration and innovation. Prerequisite: SOC 110.

CJS 350 - Seminar in Criminal Behavior, Etiology, Control, and Rehabilitation 4 hours. Specific problems and issues concerning criminal behavior are examined in depth. The area of investigation varies with the disciplinary orientation of the instructor. Includes analysis of the causes of particular kinds of behavior, examination of methods of control, and consideration of current approaches to rehabilitation. Prerequisite: junior or senior standing.

CJS 442 - Special Topics in Criminal Justice 4 hours. An open course varying in contents from years to year, which allows concentration on such special topics as terrorism, white-collar crime, drugs and crime.

CJS 450 - Independent Study in Criminal Justice Studies 2 or 4 hours. Individual research by the Criminal Justice Studies majors into an area of interest. Research topics are chosen to complement material covered in other courses and to provide the student with additional information relevant to career or graduate interests. Prerequisite: Senior CJS major and permission of instructor.

CJS 460 - Field Work in Criminal Justice Studies 4 hours. Students work with criminal justice related agencies, normally in the Alfred area, and are expected to apply their theoretical knowledge to the practical experience gained from field work. Prerequisite: Senior CJS major and permission of instructor.

Graduate Courses

CJS 517 - Social Control, Corrections and Rehabilitation 3 hours. CSA Graduate elective.

Critical Discourse Studies

CDS 201 - Intro to Critical Discourse Studies 2 hours. The introductory course investigates Critical Discourse as a practice. We will examine the ways that critical discourse has operated in various academic disciplines as well as the effects it has had on methodology. Each week the discussion will be led by a professor in the field being studied. These include English literature, philosophy, psychology, and history. Through surveying specific manifestations of Critical Discourse, we will arrive at a general conception of the theoretical perspective.

CDS 281 - Literature and Science 2-4 hours. “Three quarks for Muster Mark” (James Joyce). This course will explore and challenge the boundaries separating disciplines. Fictional representations of emerging technologies, medical nightmares, and futuristic utopias and distopias are all possibilities for discussion. (Cross-listed as EGL 281) (A)

CDS 305 - History of the English Language 4 hours. This course introduces students to the history of the English language, to Anglo-Saxon and medieval English culture, and to the basic grammar and forms of Old English and Middle English literature by reading works such as *Beowulf*, “The Wanderer,” “The Seafarer,” “The Dream of the Rood,” *The Canterbury Tales*, *Sir Gawain and the Green Knight*, and works of the medieval mystic tradition. (Cross-listed as EGL 305)

CDS 309 - Persuasion: Reception and Responsibility 4 hours. This course provides majors in communication studies and related areas with a foundation for rhetorical thinking. Critical issues in persuasion are addressed, along with a historical survey of rhetorical philosophy and theory. Students successfully completing the course will know expert opinions on issues concerning face-to-face persuasive communication. (Cross-listed as COM 309)

CDS 320 – Topics in Critical Discourse Studies 2-4 hours.

CDS 326 - Nietzsche 4 hours. Nietzsche is considered as 19th century philosopher and precursor of 20th century thought, Topics include: Nietzsche’s perspectivism, theory of interpretation, genealogical critique of morality, religion and history, and ideas about art, tragedy, will to power, eternal recurrence, and the overman. (Cross-listed as HSP 326)

CDS 360 - Literary Criticism and Theory 2-4 hours. This course examines how literature has been approached and understood from the time of Plato to the present day. Readings are selected from those critical and theoretical statements which have most profoundly influenced literary response and even literature itself. (Cross-listed as EGL 360)

CDS 410 - Communication Ethics 4 hours. An exploration of ethical perspectives that pertain to communication in a variety of contexts, including interpersonal, small group, organizational, public and mass. Students learn to become more responsible senders and receivers of communication. Prerequisites: COM 101 and COM 110. (Cross-listed as COM 410)

CDS 420 - Social Theory: A Survey 4 hours. An examination of contemporary theoretical schools, e.g. symbolic interactionism, structural functionalism. exchange and conflict, and ethnomethodology. Special attention devoted to the precursors and contemporary representatives of the respective schools. Prerequisite: SOC 110 or AN 200 or permission of instructor. (Cross-listed as SOC 420)

CDS 450 – Independent Study Variable hours

Dance

DAN 110 - Fundamentals of Dance 2 hours. Introduces new and continuing dance students to the art of dance with an emphasis on alignment, strength, and flexibility of the whole body. Dancers are challenged to develop their physical intelligence and artistic expression in center and across the floor combinations using a wide range of dynamics and rhythms. Note: This is a prerequisite for all dance courses unless waived by the instructor. (Cross-listed as PE 110) (C)

DAN 205 - Special Topics in Dance 2-4 hours. Courses offered according to students' interests in particular topics, such as Children's Dance. Social and Square Dance, Folk and Ethnic. Dance Therapy. (Cross-listed as PE 205) (Sufficient demand)

DAN 220 - Modern Dance I 2 hours. An introductory course in various modern dance techniques including some improvisational work. Prerequisite: DAN 110, PE 110, or permission of instructor. (Cross-listed as PE 220) (C)

DAN 230 - Ballet I 2 hours. An elementary course in ballet technique including a ballet barre, with the traditional adagio tournament and allegro center floor work. Emphasis on placement and correct turn-out. Prerequisite: DAN 110, PE 110 or permission of instructor. (Cross-listed as PE 230) (C)

DAN 240 - Jazz Dance I 2 hours. An introductory course in jazz dance technique incorporating performing aspects of the jazz medium. Prerequisite: DAN 110, PE 110 or permission of instructor. (Cross-listed as PE 240) (C)

DAN 275 - Improvisation/Composition I 2 hours. A laboratory for discovering your own unique style of doing and seeing dance. Emphasis on improvisation, "real play" and group interactions. Introduction to basic compositional methods. Note: This is a prerequisite for DAN 350 AU Dance Theatre. (Cross-listed as PE 275)

DAN 280 - Dance History 4 hours. A study of the historical development of dance from pre-literature cultures through the twentieth century with an investigation of the relationship between socio-cultural changes and their influence upon dance and the related arts.

DAN 320 - Modern Dance II 2 hours. An extension of the beginning course, continued instruction is given in dance forms, movement, awareness, technique and patterns. Prerequisite: DAN 220, PE 220 or equivalent experience to be judged by the instructor. (Cross-listed as PE 320)

DAN 330 - Ballet II 2 hours. A continuation of the beginning course for the student who has experience in this traditional form and is capable of more complex combinations. Prerequisite: DAN 230, PE 230 or permission of instructor. (Cross-listed as PE 330)

DAN 340 - Jazz Dance II 2 hours. A continuation of the beginning course for students already able to move within the jazz idiom. It includes more advanced work in jazz technique as well as combinations. Prerequisite: DAN 240, PE 240. (Cross-listed as PE 340)

DAN 350 - Alfred University Dance Theatre 2 hours. The Alfred University Dance Theatre presents students with the opportunity to engage in learning and performing a variety of dance works choreographed by faculty, guest artists and fellow students. Dance Theatre presents one work-in-progress "showing" and one concert each year. Participation is open to all students and will not be included in determining course overload.

DAN 375 - Improvisation/Composition II 2 hours. A laboratory for developing skills as a choreographer. Dance compositions are created and performed at the end of the semester. Emphasis on development of the individual "voice" of the choreographer and the ability to "see" dance. The "how to" of making a dance for performance. Note: This is a prerequisite for DAN 350 AU Dance Theatre. Prerequisites: DAN 275 or 375; one of the following: DAN 110, DAN 220, DAN 230, DAN 240 or permission of instructor. (Cross-listed as PE 375)

DAN 380 - Dance Internship 4 hours. An off-campus, independent study project in which the student gains insight from experiencing actual tasks and responsibilities undertaken and performed by persons in the dance field. At completion, a journal and final report is submitted to the faculty sponsor. Prerequisites: junior standing and permission of instructor.

DAN 390 - Philosophy of Dance 4 hours. Dance as an art form: meaning, socio-cultural, historical and aesthetic perspectives and the relationship with other arts. Lectures, films, demonstrations and practical dance experience. Prerequisite: junior standing or permission of instructor.

DAN 450 - Independent Study 2-4 hours.

DAN 470 - Choreography II 2 hours. This course defines the selective process of compositional skills with emphasis placed on movement phrasing and ordering. Prerequisite: Advanced technical level in one dance form.

DAN 471 - Senior Project 2 hours. Students prepare a major dance concert as a culmination of their choreographic work. Production, promotion and coordination are each student's responsibility with support and guidance from the Performing Arts Division. Prerequisites: DAN 470 and senior standing.

DAN 475 - Choreographic Practicum 1-3 hours. This course provides the advanced student with the opportunity to choreograph new dance works under faculty supervision. Prerequisite: DAN 370 and permission of instructor. Repeatable up to six credits.

Economics

ECO 201 - Introduction to Economics and Markets 4 hours. Introduction to the principles of microeconomics and a survey of contemporary economic issues. Includes study of market systems and structures, government regulation of business, labor markets and income distribution, strategic behavior, and market failure. Prerequisite: 70 or better on Math Competency Exam, or sophomore standing. (E)

ECO 202 - Principles of Macroeconomics 3 hours. Study of the factors involved in the problems of unemployment, inflation, economic growth, and the role of fiscal and monetary policies. Includes coverage of the money and banking system and international trade. Prerequisite: ECO 201

ECO 312 - Environmental Economics 3 hours. Fundamental economic causes of environmental problems are stressed. Alternative paradigms from within and outside economics are developed and applied through preparation of cases. Appropriate roles for government, non-governmental organizations, and individual actions are identified. Prerequisite: ECO 201. (For ENS majors: ENS 101 and ENS 102.)

ECO 331 - Money and Banking 3 hours. The principles and organization of the monetary and banking system and importance of the money supply. The structure of the banking system and the techniques used by the Federal Reserve are covered, along with monetary theory, other factors affecting income, employment and inflation, the controversies surrounding the use of monetary and fiscal policies and the international dimensions of the issues. Prerequisites: ECO 201/202, junior standing. (Cross-listed as FIN 331)

ECO 412 - International Economics 3 hours. Theory and practice of International Trade and Development. Theories and policies of international trade; open economy topics of balance of payments, exchange rate determination and open macroeconomic policies; international development issues of trade, foreign capital, economic growth, and economic integrations.

ECO 445 - Managerial Economics and Microeconomic Analysis 3 hours. Emphasizes the application of fundamental theoretical and analytical tools of economics useful in managerial decision making. Empirical studies and cases involving actual managerial situations at the levels of industry and firms are examined. Prerequisite: FIN 348 or permission of instructor. (Cross-listed as FIN 445)

ECO 450 - Independent Study 1-4 hours.

ECO 462 - Industrial Organization 3 hours. In this course, the theory of the firm is extended using the structure-conduct-performance paradigm and more recent theories of industrial organization. An important portion of the course is allocated to presentation of factual and institutional material on market structure, firm conduct, industry performance, and antitrust policy. Prerequisites: ECO 201/202, junior standing.

ECO 465 - Public Finance 3 hours. The course analyzes the effect on the economy of different forms of taxation and expenditure patterns at the federal, state, and local level. Attention is given to the effects of government policy on the distribution, composition and size of total income and to the political bases for budgetary decisions. Prerequisites: ECO 201/202, junior standing. (Alternate years)

ECO 466 - Benefit Cost Analysis 3 hours. Covers the practice of economic evaluation of public and private projects and programs. Includes use of case studies for both conducting and evaluating BCA. Prerequisite: ECO 201. (Alternate years)

ECO 495 - Special Topics 3 hours. An introduction to current work in economics. The focus is on particular topics of special interest within the discipline. Students are responsible for presenting, discussing, and writing about ideas expressed in the professional literature. Prerequisite: One course in Economics numbered 300 or above.

Education

ED 230 - Psychological Foundations of Education 3 hours. Mental, social and emotional development with primary reference to human theories and principles of learning. Special emphasis is given to exceptional students. Includes drug abuse education. School observation and participation are required.

ED 341 - Social Foundations of Education 3 hours. An introductory course discussing the function of education in society, and, in particular, the organization of the American school system, the influences affecting our schools, and present practice and trends. School observation and participation are required.

ED 345 - Education Fieldwork 2 hours. Design for those students seeking New York State certification in the Middle Childhood and Adolescence areas. Includes observation, projects and activities related to the New York State teaching standards. Requirements for course may be completed in any New York State public school.

ED 374 - Integrated Methods: Social Studies, Science, Mathematics, and Computer Application 6 hours. The integrated methods course combines the teaching of Social Studies, Mathematics and Computer Application into one six credit course and is taught in conjunction with classroom practicum experiences in Early Childhood/Childhood Education. Through these integrated experiences, practicum students will develop the initial ability and skill to: plan and implement appropriate learning experiences; become familiar with the purpose and contents of New York State Learning Standards in content areas and demonstrate the ability to relate these standards with the ongoing process of instructional planning; distinguish among and apply a variety of teaching approaches to accommodate differing developmental needs and learning styles of students and engage students in active learning; become familiar with appropriate strategies to assess the diverse needs of students and develop professional teacher communication and interpersonal skills. Prerequisite: Admission into the Early Childhood/Childhood Education Program.

ED 375 - Early Childhood/Childhood Practicum 3 hours. The practicum provides opportunities for students to observe actual classroom settings, gaining “hands on” experience while taking concurrent course work. This four full days a week field experience in three difference grade level placements in a local school system is an opportunity for students to blend theory with practice and experiential application.

ED 404 - Diagnostic and Remedial Techniques in Literacy 3 hours. Provides students with in-depth knowledge of procedures for diagnosing specific reading problems, and strategies for the correction of reading difficulties. At the conclusion of this course, prospective teachers should be able to administer and interpret several diagnostic instruments and be able to design a program for teaching identified areas of weakness.

ED 405 - Literacy in the Content Area 3 hours. The course shows teachers how to apply reading methodology to subject area learning. It takes a balanced approach, providing a realistic and practical treatment of reading and methodology issues, theory and research.

SED 456 - Human Development: Exceptionality 3 hours. This course covers the range of physical, cognitive, communication, and social/emotional exceptionalities in human development from childhood to early adulthood. One focus is on the commonalities, not just the differences, between children and youth with disabilities and their nondisabled peers. A second focus is on understanding the different contexts of disability.

ED 457 - Seminar in Teaching and Professional Development 6 hours. Taken concurrently with ED 461, this course addresses general issues of professional development of educators. Topics will include, but are not limited to, advanced uses of technology in the classroom, classroom management, teaching learning process, and issues of professionalism.

ED 461 - Student Teaching 12 hours. Cooperating schools make it possible for student teachers to practice teaching under typical public school conditions. The Division of Education, the major department, and cooperating teachers supervises observation, teaching, and discussion. Open only to students who are approved by the Division of Education.

ED 471 - Methods of Teaching Literacy 6 hours. A study of the current trends and innovative methods in teaching literacy in the elementary school. The areas of word identification, comprehension, and process writing for all students, including those with special needs, will be covered. Prerequisite: Admission into the Early Childhood/Childhood Education Program.

ED 472 - Competency Skills in Teaching Literacy 3 hours. This course gives students an opportunity to demonstrate achieved competency skills for teaching literacy at the Early Childhood/Childhood level. Attention will be given to the current New York State Learning Standards and how to incorporate these standards into the curriculum. Prerequisite: ED 471 and admission into Student Teaching in Early Childhood/ Childhood Education.

ED 473 - Assessment in the Early Childhood/Childhood Classroom 3 hours. This course examines assessment procedures, strategies, and techniques used and constructed for early childhood/childhood classroom teaching and learning purposes. Traditional and nontraditional means of assessment will be explored and an emphasis is placed on the alignment of assessment, instruction and content.

ED 474 - Orientation to the Early Childhood/Childhood Classroom 3 hours. This course helps students focus on problems, opportunities and challenges of the early childhood/childhood curriculum and classroom. It covers such issues as teacher awareness, teacher expectations, modeling, classroom management and grouping, as well as the socialization process within the early childhood/childhood classroom.

ED 488 - Current Teaching Methods: Middle Childhood Subjects 3 hours. Discussion of goals, methods, and materials used to successfully teach middle childhood subjects. Classroom observation and teaching required.

ED 489 - Current Teaching Methods: Secondary Subjects 3 hours. Discussion of goals, methods, and materials used to successfully teach secondary and special subjects. Classroom observation required.

English

Writing

EGL 101 - Writing I 4 hours. Study and application of the basic principles of written communication: correctness, clarity, concreteness, effective organization, and accepted forms of documentation. (I)

EGL 102 - Writing II 4 hours. This course offers intensive experience in essay writing. Through the close reading of literature and the practical experience of writing, students explore rhetorical strategies, learn accepted forms of documentation, develop a sense of voice, and deepen their responses to the written word. (Prerequisite to 300 and 400-level studies in English) (I)

EGL 201 - The Language of Literary Art 4 hours. This course introduces students to the elements of literary art. Through a sequence of readings and problems, students gain an understanding of diction, figuration, genre, point of view, and context as shaping components of literary form.

EGL 202 - Creative Writing 4 hours. For beginning writers, a course on the structures, styles, and techniques of contemporary fiction and narrative. Students experiment with subject and voice with an emphasis on creating characters. Portfolio exam.

EGL 203 - Imaginative Writing 4 hours. An introductory course in the art of writing designed to foster literary awareness, release creative intuition, and develop rhetorical technique. Practical exercises provide experience in the use of image, metaphor, diction, syntax, narrative viewpoint, and other elements of form. Required work includes two projects, peer critiques, and weekly assignments in verse and prose.

EGL 204 - The Art of the Personal Essay 2 hours. An examination of the best contemporary essayists. Students develop their own essays after reading and discussing these works.

EGL 205 - The Play's the Thing!-Playwriting 4 hours. This course combines beginning acting exercises with improvisations in writing. Texts include full-length plays and one-acts. Students work on their scripts in tandem with students enrolled in an acting or directing class.

EGL 206 - Poetry Workshop 2 hours. A beginning writing course in poetry with an emphasis on originality and freshness of language and a basic understanding of poetic form. Required work includes extensive reading of contemporary poets, weekly writing, peer review, and a final portfolio of revised poems. (Cross-listed as WST 206)

EGL 265 - Special Topics in Writing 2-4 hours. A series of introductory writing courses, each being a study of a subject not covered in other 200-level courses. Topics may include feature writing, magazine writing, or writing in other specialized areas.

Film

EGL 233 - Film Criticism 4 hours. An introductory course examining narrative films for their basic elements in order to perceive the ways they convey values and experiences and solicit aesthetic response. (C)

EGL 234 - Crime on Film 4 hours. A study of the criminal underside of American life as depicted in the gangster film (*Public Enemy*, *Scarface*, *Godfather I*, *II*) the private eye film (*Maltese Falcon*, *Chinatown*), and the "film noir" (*Double Indemnity*, *Out of the Past*, *Gilda*). (C)

EGL 235 - Comedy in Film 4 hours. This study of American film comedy (excluding silents) examines such figures as Chaplin, the Marx Brothers, Lubitsch, Sturges, Capra (*It Happened One Night*), Hawks, (*Bringing up Baby*), Kubrick (*Dr. Strangelove*), Allen (*Annie Hall*) and others. (C)

EGL 236 - Women in Film 4 hours. This study will examine from *Imitation of Life* to *Thelma and Louise*, the portrayal of women in such American films as the material and domestic melodrama, the romantic comedy, the film noir, the "women's film," and the "new women's film." (C)

EGL 270 - Special Topics in Film 2-4 hours. A series of introductory courses, each being a study of film not covered in other 200-level courses. (C)

Introduction to Literature

(These 200-level courses are primarily intended for freshmen and sophomores.)

EGL 211 - The Short Story 2-4 hours. This introductory course may adopt one or more of the following approaches: an historical survey of the genre, examining the emergence and growth of this literary form; an aesthetic treatment; a cultural stance, illustrating how class, gender, and ethnicity influence literary texts; a thematic ordering, revealing how different works treat familiar themes. (A)

EGL 212 - The Novel 2-4 hours. An introductory examination of one of the most complex and powerful of all genres. This course may focus on a number of issues crucial to the novel: history, conventions, theme, and/or culture. British, American, and/or Continental authors. (A).

EGL 213 - Introduction to Poetry 2-4 hours. This course introduces students to the main traditions of English verse and the fundamentals of poetic form. Selections include the major poets of the English language, as well as contemporary British, Irish, and American poets. (A)

EGL 214 - Introduction to Drama 2-4 hours. A study of plays as literature, parallel to other genres, but unique by way of staging and performance. The course examines comedy and tragedy as well as less traditional dramatic forms. Readings are drawn from plays of ancient Greece and Rome, the Middle Ages and the Renaissance, the Neoclassical Period, and the twentieth century. (A)

EGL 215 - The Short Novel 2-4 hours. This course approaches the short novel or "novella" as differing from novel and story not merely in size, but in kind. It is a distinct species of fiction, uniquely crafted and responsive to an aesthetic separate from that of its longer and shorter cousins. Readings are selected from American, British, Irish, and Continental short novels. (A)

EGL 216 - 20th Century Poetry 4 hours. In this course we will read some of the best known 20th-Century American, British, and Irish poets: Robert Frost, ee cummings, Sylvia Plath, Thomas Hardy, W. B. Yeats, and Seamus Heaney among others. (A)

EGL 218 - Autobiography 2-4 hours. "[O]ne never finds truth; one creates it" (Lillian Smith). What does it mean when an individual writes his/her life? This course combines the study of literary autobiography with traditional critical approaches to the genre. Readings include stories, letters, diaries, poems, memoirs, and criticism. (Cross-listed as WST 218) (A)

EGL 220 - British Literature(s) 4 hours. This course examines British literature from one of several possible perspectives: cultural, aesthetic, historical, thematic, and political. Literary periods or scope of reading may vary according to the perspective. (A)

EGL 221 - Tales of King Arthur 2-4 hours. This course examines King Arthur from his historical origins, to both his glorious and not-so-glorious medieval forms, and finally to his modern incarnations. It introduces students to medieval romance, the concept of chivalry, and the transmission of the Arthurian legend from one culture to another. (A)

EGL 223 - Survey of British Literature 4 hours. This course will provide an overview of British Literature: Beowulf, Chaucer, Renaissance and Metaphysical Poetry. Shakespeare and the Jacobeans, Restoration and 18th Century Poetry and Prose, 19th and 20th Century novels. Romantic, Victorian, and 20th Century Poetry. (A)

EGL 224 - Introduction to Shakespeare 2-4 hours. This course introduces students to a wide variety of Shakespeare's plays, including comedies, tragedies, histories, as well as to the theories of comedy and tragedy. (A)

EGL 225 - Shakespeare in Cinema 2-4 hours. This course explores some of Shakespeare's most popular plays and their film adaptations. Students focus on the literary analyses of character, theme, and language in the written texts. We also compare the cultural contexts of representative comedies, tragedies, and histories, with their contemporary film settings. (A)

EGL 240 - American Literature(s) 4 hours. This course examines American literature from one of several possible perspectives: cultural, aesthetic, historical, thematic, political. Literary periods or scope of reading may vary according to the perspective. (A)

EGL 241 - Survey of American Literature 4 hours. This course will focus on the problematic question of a ***national*** literature. By looking at the variety of texts that make up American literature, the course will examine the influence of history and culture on literary theme and voice. (A)

EGL 243 - Lunatics, Lovers, and Poets: Southern Storytellers 2-4 hours. Southerners don't hide their skeletons in closets; they invite them into the living room to entertain at tea. This course focuses on works which examine what Flannery O'Connor defined as the Southern grotesque-individuals "forced to meet the extremes of their own nature." Exploring the world created when tragic merges with comic, other writers might include Faulkner, Williams, Welty, Percy, Crews, Dickey, and Tyler. (A)

EGL 244 - New American Poetry 2 hours. In this course we will examine the current work of living American poets. We will give special attention to poets who address moral, social and environmental issues. Selections will vary from year to year. (A)

EGL 245 - American Drama 4 hours. Focusing primarily on the works of the current century, this course will examine the emergence of modern American drama. By reading the plays of O'Neill, Odets, Williams, Miller--and others--we will trace the ways in which a vital modernist culture shaped American drama. (A)

EGL 251 - World Literature I 4 hours. This courses introduces students to early English and non-English literary traditions and provides an understanding of the connections between and differences among cultures of the ancient, medieval, and renaissance periods. (A)

EGL 252 - World Literature II 4 hours. This course introduces students to both English and non-English literary traditions in the early modern and modern periods and provides an understanding of the connections between and differences among cultures from the Enlightenment to the present. (A)

EGL 254 - Women Writers 2-4 hours. A course that examines issues of language, gender, and culture portrayed through the lens of the woman writer. Texts may include novels, stories, autobiographies, essays, letters, and poetry. (Cross-listed as WST 254) (A)

EGL 256 - Multicultural Literature 2-4 hours. The literature of diverse cultures. African, Asian, Jewish, and Native American literatures as well as other cultural traditions may be represented. (Cross-listed as WST 256) (A)

EGL 260 - Special Topics in Literature 2-4 hours. A series of introductory courses, each being a study of a subject not covered in the other 200-level courses.

EGL 275 - Fiction into Film 2-4 hours. A comparative study of several fictional works and their film adaptations. The course analyzes individual texts and films, and considers the relationship between words and visual images or between the literary canon and popular culture. (A)

EGL 277 - Tales of Adventure 4 hours. Tales of adventure constitute the oldest literature that has survived through the centuries. This course examines many genres: epic, political satire, romance, horror, the fairy tale, and science fiction. Readings span more than 2500 years of literary history. (A)

EGL 278 - The Middle Ages in Literature and Film 4 hours. This course examines the use and abuse of medieval concepts such as the quest, Christian morality, and courtly love, as well as of specific medieval characters and events by authors and filmmakers such as J.R.R. Tolkien, C.S. Lewis, T.H. White, John Cleese, Walt Disney, and Quentin Tarantino. (A)

EGL 279 - The Vietnam War in American Literature 4 hours. This course explores the impact of the Vietnam War on American literature, concentrating on how the lens of literary imagination has become a tool for seeing the war more clearly and for coming to terms with it as cultural experience and ordeal. (A)

EGL 280 - Bible as Literature 4 hours. “We throw it out the door, and it comes back in the window” (Mark Twain). The Bible continues to influence western culture. The class reads much of the Bible and some other traditional and contemporary literature, looking for connections between the Biblical texts and others. (A)

EGL 281 - Literature and Science 2-4 hours. “Three quarks for Muster Mark” (James Joyce). This course will explore and challenge the boundaries separating disciplines. Fictional representations of emerging technologies, medical nightmares, and futuristic utopias and distopias are all possibilities for discussion. (Cross-listed as CDS 281) (A)

EGL 290 - War and Imagination 4 hours. This course explores the irony that war, humankind’s worst activity, has stimulated the human imagination to admirable accomplishments. The class examines the fiction of war from the American Civil War, through the two World Wars, and up to Vietnam. A selection of war poetry is read in conjunction with novels and short stories. (A)

EGL 292 - Tales of Terror 2-4 hours. “Only the perverse fantasy can save us” (Goethe). If you like women in white, gray castles, and dark secrets, this course is for you. An exploration of the conventions and tropes in Gothic literature. (A)

EGL 293 - A Place in the Universe 2 hours. A course based on the writings of naturalist-authors from Thoreau to Annie Dillard who have sought or are seeking a satisfactory relationship between humankind and the embattled environment. (A)

Advanced Studies

EGL 300 - Major Figures in Literature 2-4 hours. A series of courses, each being a detailed examination of the work of a single major writer. Currently these include: Homer, Dante, Swift, Hardy, Lawrence, Cather, Hemingway, Faulkner, and Morrison.

EGL 301 - Bible as Literature 4 hours. It is probably with equal measures of arrogance and humility that students of literature read the Bible. We read as much as we dare in one semester, trying to absorb some of its story, poetry, history, apocalyptic visions, imagery, and tropes. We also look at illustrative issues in narrative, poetics, and intertextuality as they affect our cultural experiences of the Bible.

EGL 302 - Greek Tragedy 2-4 hours. A study of tragic drama in the fifth century B.C. both as art form and as communal institution within ancient Greek culture. Readings are drawn from the seven surviving plays of Aeschylus, the seven extant plays of Sophocles, the nineteen plays attributed to Euripedes, and Aristotle’s *Poetics*.

EGL 305 - History of the English Language 4 hours. This course introduces students to the history of the English language, to Anglo-Saxon and medieval English culture, and to the basic grammar and forms of Old English and Middle English literature by reading works such as *Beowulf*, “The Wanderer,” “The Seafarer,” “The Dream of the Rood,” *The Canterbury Tales*, *Sir Gawain and the Green Knight*, and works of the medieval mystic tradition. (Cross-listed as CDS 305)

EGL 306 - A Medieval Bookshelf 4 hours. This course introduces students to the connections between medieval English literature, its classical sources, and medieval European literatures.

EGL 307 - Chaucer 4 hours. This course introduces students to Chaucer's works. All readings are in Middle English, and students will gain competence in reading and pronouncing Chaucer's English. Readings will include "The Book of the Dutchess," excerpts from *The Legend of Good Women*, *Troilus and Criseyde*, and excerpts from *The Canterbury Tales*.

EGL 308 - Women Writers in the Middle Ages 4 hours. This course examines the writings of medieval women – abbesses, merchants, wives, mothers, and mystics – to explore the challenges female writers such as Heloise, Margery Kempe, Julian of Norwich, and Christine de Pizan presented to orthodox Christianity, to gender stereotypes, and to medieval political and social structures. (Cross-listed as WST 308)

EGL 310 - English Renaissance Literature 4 hours. This course focuses on the poetry and drama of the sixteenth and seventeenth centuries. The Elizabethan, the metaphysical, and the classical traditions of poetry are represented by Spenser, Shakespeare, Donne, Jonson, and Milton; the Elizabethan-Jacobean drama is presented by such dramatists as Marlowe, Jonson, and Webster.

EGL 311 - Shakespeare's Comedies and Histories 4 hours. This course introduces theories of comedy and explores Shakespeare's development as a comic dramatist as students read the festive and romantic comedies, comparing his early efforts with his mature plays. It also examines Shakespeare's dramatization of English and Roman history, the genre of the history play, and the playwright's adaptation of history to the comic and tragic modes.

EGL 312 - Shakespeare's Tragedies 4 hours. This course focuses on Shakespeare as a tragic artist. It introduces theories of tragedy, explores the playwright's experimentation with the genre, comparing his early efforts with his mature accomplishments, and examines some tragi-comedies.

EGL 313 - The Eighteenth Century 4 hours. This course explores the works of such authors as Jane Austen, Oliver Goldsmith, Matthew Lewis, Lady Mary Wortley Montagu, and Jonathan Swift against the background of eighteenth-century values and ideas. Genres include the novel, drama, and poetry.

EGL 314 - English Romantic Movement 4 hours. This course focuses on the well-known works of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats as well as on the less well known but important works of writers such as Anna Barbauld, Mary Robinson, and John Clare. Poems will be supplemented by works of fiction associated with British Romanticism such as Mary Shelley's *Frankenstein*.

EGL 315 - Victorian Literature 4 hours. This course focuses on major Victorian poets and novelists such as Alfred Lord Tennyson, Matthew Arnold, Robert Browning, Elizabeth Barrett Browning, Christina Rossetti, Gerard Manley Hopkins, Charles Dickens, the Brontes, Thomas Hardy, and Oscar Wilde.

EGL 321 - Modern British Literature 4 hours. A study of modernism in English literature as an intensely productive and international movement. Emphasis is placed on fiction, poetry, and drama written between the two world wars, with readings drawn from such writers as Conrad, Joyce, Woolf, Lawrence, Greene, Yeats, Eliot, Thomas, Shaw, and Lowry.

EGL 322 - Irish Literary Traditions: 1690 to the Present 4 hours. A nation rich in song and story, Ireland has produced a distinctive national literature. This course explores three centuries of Irish writing. Genres include narrative, drama, and poetry. Selections include Swift, O'Rathaille, O'Bruadair, Mangan, Wilde, Shaw, Pearse, Yeats, Joyce, Heaney, and Kavanagh.

EGL 324 - The Life and Art of James Joyce 4 hours. This course focuses on Joyce's fiction, including *Dubliners*, *A Portrait of the Artist as a Young Man*, *Ulysses*, and selections from *Finnegans Wake*. Biographical readings will accompany the literature, and Homer's *Odyssey* will be studied in parallel with Joyce's *Ulysses*.

EGL 331 - 19th-Century American Literature 4 hours. This course explores the diverse literary experiments of a nation striving toward cultural and aesthetic independence. Readings and critical perspectives vary according to instructors.

EGL 332 - 20th-Century American Visions 4 hours. This course examines modern and postmodern literary experiments as manifested in American culture. Readings and critical treatments vary according to instructors.

EGL 333 - Voices in American Poetry 4 hours. The “experience of each new age requires a new confession, and the world seems always waiting for its poet” (Emerson). Selected readings introduce confessional voices in American poetry from Whitman and Dickinson to the present.

EGL 336 - Literature of the Modern South 2-4 hours. This course examines short stories, novels, plays, and poetry which led to a “Southern Renaissance” in the twentieth century. Writers might include Chopin, Faulkner, Hurston, Williams, Welty, O'Connor, Percy, Crews, Dickey, and Tyler.

EGL 341 - Drama to 1800 2-4 hours. This course traces the evolution of drama from its seeds in Greco-Roman ritual and medieval liturgy to its flowering in the great secular plays of the Renaissance. It also encompasses Restoration and 18th-century drama. Including such playwrights as Sophocles, Marlowe, Jonson, Webster, Ford, Moliere, Racine, Goldsmith, and Sheridan, the course touches on the earliest beginnings of drama but concentrates on plays written between 1550 and 1800.

EGL 342 - Modern and Contemporary Drama 2-4 hours. This course begins with the birth of the modern play in the late 19th century, then traces the evolution of dramatic literature to the present time. Readings selected from such playwrights as Ibsen, Strindberg, Chekhov, Shaw, O'Neill, Williams, Miller, Ionesco, Albee, Baraka, Pinter, Stoppard, Shepard, Shaffer, Norman, and Mamet.

EGL 343 - Studies in the Novel 2-4 hours. This seminar explores a number of issues central to our understanding of the novel. The approach varies according to instructor but may include historical development, comparative study, and/or thematic grouping. Readings vary but focus on the American, British, and European traditions.

EGL 344 - The Form and Art of Poetry 4 hours. Designed for both the writer of verse and the student of literature, this course combines the study of poems and poetic traditions with exercises in conventional forms. Readings include theories of prosody and a selection of English, American, and Irish poets. Assignments include sonnets, sestinas, parodies, and syllabic verse, as well as analytic papers.

EGL 350 - Special Topics Seminar 2-4 hours. A series of courses, each being an advanced study of a subject not covered in detail by other 300-level courses.

EGL 360 - Literary Criticism and Theory 2-4 hours. This course examines how literature has been approached and understood from the time of Plato to the present day. Readings are selected from those critical and theoretical statements which have most profoundly influenced literary response and even literature itself. (Cross-listed as CDS 360)

EGL 371 - Dramatis Personae 4 hours. An advanced writing course for students interested in exploring the dynamics of self through the vehicle of the persona. Each student is expected to invent a persona and to write in the voice of that persona. There are also improvisations and collaborative assignments, in which the students' personae meet, converse, and interact. Prerequisite: 4 hours of 200-level creative writing.

EGL 372 - Feminist Poetics 4 hours. "What difference does difference make?" (Miller). A course that explores the gendered nature of poetics. Readings include theory and literature; student writing explores distinctions between women's writing and a common language. Prerequisite: Women in Society, Creative Writing, or permission of instructor. (Cross-listed as WST 372)

EGL 373 - Auto/Biographical Acts: Studies in Creative Non-Fiction 4 hours. Students consider the moral and aesthetic decisions that writers make in the process of writing lives and rendering images of the world. Focus is on autobiographical and biographical writing. Portfolio exam. Prerequisite: 4 hours of 200-level creative writing.

EGL 374 - Writing the Short Story 4 hours. An intensive writing workshop with an emphasis on the dynamics of the short story. Students are encouraged to experiment with form while learning the techniques of the well-crafted story. Portfolio exam. Prerequisite: 4 hours of 200-level creative writing.

EGL 378 - Exploratory Writing 2 hours. Employing such techniques as clustering, collage, extended metaphor, and chance composition, this course explores the possibilities of figurative and nonlinear writing. Assignments include invented forms, as well as such traditional forms as the sestina and villanelle. Prerequisite: 4 hours of 200-level creative writing.

EGL 381 - International Women Writers 4 hours. Explores literature written by contemporary women from different cultures. Study focuses on voice, content, and style, with some attention to the conditions in which the work was produced and to its reception. (Cross-listed as WST 381)

EGL 382 - African-American Literature 4 hours. This course traces the directions of African-American literature from the slave narrative through the Harlem Renaissance to contemporary fiction, drama, and poetry. Writers such as Frederick Douglass, Jean Toomer, Zora Neale Hurston, Langston Hughes, Richard Wright, Ralph Ellison, Lorraine Hansberry, James Baldwin, Alice Walker, and Toni Morrison are included.

EGL 383 - Harlem Renaissance 2 hours. Pronounced a "golden age of black art," the Harlem Renaissance focuses on a chorus of new voices introduced to American literature in the 1920s and culminating with the Works Progress Administration in 1937. These include: McKay, Toomer, Hughes, Bontomps, Cullen, Hurston, Sterling A. Brown, Margaret Walker, and the young Richard Wright.

EGL 410 - English Honors Thesis 2 hours. To graduate with Honors in English, students must attain a cumulative GPA of 3.30 in their major, successfully complete this senior project, and pass an oral examination. Eligible seniors should discuss their project plans with the Division Chair before registering for EGL 410.

EGL 420 - Internship in English 1-4 hours. An off-campus independent study project under the direction of a faculty sponsor. Students gain exposure to possible careers related to English studies. Requirements for this project include a journal, job evaluations, and a final report. May be taken during the summer or semester abroad.

EGL 450 - Independent Study

EGL 495 - Undergraduate Research Project 2-6 hours. Undergraduate funded research project. Intended for students who are majoring in English. Prerequisites: minimum 3.0 in the major; proposal acceptance by faculty committee.

Graduate Courses

EGL 520 - Literature for the Secondary School 3 hours.
EGL 550 - Independent Study

Environmental Studies

ENS 101 - Environmental Studies I - Natural Science 4 hours. An introductory science course for environmental studies majors, which may also be used by other students to fulfill graduation requirements in natural sciences. This course provides an understanding of basic ecological principles and an awareness of the interaction of physical, chemical, and biological forces on Earth. (F)

ENS 102 - Environmental Studies I - Social Science 4 hours. This interdisciplinary social science course examines the environmental implications of various socio-cultural, economic and political patterns in primitive, agricultural and industrial settings. These problems in contemporary America receive special attention.

ENS 103 - Principles of Geography 4 hours. Geography is the study of the location and interrelations of the earth's features, including landforms, climate, water, natural resources and people. In this course, students will study the interactions among these systems, using maps as one tool for analysis. (F)

ENS 201 - Environmentalism 2 hours. This course investigates the causes and consequences of the environmental predicament by examining historical traditions and values that compose the present-day environmental movement. Technology, growth, and resource depletion are considered in the context of our obligation to the future.

ENS 205 - Environmental Data Analysis 4 hours. Basic techniques and tools for manipulation of quantitative data, emphasizing environmental studies, data collection, analysis on spreadsheets and statistical packages, graphical presentation. Prerequisite: ENS 101/102 or permission of instructor. (III)

ENS 211 - Environmental Problem Solving 4 hours. Discussion and implementation of techniques to analyze and solve environmental problems, including literature research, public opinion surveys, data analysis, and environmental regulation. Prerequisites: ENS 101; score greater than 60 on math exam.

ENS 220 - Introduction to Geographic Information Systems 4 hours. This class introduces students to the fundamental concepts of computerized geographic information systems (GISs). It will combine an overview of the general principles of GIS and spatial data management with training on one of the most widely used GIS software packages, ArcView (Environmental Systems Research Institute). Students learn ArcView computer skills to manipulate data and create maps. A large selection of natural and social science data will be used for independent projects.

ENS 240 - Environmental Research Procedures I 3 hours. In this course, students are taught contemporary methods for studying and solving environmental problems. These include geological, biological, and geographical methods. Students are given the opportunity in the course to learn and practice the procedures while working on relevant problems.

ENS 241 - Environmental Research Procedures II 3 hours. Continuation of ENS 240. In this course, students are taught contemporary methods for studying and solving environmental problems. These include geological, biological, and geographical methods. Students are given the opportunity in the course to learn and practice the procedures while working on relevant problems. Prerequisite ENS 240.

ENS 300 - Special Topics 1-4 hours. Further considerations of environmental issues introduced in 100 and 200-level courses.

ENS 308 - International Environmental Issues 4 hours. How environmental issues differ in other places due to governmental, social, cultural, and historical policies and legacies. Topics include Eastern European pollution, tropical deforestation, marine resources depletion, etc. Also considers how women fill a role as resource caretakers. Prerequisites: ENS 101 or ENS 102 or ENS 103 or permission of instructor.

ENS 320 - Advanced GIS Applications 4 hours. Students use GIS technology to input primary data, generate spatial statistics, and design and produce maps for their own research areas such as community development and planning, ecology, or any traditional academic discipline. Prerequisite: ENS 220 or permission of instructor

ENS 340 - Oral and Written Communication Skills 4 hours. Students hone their written and oral communication skills as they gain experience with preparing essays, articles, posters, and grant and research proposals for topics in the natural and social sciences. Use of the library resources, both archival and on-line, is expected. Prerequisite: EGL 102; ENS 101 or 103

ENS 345 - Global Ecopolitics 4 hours. A course described to acquaint students with the factors of political economy affecting the environment. Special attention devoted to resource-utilization, in particular, the new frontiers of oceans, polar regions, and climactic forces. Also examined are the effects of global ideologies (animism, Judaeo-Christianity, Eastern religions, liberalism, socialism, and deep ecology), transnational development agencies and enterprises and international law on the "development" on planetary resources. (Cross-listed as POL 345)

ENS 351 - Environmental Biogeochemistry 4 hours. Transformation and movement of elements on Earth, with emphasis on effects of humans and potential global change. Projects involve field and instrumental analyses. Prerequisites: ENS 101 and CH 105 or permission of instructor.

ENS 363 - Tracking and Stalking 4 hours. Principles and techniques of tracking and stalking wildlife. Topics: transition times and places; gaits; compression shapes; toes 'n claws; tracking-stick and measurements.

ENS 365 - Junior Seminar 1 hour. Students in this course will attend weekly seminars on pertinent topics related to Environmental Studies. Required of all ENS majors.

ENS 397 - Water Laboratory 1 hour. Methods for monitoring and analyzing surface and groundwater using contemporary techniques such as pump tests, channel rating curves, field instruments, wet chemistry, and bioassay. Prerequisite: BIO 101 or ENS 101 or permission of instructors.

ENS 400 - Environmental Studies Seminar 2 hours. In a multidisciplinary, issue-oriented seminar, students, instructors and consultants from various fields combine their talents to develop solutions to local and regional environmental problems.

ENS 415 - Natural Resource Management 3 hours. Development of a management plan for a local natural resource provides the focus of this course. The class works as a team to satisfy the needs of a project sponsor and those of the local community. Prerequisite: junior standing. (Cross listed as BUS 495)

ENS 440 - Environmental Research Planning 2 hours. How research in environmental fields is developed, proposed, performed, and presented, with an emphasis on research projects to be conducted as required independent studies for ENS majors.

ENS 450 - Independent Study Variable hours. Independent study under the supervision of an instructor.

ENS 460 - Internship in Environmental Studies 1-4 hours. An off-campus independent study project. Students gain experience by serving as interns at public agencies or private firms which deal with environmental problems.

ENS 465 - Senior Seminar 2 hours. Students in this course will be guided through some of the common aspects of their senior research projects, such as literature searches, task mapping, and development of analytical protocols. All students will be required to present a weekly report on the progress of their senior research. Students will also attend the weekly ENS seminar series and learn about research techniques and procedures used by professionals. Required of all ENS majors.

ENS 470 - Senior Project in Environmental Studies 2-4 hours. Independent research under an instructor's supervision. Presentation of project is required for graduation.

ENS 495 - ARGUS Project 3 hours/semester; maximum 6 for two semesters. Undergraduate research project for ARGUS program students who are majoring in a natural science. Proposal acceptance by faculty committee.

Fine Arts

FNA 101-104 - Fine Arts I-IV 4 hours. Thematically-organized foundation course for BA Fine Arts majors. Creative projects combine studio work with art theory. Instruction in wide range of visual media and exposure to associated conceptual issues. Semester themes may vary each year. Prerequisite: permission of Fine Arts Director.

FNA 201 - Topics in Fine Arts 2-4 hours. Specialized studio areas are offered. The area changes each time the course is taught. Prerequisite: completion of an art foundation program.

FNA 301 - Topics in Art Theory 2-4 hours. Contemporary and historical issues in art theory are surveyed. The topic changes each time the course is offered.

FNA 331 - Detour from the Mainstream 4 hours. Investigates non-traditional art objects and practices such as an Outsider Art, Brut art, domesticity and housekeeping, "wild wheel" (car decoration), tattoos, gardens, graffiti, and mourning walls. The course explores the relationship between these practices and the art world. Should these objects count as art? What are the consequences of defining them as art? How should the objects be treated in terms of museum practices, art historical documentation, and the market? What is the nature of the relationship between the "outsider" art and mainstream art? Prerequisite: HSP 208. (Cross-listed as HSP 331)

FNA 350 - Birth of Modernism 4 hours. Focusing on the high modernist period in Europe, especially on the artistic circle of Serge Diaghilev's "Ballets Russes," the class traces the various "modernisms" which defined the period. Course work includes oral and written assignments and group projects. (Cross listed as HSH 350) (Sufficient demand)

FNA 351 - Text, Image, Binding: The History of the Book 4 hours. Through examination of the developments which led to the book, comparison of western and non-western book styles, and hands-on experience with making books, students develop an understanding of the ways in which western culture has been shaped by the relationship between text, image, and binding in the modern printed book. (Cross listed as HSH 351)

FNA 400 - Fine Arts Seminar 4 hours. A topical seminar primarily for Fine Arts majors. Topics vary from year to year. (Sufficient demand)

FNA 450 - Independent Study Variable hours. Independent study under the guidance of a faculty member.

FNA 470 - Fine Arts Internship Variable hours. Internship under supervision in such agencies as a regional art council, museum, gallery, etc. Available irregularly.

French

MLF 101 - French I 4 hours. Introduction to the language and culture of the French-speaking world; speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

MLF 102 - French II 4 hours. Continuation and further development of the skills learned in MLF 101.
Prerequisite: MLF 101 or permission of instructor. (II)

MLF 201 - French III 4 hours. Continuation and further development of the skills learned in MLF 102. Prerequisite: MLF 102 or permission of instructor. (II)

MLF 202 - French IV 4 hours. Continuation and further development of the skills learned in MLF 201. Prerequisite: MLF 201 or permission of instructor. (II)

MLF 203 - French Conversation 3 hours. Intensive practice in speaking French for those with some background in the language. Goals: to develop fluency in and sharpen understanding of spoken French. Prerequisite: MLF 102, or at least two years of high school course work in French, or permission of instructor.

MLF 242 - Paris: History, Art, and Culture 3 hours. A course enabling students to develop an understanding and appreciation of another culture, first in the classroom, and then two weeks in Paris. Focus is on history, art, and contemporary culture. Open to all students. (Alternate years)

MLF 301 - Reading French Texts 3 hours. Intensive vocabulary building, writing, reading and discussion of texts in French. Designed to prepare students for other upper-level French courses. Prerequisite: MLF 202 or permission of instructor.

MLF 302 - Advanced French Grammar and Composition I 3 hours. An analysis of the grammatical structure of the French language with emphasis on the more complex problems in French syntax and usage, followed by practice in composition. The course is conducted in French. Prerequisite: MLF 202 or permission of the instructor. (Alternate years)

MLF 303 - Advanced French Grammar and Composition II 3 hours. A continuation of the analysis of the French language with special emphasis on literary style. The course is conducted in French. Prerequisite: MLF 302 or permission of instructor.

MLF 304 - French Literature I 3 hours. A historical-critical view of French literature from the Middle Ages through the 18th century. Readings from anthologies and selected complete texts from each period. Discussion and reading in French. Prerequisite: MLF 301 or permission of instructor.(Alternate years.)

MLF 305 - French Literature II 3 hours. An overview of nineteenth and twentieth-century French literature. Readings from anthologies and selected complete works from the period. Discussions and readings in French. Prerequisite: MLF 301 or permission of the instructor.

MLF 306 - Advanced French Conversation 3 hours. Intensive practice in speaking French, with particular attention to the French sound system. Topics for conversation are taken from contemporary French journals, newspapers, films, etc. Prerequisite: MLF 202 or permission of instructor.

MLF 307 - Contemporary French Culture 3 hours. Introduction to the most important elements of present-day French culture, literature, film, art, and music. Recent history and politics, economics and social structure; religion, family, cuisine, and customs. Readings and discussions in French. Prerequisite: MLF 301 or permission of instructor. (Alternate years.)

MLF 308 - French Film Criticism 3 hours. Examines the basic elements of the art of French film in order to understand both the historical development of filmmaking in France and the personal vision of each director. Students view films by such filmmakers as Méliès, Renoir, Carne, Truffaut, and Varda. Discussions in French. Prerequisite: MLF 202 or permission of instructor. (C)

MLF 401 - The Art of French Translation 3 hours. Intensive practice in translation from French to English, and from English to French. Current nonfiction, fiction, periodicals, and newspapers are materials for translation. The course is conducted in French. Prerequisite: MLF 303.

MLF 402 - French-speaking Africa 3 hours. An introduction to the cultures and literature of French-speaking Africa. Readings and discussions of works by contemporary Francophone African writers. The course is conducted in French. Prerequisite: MLF 301 or permission of the instructor.

MLF 450 - Independent Study 1 to 3 hours. For students with a particular interest in an aspect of French language or literature which is not normally offered. Prerequisite: Permission of instructor.

MLF 480 - Topics in French 3 hours. Content varies from year to year with topics such as French Women's Literature and Feminist Theory, Bilingualism in Quebec, Medieval French Literature, Ethnic Minorities in France, Caribbean French Culture. The course is conducted in French. Prerequisite: MLF 301 or permission of instructor.

Geology

GEO 101 - Physical Geology 4 hours. An introduction to the nature of the materials that make up the earth, their genesis and arrangement (both inside the earth and at the surface) and to the physical processes that act upon them. Topics include: rocks and minerals, the structure of the earth, plate tectonics, land forms. Three lectures and a laboratory. (F)

GEO 103 - Earthquakes and Volcanoes 4 hours. This course reviews what is presently known about earthquakes and volcanoes, investigates ways to reduce loss of life and property, and explores some current research which may lead to a better understanding of these violent natural events. (F)

GEO 104 - Historical Geology 4 hours. An introduction to the history of the earth and life on it, and to the techniques for "reading" these from the rock record. Topics include geologic time, sedimentary rocks and depositional environments, fossils, ancient and recent geologic events and the evolution of life. Three lectures and a laboratory.

GEO 105 - Environmental Geology 4 hours. This course explores the impact of geology on mankind and the impact mankind has had on the physical environment. Causes and effects of such hazards as earthquakes, floods, landslides, and volcanic eruptions will be considered, along with mineral and energy resources, water supply and waste disposal problems. (F)

GEO 106 - Elementary Oceanography 4 hours. A study of the major contemporary concepts of biological, chemical, geological, and physical oceanography. The nature and origin of ocean basins, sea water composition, water masses, oceanic circulation, waves, tides, marine ecology, biological productivity, sedimentation, and plate tectonic theory are discussed. (F)

GEO 110 - Lunar Geology 2 hours. This course studies and interprets the results of recent lunar studies within the framework of current cosmochemical models of the solar system. The study of moon rocks and geological maps of the moon is integrated with classical astronomical and geophysical data to develop an evolutionary history of our sister planet.

GEO 200 - Special Topics in Geology 2 or 4 hours. This course discusses topics of either general or specific nature not covered in detail in other 100 or 200-level courses, for example the evolution and extinction of the dinosaurs. (Sufficient demand)

GEO 201 - Surficial Geology 4 hours. In this study of the earth's surface materials, major topics include weathering and soil formation, glacial deposits, aeolian deposits, surface water hydrogeology and related geomorphology. Three lectures and one laboratory per week. Prerequisite: GEO 101 or GEO 104 or ENS 101 or permission of instructor.

GEO 301 - Structural Geology 4 hours. Students learn how to recognize deformational features such as folds, faults, joints and dikes; how to, correlate these with three dimensional geometric techniques such as folding lines and stereographic nets; and how to derive from these features the important tectonic parameters active at the time of their formation: maximum stress direction, principal stress differences, confining pressure and strain rate. Prerequisite: one geology course and a score of 60% or better on the AU Math Proficiency Exam.

GEO 304 - Field Methods 2 hours. An introduction to the study of rocks in the field. Maps, their projections and their construction, are studied inside. Techniques of field geology will be practiced outside and skills in using surveying equipment and making observations of sedimentary, igneous and metamorphic rock are developed. Prerequisite: one course in geology or permission of instructor.

GEO 307 - Stratigraphy and Sedimentation 4 hours. The chemical and physical processes leading to weathering, erosion, transport, deposition, lithification and alteration of sediments are considered along with the economic aspects of sedimentary rocks, such as the occurrence of oil, natural gas, and coal. Prerequisite: one course-in geology or permission of instructor.

GEO 309 - Computer Simulation in Geology 4 hours. This course introduces students to simulation and modeling techniques. Although the specific emphasis is on geologic applications, the basic theories can be applied to nearly all physical sciences. Knowledge of a computer language is desirable. (Sufficient demand)

GEO 340 - Mineralogy 4 hours. Description, classification, and genetic interpretation of the common rock forming minerals. Crystallographic, physical, chemical, and structural properties are studied using hand samples and thin sections. Prerequisite: one geology course or permission of instructor.

GEO 400 - Special Topics Seminar in Geology 2 or 4 hours. A discussion of topics appropriate to current geological phenomena, including such topics as environmental geochemistry or economic geology. (Sufficient demand)

GEO 408 - Tectonics 4 hours. The formation and evolution of cratons, rifts, Atlantic type margins, shear zones and island arcs are discussed in this course. A detailed study is made of the geological structure and history of the Appalachians, Rockies, Alps and Himalayas. (Alternate years)

GEO 414 - Geophysics 4 hours. A study of the structure and evolution of the solid earth using information derived from geophysical investigations. The shape of the earth, its gravity, magnetic field, thermal and rheological characteristics as well as the gravitational fields are used to impose constraints on possible models of the planet. (Alternate years)

GEO 422 - Petrology 4 hours. This course is an introduction to the petro-genesis of igneous and metamorphic rocks with special emphasis placed on mineral and rock associations in space and time. The course concentrates on hand lens and microscopic examination of rocks and involves lectures, laboratories and field trips.

GEO 423 - X-ray Techniques in Geology 2 hours. The theory and methods of X-ray diffraction analysis are discussed with special emphasis on the use of X-ray diffraction in mineralogical characterizations. Laboratory work involves techniques of sample preparation for X-ray diffraction analysis and use of X-ray diffraction equipment for identification of unknown materials. Prerequisite: GEO 340 or CES 210 or permission of instructor. (Alternate years)

GEO 424/524 - Clay Mineralogy 2 hours. Theoretical and applied aspects of the nature of clay minerals are addressed through lectures, discussions, readings, and original research. Topics include the structure and chemistry of clay minerals; their origin, paragenesis, classification, and identification; the weathering and alteration of minerals; properties and morphologies; and techniques used in clay mineral analysis. Knowledge of a programming language is desirable. Prerequisite: GEO 423 or CES 358 or permission of instructor. (Alternate years)

GEO 425 - Geomorphology 4 hours. This course examines the nature and extent of the landforms that make up the earth's surface and considers the processes that produce volcanic, mountain and coastal features. Laboratories focus on the geomorphic interpretation of maps and aerial photographs. Prerequisite: GEO 101, or GEO 104 or GEO 105 or permission of instructor.

GEO 432 - Oceanography 4 hours. Marine waters and their interactions with the atmosphere, sea floor and coasts. Topics include sea water, waves and currents, coastal processes, sedimentary environments and the sea as a host for organisms. Classes include lectures and student presentations. A field trip may be required. Prerequisites: any previous geology course or introductory Biology, Chemistry, or Physics. (Sufficient demand)

GEO 440 - Glacial Geology 4 hours. This course examines the formation and geomorphic activity of glaciers. Focussing on the most recent glacial ages, it looks at erosional and depositional features and gives special attention to the processes involved in glacier formation. Three to four days of required field trips. Prerequisite: GEO 101 or GEO 104 or GEO 325 or permission of instructor. (Sufficient demand)

GEO 444 - Geochemistry 4 hours. Concerned with the composition of the earth and its evolution through time, this course investigates nuclear synthesis, accretion of the earth and moon, initial chemical fractionation and the continuing growth of continents using results from high pressure laboratories, stable isotope systematics and theoretical developments. Prerequisite: GEO 101 or GEO 104. (Alternate years.)

GEO 464 - Hydrology 4 hours. An examination of the hydrologic system as a whole and in parts. Emphasis is on subsurface water and hydrogeochemistry. Additional topics may include water use and management, water pollution, and flood control. Laboratories emphasize field and laboratory techniques of water quality and quantity analysis. Prerequisite: GEO 201 or permission of instructor.

GEO 466/467 - Geology in the Field 3 or 4 hours. A spring field trip to points of geologic interest that lasts three to five weeks. Travel is by van with overnight accommodations at campgrounds. Students have the chance to view outstanding geological, archeological and scenic features in addition to learning mapping and field techniques. Each year's trip is outlined in a separate announcement. Fee required. Prerequisites: A previous course in geology and permission of instructor.

GEO 468 - Directed Field Studies 1-6 hours. Field work is carried out in connection with various research studies or field trips of one to three (or more) weeks in specialized localities. A separate description is provided each time the course is offered. It may be repeated for credit and may be offered on an individual basis. Prerequisites: GEO 101 or 104 or an upper level geology course.

GEO 495 - ARGUS Project 3 hours/semester; maximum 6 for two semesters. Undergraduate research project for ARGUS program students who are majoring in a natural science, including the natural science concentration in Environmental Studies. Prerequisites: minimum 2.8 GPA overall and 3.0 in the major; proposal acceptance by faculty committee.

German

MLG 101 - German I 4 hours. Introduction to the language and culture of the German-speaking world. Development of skills in speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

MLG 102 - German II 4 hours. Continuation and further development of the skills learned in MLG 102. Prerequisite: MLG 101 or permission of instructor. (II)

MLG 201 - German III 4 hours. Continuation and further development of basic skills learned in MLG 102. Includes introduction to short fiction and a review of grammar. Prerequisite: MLG 102 or permission of instructor. (II)

MLG 202 - German IV 4 hours. Continuation of reading exercises and grammar review from MLG 201. Further development of oral and auditory comprehensive skills. Prerequisite: MLG 201 or permission of instructor. (II)

MLG 204 - German Authors in Translation 4 hours. An introduction to the literature of the German-speaking world, with a focus on authors of the eighteenth, nineteenth, twentieth and twenty-first centuries. Includes letters, poetry, short stories, plays and novels, as well as essays on social issues and literary theory. Readings and discussions in English. (A)

MLG 301 - German Literature I 3 hours. An introduction to literature of the German-speaking world through texts of the eighteenth and nineteenth centuries. Readings include essays, plays, novellas, and poetry. Particular attention is given to the role of class, gender, race and religion in the texts, their production and reception. Readings, discussions and assignments in German. Prerequisite: MLG 202 or permission of instructor.

MLG 302 - German Literature II 3 hours. Literature of the German-speaking world from the twentieth century. Readings include theory and the following genres: journals, short stories, novellas, plays, novels, and poetry. Includes an introduction to German film. Particular attention is given to the role of class, gender, race and religion in the texts, their production and reception. Readings, discussions, and assignments in German. Can be taken as a continuation of MLG 301 or may be taken independently. Prerequisite: MLG 202 or permission of instructor.

MLG 305 - Advanced German Conversation and Composition 3 hours. Exercises for students to speak and write more precisely and idiomatically. Newspaper and journal articles, videos and other media are the basis for conversation and writing. Readings, discussions, and assignments are in German. Prerequisite: MLG 202 or permission of instructor.

MLG 307 - German History and Culture 3 hours. Cultural and historical development of the German-speaking world from accounts of the earliest Germanic tribes to post-unification Germany of the 1990s and twenty-first century. Readings, discussions and assignments are in German. Prerequisite: MLG 202 or permission of instructor.

MLG 450 - Independent Study 1 to 3 hours. For students with a particular interest in an aspect of German language, culture or literature which is not normally offered. A 3 hour independent study is required for all German majors. Prerequisite: Permission of instructor.

MLG 480 - Special Topics in German 3 hours. Special topics may include: German Phonetics, Early German Literature, Goethe and Schiller, German Romanticism, German Novella, Turn-of-the-Century Viennese Culture, Survey of German Film, East German Literature, Contemporary Prose Writers in the German-speaking World. Readings and discussions in German. Prerequisite: MLG 202 or permission of instructor.

Gerontology

GRO 300 - Adult Development and Aging 4 hours. An introduction to the methodology, research, and theory of normal aging processes in adulthood. This covers physical and environmental influences on adult development, gender and minority issues in aging, and issues regarding death and dying. It also challenges popular misconceptions about aging. Prerequisite: PSY 100 or SOC 110. (Cross-listed as PSY 300)

GRO 350 - Special Topics in Gerontology 2 hours. A series of directed readings on special topics, changing from semester to semester. Through a combination of reading, seminar feedback, and guest lectures, students are able to explore areas of special interest in greater depth. Prerequisite: PSY 100. Recommended GRO 300 or permission.

GRO 422 - Cognition and Aging 2 hours. A lecture and discussion course covering current research and theories of cognitive processes in the older adult. Basic topics include age differences in memory, verbal processes, motor performance, perception, problem solving, and intelligence. Prerequisite: PSY 100. Recommended PSY 313 or GRO 300 or permission of instructor. (Cross-listed as PSY 422)(Alternate years)

GRO 470 - Senior Seminar in Gerontology 2 hours. An advanced discussion group focusing on a variety of contemporary issues. Prerequisite: Senior Gerontology major or permission of instructor.

GRO 490 - Gerontology Internship 4 hours. Field work associated with federal, state or local agencies for the aging, or with social service, health care, legal, recreational or residential facilities primarily serving older adults. Supervision provided jointly by agency personnel and the instructor. At least 6 hours per week in a field placement is expected. Prerequisites: Senior Gerontology major and permission of instructor.

History

HSH 103 – World Civilizations I 4 hours. A survey of the history of world civilizations from human origins to 1600, with emphasis on a comparative approach. Lectures and discussions explore encounters between cultures and examine intellectual, social and political issues. No prerequisites. (D)

HSH 104 - World Civilizations II 4 hours. A survey of the history of world civilizations from 1500 to the present. Lectures and discussions explore topics such as imperialism, revolution and world war, developments in philosophy and technology, and the impact of globalization on various cultures. No prerequisites. (D)

HSH 211 - American History I 4 hours. American history from Jamestown to the Civil War with particular attention to the political, social, and economic development of the new nation. (D)

HSH 212 - American History II 4 hours. American life from the Civil War to the present with particular attention to the transformation from a rural to an urban society, movements for social reform, and the further extension of civil and political rights. Can be taken as a continuation of HSH 211 or may be taken independently. (D)

HSH 215 - Medieval Culture 4 hours. Exploration of the three dominant cultures of the medieval period: Europe, the Byzantine Empire, and the Islamic world, with special focus on regions where significant interaction occurred – Spain, the Mediterranean, and the Middle East. (D)

HSH 222 - Churchill, Stalin, Roosevelt, Hitler 2 hours. Comparative biographies of the four major World War II leaders. (Sufficient demand)

HSH 290 - Topics in History 2-4 hours. A historical examination of issues in history. Topics will vary each time the course is offered. (Sufficient demand)

HSH 301 - America in War During the 20th Century 4 hours. With reference to both World Wars, Korea, Vietnam, and the Gulf War, the course addresses origins, strategy and leadership, political and social effects, and moral and legal issues including the army code of conduct, Hiroshima, the Nuremburg Trials, and Mylai. (Alternate years)

HSH 302 - The Vietnam War 4 hours. A survey of America's longest and most controversial war, the course examines both military and domestic issues. (Alternate years)

HSH 303 - The Civil War Era, 1830-1877 4 hours. A study of the War Between the States, including analyses of the political, social, economic, and ideological differences between the sections; the war and its aftermath; the historiography of the war: and an evaluation of the traditional view of the war as the "watershed" of American history. (Alternate years)

HSH 304 - Sex in Western Culture 4 hours. This course examines attitudes towards sex, definitions of sexuality, the creation of sex roles in Western history, and the impact of sex on Western institutions. A chronological approach from the ancient world to the present, it includes topics such as marriage as a religious and legal institution, changes in the concept and reality of the family, and the regulation of sexual attitudes and practices. (Alternate years)

HSH 310 - Topics in History 4 hours. Studies of different historical themes, with topics varying each time the course is given (Sufficient demand)

HSH 316 - Early Medieval Europe, 400-1050 4 hours. This course covers European history from the end of the Roman Empire to the beginning of feudal society. Through reading, lectures and discussions, students discover that the "Dark Ages" were actually filled with activity and innovation. (Alternate years)

HSH 317 - The High Middle Ages and the Renaissance 4 hours. This course covers Europe from the High Middle Ages to the Renaissance. Through reading, writing, and discussion, students learn about the political, cultural, intellectual, religious and social issues of the period that shaped our modern worldview. (Alternate years)

HSH 318 - Reformation and Enlightenment: Europe 1500-1789 4 hours. A survey of European history from the Reformation to the eve of the French Revolution. Class includes lectures and discussions on political, social, intellectual, and religious issues of the period from which emerged most of our modern assumptions about the world. (Alternate years)

HSH 319 - Great Britain 700-1625 4 hours. This course covers British history from the Anglo-Saxons to the death of James I. Readings and discussions focus on the ways the British viewed themselves historically. Class discussion is based on reading; students also do independent research. (Sufficient demand)

HSH 320 - Crusaders and Pilgrims: Medieval Travellers 4 hours. A course about the ways in which medieval travelers interacted with the places they visited and the people they encountered, both in Europe and in other lands. Students concentrate on primary sources: chronicles of the crusades, guides to pilgrimage routes, Marco Polo's history of his travels, etc. Through research assignments and class discussions, students discover how Europeans explored the world before the Age of Exploration.

HSH 321 - Modern Europe I: Revolution and Industrialism 4 hours. A critical analysis of the period from 1789 to 1848, with emphasis upon the French and industrial revolutions. Concerns European attempts to impose intellectual order upon political and social disorder (with special attention to the origins of Marxism), and the ultimate failure of this quest in the revolutions of 1848. (Alternate years)

HSH 322 - Modern Europe II: Nationalism and Imperialism 4 hours. A critical survey of European history from the late 19th century to the present. Emphasis is placed upon the phenomena of European nationalism and imperialism, their relationship to the rise of fascism and communism, and their challenge to liberal values. (Alternate years)

HSH 324 - Gay American History 4 hours. What is gay and lesbian history? Why write it? Who should be included? The course addresses these and other questions as it outlines theoretical problems and possible content in the study of homosexual behavior and identity in America, and reactions to it since the seventeenth century. (Cross-listed as WST 324) (Alternate years)

HSH 330 - Modern Germany 4 hours. A survey of modern German political and intellectual history. Emphasis placed upon Germany's response to the Napoleonic invasions, the revolutions of 1848, unification under Bismarck, German war aims in World War I, and the Weimar and Nazi eras. (Alternate years)

HSH 332 - The History of Russia 4 hours. A survey of Russian history from the Kievan period to the modern era. Special emphasis on the Mongol conquest, the rise of Muscovy, the reign of Peter the Great, and the forces leading to the 1917 Revolution and the Stalinist aftermath. (Alternate years)

HSH 333 - The Nazi Holocaust 2 hours. This course will cover a number of topics, including German anti-Semitism and the means by which Hitler engineered the Final Solution. Half the course will focus on the Nazis, the other half on their victims. It concludes with a discussion of Holocaust "denial" and the nature of evil.

HSH 336 - Modern China 4 hours. The development of China from the first Opium War to the present. Examines Western imperialism, Chinese response to the imperialism of the 19th century and the developments of both War Lords and Communism during the 20th century. (Sufficient demand)

HSH 337 - History of Modern Japan 4 hours. An examination through lectures and discussions of the political, social and economic history of Japan from 1854 to the present. (Sufficient demand)

HSH 343 - World War I 2 hours. An investigation of the background, character, and consequences of World War I. Special attention paid to the question of social and technical mobilization and the attempt to reconstruct the European order following the 1917-18 collapse. (Alternate years)

HSH 344 - The Utopian Socialists 2 hours. An historical analysis of the pre-Marxian socialist tradition of the early 19th century with an emphasis on social and historical theorizing and the intellectual attempt to confront a new European reality. (Sufficient demand)

HSH 345 - The Russian Revolution 2 hours. An historical analysis of Leninism, the events of the Russian Revolution of 1917 and the ensuing development of Stalinism. (Alternate years)

HSH 346 - History of European Fascism 2 hours. An investigation and analysis of the nineteenth century origins of European fascism and the movement's subsequent emergence as a major historical force during the first half of the twentieth century. (Alternate years)

HSH 347 - World War II 4 hours. Global in approach, this class approaches the causes and course of the Second World War. Emphasis is placed upon the European and Pacific theatres, the role of new military tactics, the impact of military mobilization upon civilian society and the establishment of a new world order. (Alternate years)

HSH 350 - Birth of Modernism 4 hours. Focusing on the high modernist period in Europe, especially on the artistic circle of Serge Diaghilev's "Ballets Russes," this class traces the various "modernisms" which defined the period. Course work includes oral and written assignments and group projects. (Sufficient demand.) (Cross-listed as FNA 350)

HSH 351 - Text, Image, Binding: The History of the Book 4 hours. Through examination of the developments which led to the book, comparison of western and non-western book styles, and hands-on experience with making books, students develop an understanding of the ways in which western culture has been shaped by the relationship between text, image, and binding in the modern printed book. (Cross-listed as FNA 351)

HSH 359 - History of Chinese Thought 4 hours. Focusing on the relationship between religion and philosophy, this course develops and understanding of the distinctive character of Chinese culture by surveying the development of religion and philosophy from antiquity to the medieval period and challenges of the twentieth century. (Cross-listed as HSP/HSR 359)

HSH 360 - The Age of Reform 4 hours. An interpretive survey of political and social reform in modern America with emphasis upon Populism, Progressivism and the New Deal. (Sufficient demand)

HSH 361 - American Women: History and Herstory 4 hours. Historical survey of the American woman with emphasis upon the birth of the women's movement, Progressivism and suffrage, home and work, and the recent liberation phase. (Cross-listed as WST 361) (Alternate years)

HSH 367 - Prosperity and Depression: America 1919-1941 2 hours. A survey of the Roaring Twenties and the Great Depression. The course examines political, social, and economic developments, as well as the importance of cultural phenomena like Lindbergh's flight, the impact of movies, the rise and fall of the KKK, and the stock market crash. (Sufficient demand)

HSH 368 - Post-World War II America 4 hours. A historical survey of domestic events since World War II with particular attention to the fate of the New Deal, McCarthyism, the Kennedy legacy, the impact of Vietnam, and the civil rights and women's movements. (Alternate years)

HSH 369 - Europe and the Americas, 1450-1750 4 hours. An inquiry into the dynamics and results, for both Natives and Europeans, of encounters between them. Included are assumptions and situations of each side, conflicts and cooperation among groups, and adaptations of Europeans to the new environment and Natives to European presence. No prerequisite.

HSH 371 - American Diplomacy, 1763-1898 2 hours. An analysis of American foreign policy in the eighteenth and nineteenth centuries, with special attention to the domestic attitudes and developments which affected the diplomacy of continental expansion. (Sufficient demand)

HSH 372 - America as a World Power, 1898-Present 4 hours. American diplomacy in the age of mass production, world wars, fascism and communism including close scrutiny of the conflict between isolationism and internationalism. (Alternate years)

HSH 375 - The Creation of American Culture 4 hours. An examination of the dynamics of both "serious" and "popular," culture in nineteenth century America, with specific attention to their interaction, as well as to the relationships between the developing political/social ideology and the creative activity of the era. (Alternate years)

HSH 376 - Modern American Culture 4 hours. An examination of the variety of artistic expression. both “serious” and “popular,” in 20th century America, with particular attention to relationships between artistic media and democratic ideals, economics and technology. (Alternate years)

HSH 386 - History of American Slavery 2 hours. A history of American slavery and race relations from the 17th century until emancipation. (Sufficient demand)

HSH 392 - History of Latin America 4 hours. A historical examination of relevant issues in present day Latin America including the Caudillo, Church and State relations, land reform, economic development, the role of the military and revolutionary movements. (Sufficient demand)

HSH 395 - Crime, Law and Society in American History 2 hours. In examining the history of crime in America from the colonial period to the present this course investigates, among other topics, prisons, political trials, mob justice, police systems and changing definitions of crime and insanity. (Alternate years)

HSH 396 - The Ancient Greeks 4 hours. The origins, growth and development of the Greek world from Mycenean through Hellenistic times (12th-1st centuries, B.C.), with topics such as the Homeric myths, Sparta, Athens, democracy, the polis, the Hellenistic world. (Alternate years)

HSH 397 - The Roman World 4 hours. Rome from a river village to an empire (5th century B.C. - 3rd century A.D.), including its traditional origins, Etruscan control, republicanism, social conflict, imperialism, Julius Caesar, Antony and Cleopatra, Augustus and Nero, imperial life and livelihood. (Alternate years)

HSH 413 - Women in the Ancient World 4 hours. Survey of women in the ancient Near East, Greece, and Rome. Discusses images of women in law, literature, and art and the roles of women in the family, work, religion, and politics. Concentrates on primary sources with supplemental historical reading. (Cross-listed as WST 413) (Sufficient demand)

HSH 414 - Women in Medieval and Early Modern Europe 4 hours. Survey of women’s history from 500 A.D. to 1789. Discussions focus on laws regarding women, their roles in the family and work, participation in religion and politics, depictions in literature and art, and their contributions to literature, art, politics, religion, and philosophy. (Cross-listed as WST 414) (Sufficient demand)

HSH 416 - Modern France 1815-Present 4 hours. A historical survey of the development of modern France. Particular attention is given to the emergence of a modern democratic society and the attempt to resolve a revolutionary heritage. (Alternate years)

HSH 421 - The Age of Franklin and Jefferson 4 hours. This course examines the transformation of the colonies into an independent federation, with particular attention to paradoxes symbolized in the lives and thought of Franklin and Jefferson. Includes thorough studies of the Revolution and its legacy, the U.S. Constitution, and the social, economic, and intellectual dynamics of the early republic. (Alternate years)

HSH 422 - The South in American History 4 hours. Surveys Southern history by examining such subjects as the Southern lady, racial thought. slavery, the plantation, the Confederacy, Reconstruction, the Klan, segregation, and the demagogue. (Sufficient demand)

HSH 450 - Independent Study 2 or 4 hours. Independent study under the general guidance of the instructor. Prerequisite: Permission.

HSH 468 - History of American Education 3 hours. A course designed to acquaint students with significant trends and developments in American education from the colonial period to the present. Special attention is given to the influence of broad cultural currents upon present educational theory and practice. May be taken for graduate credit. (Alternate years) (Cross-listed as ED 568)

HSH 495 - ARGUS Project 3 hours/semester; maximum 6 for two semesters. Undergraduate research project for ARGUS program students who are concentrating in history. Prerequisites: minimum 2.8 GPA overall and 3.0 in the major; proposal acceptance by faculty committee.

Graduate Courses

HSH 550 - Independent Study 2-4 hours. Independent study by the graduate student under the general guidance of the instructor. Prerequisite: Permission

Italian

MLI 101 - Italian I 4 hours. Introduction to the language and culture of the Italian-speaking world; speaking, reading, understanding, and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

MLI 102 - Italian II 4 hours. Continuation and further development of the skills learned in MLI 101. Prerequisite: MLI 101 or permission of instructor. (II)

Japanese

MLJ 101 - Japanese I 4 hours. Introduction to the language and culture of the Japanese-speaking world: speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of Japanese. (II)

MLJ 102 - Japanese II 4 hours. Continuation and further development of the skills learned in MLJ 101. Prerequisite: MLJ 101 or permission of instructor. (II)

MLJ 201 - Japanese III 3 hours. Continuation and further development of the skills learned in MLJ 102. Prerequisite: MLJ 102 or permission of instructor. (II)

MLJ 202 - Japanese IV 3 hours. Development of proficiency through use of written materials in Japanese. Prerequisite: MLJ 201 or permission of instructor. (II)

Latin

MLA 101 - Latin I 4 hours. An Introduction to the Latin language. This course will include an introduction to basic Latin grammar as well as short reading passages. The focus of this course will be on classical Latin. There will be some emphasis on pronunciation and spoken Latin. There will be readings in English on both the history of Latin as an Indo-European language as well as on Roman history. (II)

MLA 102 – Latin II 4 hours. An introduction to the Latin language. This course will continue the study of grammar from Latin I. There will be selected readings from Caesar, Ovid and other writers. Class work will include reading texts aloud and analyzing translations. Historical readings will focus on the effects of Romanization in Europe even after the collapse of the Roman Empire. Prerequisite: MLA 101 or permission of instructor. (II)

Liberal Arts

LA 111 - Writing Skills 0 hours. Study and application of skills needed for writing standard formal English, organizing and developing paragraphs and essays.

LA 112 - Mathematics Skills 0 hours. A course providing students with a review of basic arithmetic skills. Topics include whole numbers, fractions and mixed numbers, decimals, ratios and proportions, percentages, measurements and signed numbers.

LA 113 - Study Skills 0 hours. An exploration of motivation and attitudes towards studying in which students are provided with information to help them develop sound academic and life skills (communication, time management, organization, assertiveness) necessary for academic success.

LA 123 - How the World Works I 4 hours. In this course, students learn science by doing science, planning and executing their own experiments devised to answer questions they have about how the world works. This year-long course is centered around a single “umbrella” topic that is inherently interdisciplinary, such as Living in Space or The Hidden House. Faculty from a number of scientific disciplines and mathematics guide students in their investigations. This is the first half of a course which, after successful completion of LA/SCI 124, will satisfy both semesters of the General Education Science requirements (F), and the Quantitative Reasoning Competency (III). If only one semester is completed, then the non-laboratory (F) category requirement will be satisfied. Not open to students who have taken an (F) category course. (III) (F) (Cross-listed as SCI 123)

LA 124 - How the World Works II 4 hours. A continuation of LA/SCI 123 which, after successful completion, will satisfy both semesters of the General Education Science requirements (F), and the Quantitative Reasoning Competency (III). Prerequisite: LA/SCI 123. (III) (F) (Cross-listed as SCI 124)

LA 126 – How Your Body Works 4 hours. A multimedia introduction to human biology at the level of the “person on the street”. Students will identify their questions and concerns. We will then plan and perform experiments which may help explain the functional, structural and developmental relationships. (F) (Cross-listed as SCI 126)

LA 127 - Doing Science– 4 hours. In this course, students learn science by doing science, planning and executing their own experiments devised to answer questions they have about a central theme. This semester-long course is taught by faculty from different scientific (or mathematics) backgrounds who guide students in their investigations. This is a one-semester course which will satisfy one lab science credit (F) and the Quantitative Reasoning Competency (III) requirements for LAS students. It is similar to LA/SCI 123-124, but condensed and taught in only one semester. (III) (F) (Cross-listed as SCI 127)

LA 201 - Human Sexuality 2 hours. The course includes biological, psychological, behavioral, sociological, cultural, religious, ethical, and legal aspects of human sexuality with emphasis on normal patterns, but including a consideration of variations, disorders and therapy.

LA 210 - Library Research Methods 1 hour. An introduction to the library and basic research methods including library services, organization of materials, use of basic reference sources, and research techniques.

LA 300 - Special Topics 1 to 4 hours. Opportunities are provided for the examination of interdisciplinary topics not normally justified as regular offerings. Topics vary from year to year.

LA 450 - Independent Study Variable hours. Independent study by the Track II student under supervision of the student's Track II board. Prerequisite: Permission of the student's Track II chair.

LA 490 - Baccalaureate Seminar 4 hours. An interdisciplinary seminar primarily for juniors and seniors in the Track II program. Topics vary from year to year.

LA 495 - Baccalaureate Project Senior project within the Track II Program under supervision of the student's board. Prerequisite: Permission of student's Track II chair.

Linguistics

MLL 120 - Introduction to Linguistics 2 hours. An introductory course with emphasis on the development of the principal Indo-European languages. Basic linguistic terminology and transcription are covered, as well as the relationship of linguistics with other academic fields such as psychology, philosophy, and anthropology. Open to all students and especially recommended for those with interest in languages, English, the social sciences, and elementary education. Taught in English.

MLL 240 - Language and Society 2 hours. An advanced course in linguistics, with focus on the interrelations between language and society, language and politics, language and sociocultural organization, as well as theoretical approaches to the sociology of language, sociolinguistics, philosophy of language, applied sociology of language and semiology. Taught in English. Prerequisite: MLL 120.

Mathematics

MAT 103 - Algebra and Functions 3 hours. A detailed study of the concepts and methods that provide a foundation for calculus. Topics include algebraic expressions, factoring, exponents and radicals, polynomials, rational functions, solving equations and inequalities. Functions and their graphs are emphasized throughout. Prerequisite: Score of 50 or better on Math Competency Exam, or permission of instructor. (III)

MAT 104 - Business Calculus 4 hours. An introduction to differential and integral calculus, with emphasis on business applications, differentiation and integration of algebraic, exponential, logarithmic functions, functions of several variables, partial derivatives, and applications to max-min problems. Primarily for Business students. Prerequisite: 70 or better on Math Competency Exam. Not open to students with credit in MAT 119. (II)

MAT 108 - Discrete Mathematics 4 hours. An introduction to a variety of mathematical concepts and tools which are of particular use in computer science. Topics include logic and sets, relations and functions, graphs, combinatorics and Boolean algebra. Prerequisite: Score of 60 or better on Math Competency Exam. (III)

MAT 110 - Data Analysis in Environmental Studies 4 hours. An introduction to the basic techniques and tools for manipulation of quantitative data, emphasizing environmental studies. Topics include data collection together with analysis on statistical software. Prerequisites: ENS 101, score of 60 or better on Math Competency Exam. (III)

MAT 118 - Precalculus Mathematics 3 hours. A course in algebra and trigonometry to prepare science and engineering students for calculus. Topics include solutions of equations and inequalities, polynomial functions, rational functions, exponential and logarithmic functions, and trigonometric functions. Graphs and their properties are emphasized throughout. Prerequisite: Calculus Readiness Exam or a score of 60 or better on the Math Competency Exam. (III)

MAT 119 - Calculus I 4 hours. An introduction to differentiation and integration of functions of a single variable, with applications. Four years of college preparatory mathematics strongly recommended. Not open to students with credit in MAT 120. Prerequisite: Calculus Readiness Exam. (III)

MAT 120 - Calculus II 4 hours. A continuation of single variable calculus including transcendental functions, methods of integration, and series. Prerequisite MAT 119. Not open to students with credit in MAT 121.

MAT 121 - Calculus III 3 hours. Multivariate calculus, derivatives and integrals of vector functions. Prerequisite: MAT 120.

MAT 122 - Actuarial Exam Preparation 1 hour. An extension of the calculus sequence, including both review and new material, intended as preparation for the first Actuarial Examination. Prerequisite: MAT 322. Recommended: MAT 438.

MAT 291 - Honors Seminar 2 hours. Lectures, readings and individual research projects. Open by invitation.

MAT 310 - Problem Solving through Problems 4 hours. An introduction to the most important problem-solving techniques encountered in undergraduate mathematics. While general problem-solving heuristics will be emphasized, specific topics may include induction, modular arithmetic, unique factorization of polynomials, series, and intermediate real analysis. Prerequisite: MAT 121 or permission of instructor.

MAT 312 - Applied Statistics 3 hours. Statistics with an emphasis on scientific and engineering applications including distributions, confidence intervals, hypothesis testing, analysis of variance, regression analysis and experimental design. Prerequisite: MAT 120.

MAT 313 - Mathematical Statistics 4 hours. The theoretical basis for statistics including probability, random variables, expectation, a curve of important probability distributions, sums of independent random variables, confidence intervals and hypothesis testing. Prerequisite: MAT 121.

MAT 322 - Differential Equations 3 hours. Ordinary differential equations with applications to the sciences. Prerequisite: MAT 121.

MAT 402 - Advanced Calculus 4 hours. Elements of real function theory including some notions from logic, the topology of the real line, continuity, uniform continuity, differentiation and limits of sequences. Prerequisite: MAT 121.

MAT 407 - Modern Algebra 4 hours. The fundamental structures and techniques of algebra including topics such as groups, rings, fields, quotient structures, theory of equations and polynomials. Prerequisite: MAT 120.

MAT 426 - Advanced Engineering Mathematics 4 hours. Fundamental concepts of applied analysis including Fourier series and integrals, Laplace transforms, partial differential equations and boundary value problems and special functions. Prerequisite: MAT 322.

MAT 438 - Linear Algebra 4 hours. The concepts of vector space, independence, basis and linear transformations, with applications to systems of linear equations, eigenvalue problems and bilinear and quadratic forms. Prerequisite: MAT 121.

MAT 445 - Introduction to Operations Research 4 hours. Optimization techniques with application to decision making. Linear programming and other topics, e.g., network analysis, dynamic programming, game theory, stochastic processes, queueing theory.

MAT 447 - Numerical Mathematics 4 hours. An introduction to numerical methods including solution of linear systems and non-linear equations, interpolation and approximation of functions, numerical integration and numerical solution of differential equations. Prerequisite: MAT 121.

MAT 450 - Independent Study Variable hours. Independent study under supervision of the instructor is required of all student candidates for departmental honors. Open to qualified third and fourth year students.

MAT 460 - Topics in Mathematics 2-4 hours. Special topics in mathematics which vary from year to year. Prerequisite: Permission of department. (Sufficient demand)

MAT 476 - Geometry 3 hours. An introduction to both Euclidian and non-Euclidian geometry, with emphasis on the axiomatic method and its place in the current secondary mathematics curriculum. Prerequisite: MAT 121.

Graduate Courses

MAT 520 Elementary Calculus from an Advanced Standpoint	3
MAT 550 Independent Study	
MAT 576 Elementary Geometry from an Advanced Standpoint	3
MAT 594 Arithmetic for Elementary Teachers	3
MAT 596 Numerical Computation and Problem Solving	3

Music

History and Theory

MUS 110 - Music Appreciation 4 hours. An introductory course designed to provide a basic orientation to the enjoyment and understanding of music. No prerequisite courses or special skills required. (C)

MUS 112 - Sight Singing: Reading Music 2 hours. An introduction to the basics of reading music. Students will learn to recognize scale patterns, intervals and basic chords, to sing and hear music at first sight and take simple music dictation (writing out of melodies and/or chord progressions). (C)

MUS 120 - Fundamentals of Music I 4 hours. A study of the basic rudiments of music – notation, pitch, rhythm, melody and harmony – and how these elements relate to music. Open to all students. (C)

MUS 190 - The Performing Arts: A Global Perspective 4 hours. This "First Year Experience" course for Freshmen introduces the student to the role of the performing arts in society at large. It has a multi-cultural focus, beginning with an exploration of the roots of musical, theatrical and movement forms of expression in early tribal society, and followed by contrasting these forms to the more familiar contemporary Western forms of expression. The course then examines the Performing Arts of selected cultures, societies and diverse populations, such as Native American/ Native Alaskan, selected minority populations of the United States, Japanese, Indonesian, Chinese, Indian, African, Slavic and others. (Cross-listed as THR 190) (C)

MUS 260 - Special Topics 2-4 hours. Includes courses in related areas of study. If applicable, small rental fee or breakage deposit required. (Sufficient demand)

MUS 450 - Independent Study 1-4 hours. Specialized pursuit of a subject within the area of music history or literature of particular interest to the student.

MUS 471 - Senior Recital 1 hour. Students enrolled in Private Lessons for at least six semesters are encouraged to present a half or full recital during their Senior Year.

Applied Music

MUS 100-109 - Private Lessons 1 hour. Open to all students. One half-hour private lesson per week in voice, piano, organ, carillon, woodwinds, string, guitar, brass and percussion. Private lesson fee includes use of practice rooms. At the discretion of the instructor, the student may be expected to demonstrate progress by music jury examination.

MUS 220 - Voice Class 1-2 hours. Group lessons in technique and the art of singing. Class presents the practical application of vocal techniques, breath support, posture, diction and projection to increase the student's ease and confidence in using the singing voice as a means of expression. Outside reading and listening will be required of students requesting 2 hours of credit. (C)

MUS 221 - Class Piano I 2 hours. Class lessons in piano technique for the beginner. Covers basics of tone conception, rhythm, articulation, and fingering, five finger patterns and tonic chords in major keys. Simple composition projects are a requirement of the course. No previous musical training required. (C)

MUS 222 - Class Piano II 2 hours. An extension of MUS 221. Beginning work in pedaling and phrasing, easier major scales and one minor scale in three forms, primary chords in major and minor in block and arpeggio from, composition, transposition and harmonization. Prerequisite: MUS 221 or permission of instructor. (C)

MUS 300-309 - Private Lessons 2 hours. Advanced study. Permission of the instructor required. One hour lesson per week. Private lesson fee.

Ensembles

All students are eligible to participate in music ensembles. Initial enrollment may require a placement audition and certain select ensembles may require permission of instructor. Students may enroll for more than one ensemble in a given semester. Ensemble involvement will not be included in determining course overload.

MUS 160 - University Chorus 2 hours. University Chorus, a large singing ensemble is open to all students. The repertoire includes a major work per-formed each semester. (C)

MUS 161 - AU Chamber Singers 2 hours. The Alfred University Chamber Singers, a select vocal ensemble of 20 singers, performs a wide variety of repertoire in concerts on and off campus. Open to all students by audition. (C)

MUS 170 - Concert Band 2 hours. Band members study and perform music composed and arranged for the modern symphonic band, including orchestral transcriptions. Various styles of music, from classical to contemporary, are performed, including major symphonic and concert band literature. (C)

MUS 171 - Jazz Ensemble 2 hours. The Jazz Ensemble provides an opportunity to explore the many styles of jazz in a big band context, including swing, be bop, Latin, and fusion. Students are also given the chance to develop their skills in improvisation. Open to all students by audition.(C)

MUS 173 - University Chamber Orchestra 2 hours. Open to all students who play violin, viola, cello, or string bass, the chamber orchestra provides students an opportunity to participate in a string orchestra and to study music ranging from the Baroque to the Romantic. The ensemble presents a concert each semester. Prerequisite: Permission of instructor. (C)

MUS 175 - Chamber Music 1 hour. Chamber Music refers to small ensembles (string quartets, woodwind quintets, flute duets/trios/choirs; piano trios [piano plus two other instruments] or virtually any combination of instruments and/or voices). Students will be assigned to a group and will work on classical music for their particular ensemble. Students enrolled in this class should have at least a moderate facility on their instrument and be able to read music.

Philosophy

HSP 101 - Introduction to Philosophy 4 hours. This course provides students who have had little or no acquaintance with philosophy with a workable knowledge of philosophical language and familiarity with its method. (B)

HSP 205 - Existentialism 4 hours. An elementary study of the interpretation of human existence by selected existentialist thinkers. (Sufficient demand) (B)

HSP 207 - Ethics 4 hours. An attempt to understand the fundamental human alternatives in the wake of the moral skepticism of our age. Traditional answers to the question “What is the good life?” will be examined by reading selected philosophers from Plato to Sartre. (B)

HSP 208 - Philosophy of the Arts I 4 hours. Conceptual analysis of the arts and what they reveal about human existence. Emphasis is placed on questions about creativity and meaning. Topics include representation and truth, expression, art and language, and the nature of cultural regularities. Special emphasis on the rise of modernism and formalism. (B)

HSP 270 - Greek Philosophy 4 hours. The history of Greek philosophy from the Presocratic through the Hellenistic period. Gives special emphasis to Plato and to Aristotle. (Alternate years) (B)

HSP 282 - Introduction to Logic 4 hours. Standard propositional logic, quantifier logic, and informal fallacies. Logical concepts are compared with some concepts of the English language. Discusses the nature of formal systems and emphasizes the development of proof techniques. Recommended for pre-law students. (III)

HSP 301 - Modern Philosophy 4 hours. The history of European Philosophy during the l7th and 18th centuries. Examines figures whose thought reflects the rise of modern science and the emergence of the modern state. Emphasis given to such thinkers as Hobbes, Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. (Alternate years)

HSP 305 - Postmodern Theory: Hermeneutics and Poststructuralism 4 hours. A study of Continental thinkers central to the emergence of postmodern cultural theory, including hermeneutic theorists like Heidegger and Gadamer and poststructuralists like Foucault, Lacan, Derrida, Barthes, Lyotard, Deleuze, Guattari and Baudrillard. (Cross-listed as CDS 320)

HSP 309 - Philosophy of the Arts II 4 hours. Continued study of the question of meaning in art emphasizing the problem of interpretation. Models for criticism and contemporary debates about postmodern culture are examined. Topics include the relativity of interpretations, the role of styles and traditions, and the relationship of different artistic media to each other. Prerequisite: HSP 208 or permission (Sufficient demand)

HSP 312 - 19th Century Philosophy 4 hours. The history of European Philosophy during the nineteenth century, including German Idealism, the rise of Marxism, and the nineteenth century precursors of Existentialism. Emphasis given such figures as Hegel, Schopenhauer, Marx, Kierkegaard, and Nietzsche. Prerequisite: HSP 301 or permission. (Sufficient demand)

HSP 313 - Twentieth Century Philosophy 4 hours. The most important developments in twentieth century philosophy, including such schools of thought as logical atomism, logical positivism, ordinary language philosophy, process philosophy, pragmatism, phenomenology and existentialism. Emphasizes such thinkers as Russell, Wittgenstein, Whitehead, Dewey, Husserl, Heidegger, Sartre, and Merleau-Ponty. Prerequisite: HSP 301 or permission. (Sufficient demand)

HSP 325 - The Great Philosophers 2 hours. Individual thinkers, both classical and contemporary, whose influence has been great in philosophy. Students may receive credit for this course each time it has a different subtitle. Previous course work in philosophy is recommended. (Sufficient demand)

HSP 326 - Nietzsche 4 hours. Nietzsche is considered as 19th century philosopher and precursor of 20th century thought, Topics include: Nietzsche's perspectivism, theory of interpretation, genealogical critique of morality, religion and history, and ideas about art, tragedy, will to power, eternal recurrence, and the overman. (Cross-listed as CDS 326)

HSP 330 - Topics in Philosophy 2-4 hours. Varying topics from year to year are selected from either the history of philosophy or contemporary philosophic problems. Prerequisite: Permission of instructor. (Sufficient demand)

HSP 331 - Detour from the Mainstream 4 hours. Investigates non-traditional art objects and practices such as an Outsider Art, Brut art, domesticity and housekeeping, "wild wheel" (car decoration), tattoos, gardens, graffiti, and mourning walls. The course explores the relationship between these practices and the art world. Should these objects count as art? What are the consequences of defining them as art? How should the objects be treated in terms of museum practices, art historical documentation, and the market? What is the nature of the relationship between the "outsider" art and mainstream art? Prerequisite: HSP 208. (Cross-listed as FNA 331)

HSP 340 - Greek Political Philosophy 2-4 hours This course examines the relationship of the individual to the city-state in 5th and 4th Century (B.C.E.) Greece. Major texts are Plato's Republic and Aristotle's Politics and The Constitution of Athens. There are also selected short readings from other ancient authors. Thematic emphasis is on the connection between ethics and politics. (Cross-listed as POL 340) (Sufficient demand)

HSP 347 - Social and Political Philosophy 4 hours. An inquiry into some problems of social philosophy or social theory, usually involving the nature of the state and the citizen's relation to it and the bearing of ethics and social science on this inquiry. Prerequisite: Some previous course in philosophy. (Sufficient demand)

HSP 348 - Aesthetics 4 hours. Consideration of theories of aesthetic value, the problem of verifiability of critical judgments, reconciliation of conflicts of taste and choice, problems of form and content, nature of expression and aesthetic creation in fine arts, relations of arts to other human interests. (Sufficient demand)

HSP 349 - Philosophy of Religion 4 hours. A critical inquiry into the nature and validity of religious experience, its variety and unity, and its relation to other human endeavors. Particular attention given to the manifestations of religion in the institutions of the Western world. (Sufficient demand)

HSP 359 - History of Chinese Thought 4 hours. Focusing on the relationship between religion and philosophy, this course develops and understanding of the distinctive character of Chinese culture by surveying the development of religion and philosophy from antiquity to the medieval period and challenges of the twentieth century. (Cross-listed as HSH/HSR 359)

HSP 370 - Metaphysics 2-4 hours. An analysis of attempts to define the nature of reality. Works of both metaphysicians and critics of metaphysics examined. Emphasis placed upon recent controversies concerning metaphysical reasoning. Previous course work in philosophy recommended. (Sufficient demand)

HSP 375 - Theories of Knowledge 2-4 hours. A study of the nature and extent of human knowledge. Can beliefs be justified? Are some beliefs foundational? Is some variety of coherence the test of knowledge? Can skepticism be answered? Prerequisite: previous course work in philosophy. (Sufficient demand)

HSP 380 - Women, Knowledge and Reality 2-4 hours. Conceptual foundations of the movements for the liberation of women are central. Readings are drawn from contemporary writings in feminist theory with particular attention to discussions of knowledge, values, and reality. Prerequisite: A previous philosophy course, WST 105, or permission of instructor. (Cross-listed as WST 380) (Sufficient demand)

HSP 390 - The Philosophy of Science 4 hours. The conceptual foundations of the Scientific Revolution, beginning with the emergence from an Aristotelian worldview and considering the development of the fully mechanistic universe of Newtonian science, the breakdown of the Newtonian framework with the advent of relativity and quantum mechanics. Explored in texts accessible to the non-scientist. Emphasis on the philosophical problems of induction, explanation, the relationship of observation to theory, and of one theoretical framework to another. (Sufficient demand)

HSP 393 - Philosophical Psychology 4 hours. Logical analysis of concepts about the mind, emphasizing problems of meaning for such terms as sensation, imagination, emotion, memory, dreams, intention, belief, reason, motivation, consciousness and personal identity. Methods of psychological explanation are also studied. (Sufficient demand) (Cross-listed as PSY 393)

HSP 410 - Advanced Seminar in Philosophy 4 hours. An advanced seminar on special topics which vary from year to year. Prerequisite: permission of instructor. (Sufficient demand)

HSP 450 - Independent Study 2 or 4 hours. To be arranged with instructor.

Physical Education

PE 102 - Cardiovascular Fitness 2 hours. An exposure to a variety of aerobic activities with emphasis on improved cardiovascular fitness and knowledge of scientific principles needed to attain an improved level of cardiovascular fitness.

PE 103 - Beginning Badminton 2 hours. Emphasis on the effective use of the racquet, court coverage and position play, strategy, rules, and historical background. Opportunity for regular student participation in singles and doubles games. Class tournaments arranged.

PE 110 - Fundamentals of Dance 2 hours. Introduces new and continuing dance students to the art of dance with an emphasis on alignment, strength, and flexibility of the whole body. Dancers are challenged to develop their physical intelligence and artistic expression in center and across the floor combinations using a wide range of dynamics and rhythms. Note: This is a prerequisite for all dance courses unless waived by the instructor. (Cross-listed as DAN 110) (C)

PE 120 - Champs Life Skills 2 hours. Intended for student athletes and others interested in developing and incorporating life skills in the areas of academics, athletics, career and personal development.

PE 121 - Beginning/Intermediate Swimming 2 hours. An exposure to the basic strokes with emphasis on achieving confidence in the water. Opportunity to perfect strokes and increase endurance.

PE 123 - Advanced Swimming 2 hours. Advanced strokes and swimming skills are presented along with some racing and diving techniques.

PE 125 - Basic Tennis 2 hours. Group presentation of basic strokes, simple strategy and rules, provides beginners with early opportunities for singles and doubles play. Students are screened by instructor to determine beginner's status.

PE 129 - Intermediate Tennis 2 hours. A more advanced course offering lob, overhead, and volley with some singles and doubles play. Prerequisite: PE 125 or demonstrating satisfactory basic skills in first class session.

PE 200 - Special Topics 2 hours. Offerings vary years to year depending on the availability of faculty with expertise in the particular lifetime sport activity. Typical offerings might be Cross Country Skiing, Orienteering/ Snowmobiling, Cycling, Yoga.

PE 201 - Cross Training 2 hours. Combined weight training exercises and cardiovascular activities designed to improve strength. flexibility, cardiorespiratory fitness, and body composition.

PE 205 - Special Topics in Dance 2 or 4 hours. Courses are offered according to student interest in particular topics such as Children's Dance, Social and Square Dance, Folk and Ethnic, Dance Therapy. (Sufficient demand) (C)

PE 215 - Beginning Golf 2 hours. Basic fundamentals of swing, grip and putting introduced. Opportunity for practical application indoors followed by several experiences at a golf course. Rules and etiquette of the game fully covered.

PE 220 - Modern Dance I 2 hours. An introductory course in various modern dance techniques including some improvisational work. Prerequisite: DAN 110, PE 110, or permission of instructor. (Cross-listed as DAN 220) (C)

PE 222 - Aerobic Exercise 2 hours. Through lecture and participation in a specific and progressive exercise program set to music, students experience what aerobic conditioning is, why it is fundamental to total fitness and how to safely and effectively increase their levels of aerobic fitness.

PE 230 - Ballet I 2 hours. An elementary course in ballet technique including a ballet barre, with the traditional adagio tournament and allegro center floor work. Emphasis on placement and correct turn-out. Prerequisite: DAN 110, PE 110 or permission of instructor. (Cross-listed as DAN 230) (C)

PE 235 - Lifeguard Training 2 hours. An American Red Cross course providing the necessary minimum skills and knowledge individuals need to qualify and serve as a non-surf lifeguard. Not intended to be a complete lifeguard training program. Prerequisite: PE 123 or passing qualifying test.

PE 237 - Weight Training 2 hours. A scientific look at several types of weight training programs and selection of one, based on individual needs, to be used throughout the semester.

PE 240 - Jazz Dance I 2 hours. An introductory course in jazz dance technique incorporating performing aspects of the jazz medium. Prerequisite: DAN 110, PE 110 or permission of instructor. (Cross-listed as DAN 240) (C)

PE 245 - Beginning/Intermediate Racquetball 2 hours. A fundamentals and basic court strategy course exposing students to games of one wall and four wall racquetball. Rules and court etiquette stressed.

PE 248 - Karate: Level I 2 hours. Physical conditioning and discipline through experiencing offensive and defensive karate techniques. Students become familiar with common self-defense maneuvers and are introduced to the Kata (formal exercises of martial arts). Included are martial arts history, tradition and etiquette.

PE 249 - Karate: Level II 2 hours. Increased application of basic techniques through principles and practices of pre-arranged sparring techniques and strategies. Intermediate level Kata performed and psychocybernetics and self-discipline through meditation and controlled sport experience are emphasized. Participation in limited competition encouraged. Prerequisite: PE 248 or permission of instructor.

PE 275 - Improvisation/Composition I 2 hours. A laboratory for discovering your own unique style of doing and seeing dance. Emphasis on improvisation, "real play" and group interactions. Introduction to basic compositional methods. Note: This is a prerequisite for DAN 350 AU Dance Theatre. (Cross-listed as DAN 275)

PE 281 - English Riding: Level I 2 hours. Open to students with little or no riding experience for basic hunter seat equitation taught at the walk, trot and canter. Topics include horse grooming, hoof care, safety procedures (on and off the horse), care of riding equipmentt, and a horse's health. Site Brentwood Riding Center. $250 instructional fee.

PE 283 - English Riding: Level II 2 hours. Competent hunter seat flat riders are introduced to jumping, trail and recreational riding. Jumping classes encounter fences three feet and under. The course emphasizes safety and training riders to recognize their own abilities in the ring, on the trail, or in the barn. Topics include horse care, cost and management of one's own horse. Site: Brentwood Riding Center. $250 instructional fee. Prerequisite: PE 281.

PE 284 - English Riding: Level III 2 hours. Riders entering this course should have a secure hunter seat at the walk, trot and canter and should exhibit good control over single fences (maximum height two feet). This course further conditions riders for more strenuous exercises on the flat and the course requires riders to jump a two-foot, eight fence course. Students also experience instructing a class, either their own or one of Brentwood's. There will be a number of periods of recreational riding. Site: Brentwood Riding Center. $250 instructional fee. Prerequisites: PE 281 and 283 or level of ability screened by Brentwood Riding Center.

PE 285 - English Riding: Level IV 2 hours. Riders at this level should be competent to walk, trot, canter, and jump with reasonably good equitation. This course furthers the riders' abilities over higher(maximum three feet) fences and more complex courses. Riders continue practice teaching and, time permitting, pleasure and practice sessions, as well. Site: Brentwood Riding Center. $250 instructional fee. Prerequisites: PE 281, 283 and 284 or level of ability approved by Brentwood Riding Center.

PE 311 - First Aid and CPR 2 hours. Basic level life support techniques including CPR, rescue breathing, and care of choking victim in conjunction with first aid techniques.

PE 320 - Modern Dance II 2 hours. An extension of the beginning course, continued instruction is given in dance forms, movement, awareness, technique and patterns. Prerequisite: DAN 220 or PE 220 or equivalent experience to be judged by the instructor. (Cross-listed as DAN 320)

PE 330 - Ballet II 2 hours. A continuation of the beginning course for the student who has experience in this traditional form and is capable of more complex combinations. Prerequisite: DAN 230 or PE 230 or permission of instructor. (Cross-listed as DAN 330)

PE 337 - Strength and Power Development 2 hours. An intensive weight training course with emphasis on increasing muscle strength and power through the use of free weights and polymetric exercises. Prerequisite PE 237 or permission of instructor.

PE 340 - Jazz Dance II 2 hours. A continuation of the beginning course for students already able to move within the jazz idiom. It includes more advanced work in jazz technique as well as combinations. Prerequisite: DAN 240 or PE 240. (Cross-listed as DAN 340)

PE 375 - Improvisation/Composition II 2 hours. A laboratory for developing skills as a choreographer. Dance compositions are created and performed at the end of the semester. Emphasis on development of the individual "voice" of the choreographer and the ability to "see" dance. The "how to" of making a dance for performance. Note: This is a prerequisite for DAN 350 AU Dance Theatre. Prerequisites: DAN 275 or 375; one of the following: DAN 110, DAN 220, DAN 230, DAN 240 (or permission of instructor) (Cross-listed as DAN 375)

Varsity Sports

Participation in a varsity sport for a full season serves as the equivalent of demonstrating proficiency in a Lifetime Sport, thus fulfilling one-half of the Physical Education requirement. Participation in two different varsity sports completely satisfies the Physical Education requirement.

Basketball	Men/Women	Soccer	Men/Women
Cross Country	Men/Women	Softball	Women
Equestrian	Men/Women	Swimming	Men/Women
Football	Men	Tennis	Men/Women
Golf	Men/Women	Track	Men/Women
Lacrosse	Men/Women	Volleyball	Women
Skiing	Men/Women		

Theory Courses

PE 243 - Philosophy, Principles, and Organization of Athletics 3 hours. Fundamental concepts and principles of athletics in education are covered and administration, management and organizational aspects of school sports discussed.

PE 244 - Philosophy of Sport 2 hours. A study of the concepts, issues and problems of sport.

PE 286 - The Art and Theory of Equitation 4 hours. This course emphasizes the philosophy and theory of equitation, producing a deeper understanding and strengthening students' mental and physical approach to riding. Both the schooling and competitive frame of mind of horse and rider are included and the rider is expected to get the most out of his/her mount and know that particular horse's abilities, habits and limits. An asset to show preparation. Prerequisite: PE 285: English Riding Level IV or equivalent (students must take an equivalency test, both written and practical, administered by Brentwood Riding Center).

PE 287 - Equine Science 4 hours. This course covers classroom studies of anatomy, nutrition, disease, and veterinary aspects of owning a horse or running a stable. Barn assignments deal with particular injuries and there are demonstrations with horses in terms of wrapping various wounds and treating common equine ailments. A trip to the Cornell Veterinary Clinic is included in the semester.

PE 288 - Methods of Teaching English Riding 4 hours. Students in this course are required to observe teaching of classes and to discuss objectives and methods with the instructor. In time the student acts as apprentice teacher under the instructor's supervision. When ready, the student assumes the role of instructor with the responsibility of setting up safety rules and class curriculum. The student's efforts are reflected in the riders' progress. A lecture/question period will be held with local leaders of 4-H and Pony Clubs. Prerequisite: PE 286.

PE 289 - Combined Training 4 hours. Concentrating on three areas: Dressage, Cross Country Jumping and Stadium Jumping and students are given an introductory working and riding knowledge in combined training. During the course students attend one clinic in each phase and a three day event, as well. Site: Brentwood Riding Center. Prerequisite: PE 286.

PE 295 - Psychology of Coaching 3 hours. This course covers topics such as learning, performance, attention, anxiety, motivation, aggression, arousal, and the social-psychological dynamics of participation in sports.

PE 312 - Theory and Technique of Coaching Football 2 hours. Theories of team offensive and defensive techniques, condition and training methods discussed. Practical experience is a part of the course. Coaching courses offered on a rotating basis.

PE 313 - Theory and Technique of Coaching Basketball 2 hours. A complete coverage for the aspiring coach, including every phase of the game with special emphasis on fundamentals, offense, and defense and how to prepare a team totally for the entire season. Offered on a rotating basis.

PE 314 - Theory and Technique of Coaching Volleyball 2 hours. A complete coverage with emphasis given to the fundamentals of the game, plus offensive and defensive strategies, conditioning, and statistic charts. Practical experience is a part of the course. Offered on a rotating basis.

PE 315 - Theory and Technique of Coaching Lacrosse 2 hours. A complete coverage for the ambitious coach using the United States Lacrosse Coaches Association's Handbook of Coaching Techniques as guide. Special emphasis on the fundamentals of riding, clearing, offensive and defensive play for the individual as well as the team. Practical experience is part of the course. Offered on a rotating basis.

PE 316 - Theory and Technique of Coaching Track and Field 2 hours. The fundamental concepts and principles of competitive track and field. Includes moderate amounts of physical participation in each event, complemented with lectures, loop films, and transparencies. Practical experience is a part of the course. Offered on a rotating basis.

PE 317 - Theory and Technique of Coaching Soccer 2 hours. A complete coverage for ambitious coaches using the United States Soccer Federation coaching format. Special emphasis is given to the fundamentals of the game, tactics, and techniques of team play, and overall preparation for team play. Practical experience is a part of the course. Offered on a rotating basis.

Physics

PHY 111 - Introductory General Physics I 4 hours. A lecture and laboratory course which includes mechanics, wave motion and sound, fluids and heat. Calculus is not used but some knowledge of algebra and trigonometry is assumed. (F)

PHY 112 - Introductory General Physics II 4 hours. A lecture and laboratory course including electricity and magnetism, optics, and some modern physics. Calculus is not used but some knowledge of algebra and trigonometry is assumed. Prerequisite: PHY 111 or PHY 125. (F)

PHY 125 - Physics I 4 hours. A calculus-based lecture and laboratory course which includes one and two dimensional kinematics and dynamics, the work energy theorem, conservation of energy, the impulse momentum theorem, conservation of momentum, rotational and simple harmonic motion and gravitation. Prerequisite: MAT 119. (F)

PHY 126 - Physics II 4 hours. This calculus-based lecture and laboratory course includes electric field and potential, direct and alternating current circuits, magnetism and magnetic induction and an introduction to electromagnetic and other waves. Prerequisites: MAT 120 and PHY 125. (F)

PHY 201 - Special Topics 2-4 hours. Topics vary from year to year and are designed especially for, but not limited to, non-science majors. Typical topics might be light and color, music and sound. (Sufficient demand)

PHY 204 - Special Laboratory Topics 2 hours. A laboratory course designed especially for, but not limited to, non-science majors. Topics vary from year to year and may include aspects of physics of interest to artists, musicians, photographers, environmentalists, etc. (Sufficient demand)

PHY 225 - Elementary Optics 2 hours This course discusses geometrical and wave optics with special emphasis on optical instruments. Prerequisite: PHY 126.

PHY 226 - Elementary Modern Physics 2 hours. This course includes quantum and waves aspects of radiation and particles, atomic structure, and an introduction to nuclear physics properties. Prerequisite: PHY 126.

PHY 341 - Advanced Physics Laboratory 2 hours. A laboratory course involving experiments in mechanics, acoustics, heat, optics, electricity, and magnetism, electronics and atomic and nuclear physics. Prerequisite: PHY 126.

PHY 342 – Advanced Physics Laboratory II 2 hours. Continuation of PHY 341.

PHY 401 - Quantum Physics 4 hours. Schrodinger's theory of quantum mechanics with applications to atomic systems. Includes origin of the quantum theory, wave-particle duality, approximation methods, and time-dependent problems. Prerequisite: PHY 226. (Alternate years)

PHY 421 - Statistical and Thermal Physics 4 hours. Statistical and Thermal Physics deals with the various aspects of macroscopic thermodynamics and describes these statistically in terms of the microstates of systems. Examples taken mainly from gaseous and solid systems. Prerequisite: PHY 126, MAT 121. (Alternate years)

PHY 423 - Advanced Mechanics 4 hours. This course makes more sophisticated use of the basic laws of mechanics and includes sections on rotating coordinate systems, orbits in inverse square law fields, the analysis of vibrating systems and waves, Lagrange's and Hamilton's equations, and an introduction to the topic of chaos. Prerequisites: MAT 322, PHY 125 and PHY 126. (Alternate years)

PHY 424 - Advanced Electricity and Magnetism 4 hours. A study of electric and magnetic fields and their origins in free space as well as in materials. Includes an introduction to vector calculus, solutions to Laplace's equation, multipole expansions, and Maxwell's equations in differential and integral form. Prerequisites: PHY 126, MAT 322. (Alternate years)

PHY 450 - Independent Study 2 hours. Prerequisite: Departmental approval of student's written independent study proposal and permission of instructor. (Sufficient demand)

PHY 495 - ARGUS Project 3 hours/semester; maximum 6 for two semesters. Undergraduate research project for ARGUS program students who are majoring in a natural science. Prerequisites: minimum 2.8 GPA overall and 3.0 in the major; proposal acceptance by faculty committee.

Graduate Courses

CES 541 - Solid State Physics I 3 hours.
CES 542 - Solid State Physics II 3 hours.

Political Science

POL 110 - Introduction to American Politics 4 hours. An introductory survey of the American political system. Emphasis on the structures and processes of the political system with additional study of some of the problems faced by the system. (E)

POL 214 - Politics and Environment 2 hours. Examines America's recent quest for coherent environmental policy, with special emphasis upon the politics of air and water pollution control. (Alternate years)

POL 220 - Political Analysis 2 hours. Intended as a foundation course for further work in political science. Students examine frequently used approaches to the study of politics, consider the question of personal values in political science, and investigate attempts to study politics in a scientific way.

POL 230 - Introduction to Data Analysis and Statistics 3 hours. An introduction to statistics and data analysis in social and political life, covering the nature of variables, descriptive statistics, probability, and inferential statistics. Students use computer software to further their understanding. (Cross-listed as SOC 230) (III)

POL 232 - Judicial Processes 2 hours. The theory and practice of judicatory systems with primary emphasis on Anglo-American judicial processes and problems.

POL 233 - Legislative Processes 2 hours. An examination of the political, institutional, and individual factors that shape legislation. Focuses on the U.S. Congress and its political environment. (Alternate years)

POL 235 - Political Psychology 2-4 hours. The influence of personality on political behavior. Identification of useful psychology theory, methods of psychobiography, psychological dimension of presidential behavior, political pathology, radical movement, political ideologies, and other possible topics. (Sufficient demand)

POL 236 - Media and Politics 2 hours. This course examines the relationship between mass media and politics. Subjects covered include media and policy and the future political effects of media. (Alternate years)

POL 240 - Deep Ecology 4 hours. The nature of power as found in the power of nature. Topics: shallow and deep ecology; philosophy of wilderness; deep medicine; nature's affordances; domestication of the wild, bio-regionalism; conservation biology; ecopsychology.

POL 251 - Western Europe 4 hours. A comparative analysis of the political processes of the parliamentary democracies of Western Europe with special emphasis given to France, Great Britain, West Germany and Italy. (Alternate years)

POL 252 - Asian Politics 4 hours. Contemporary politics of selected countries. Legacy of tradition and current superpower interests; religious and ethnic conflicts; parties, elections, and state institutions; revolutionary and separatist movements, transnational enterprises, regional organizations. (Alternate years)

POL 261 - Political Development in the Third World 4 hours. Focus on the dynamics of political development and modernization in the less developed two-thirds of the world. Comparative analysis of regional divergencies. (Alternate years)

POL 262 - African Politics 2 hours. Comparative analysis of the impact of colonialism in sub-Saharan Africa, the national independence movements, African responses to the challenge of accelerated social change, and Africa's position in the world political order. (Alternate years)

POL 271 - World Politics 4 hours. A systematic examination of the political processes affecting world political developments. Specific attention focused on such factors as the formulation and application of foreign policy, the role of major powers in world politics, and the function of international law. (E)

POL 272 - War and Peace 4 hours. An analysis of problems affecting peace and war arising from world interdependence. Topics include international terrorism, global economic and environmental issues, food and energy resources, and disarmament.

POL 282 - Latin American Politics 2-4 hours. Contemporary politics of selected countries. Regional organizations and transnational enterprises; legacy of geography, history, and culture; religious and ethnic conflicts; parties, elections, and state institutions: revolutionary movements.

POL 292 - Special Topics in Political Science 2-4 hours. Examines topics of special interest not normally covered in other political science courses. Examples are Biopolitics, Political Socialization. (Sufficient demand)

POL 312 - Public Budgeting 2 hours. Considers the budgetary process in its political setting. Students examine the evolution of budgetary theory and practice since World War I, consider alternative criteria for making budgetary decisions, and apply those criteria in practical situations. (Alternate years)

POL 313 - State and Local Politics 4 hours. In the American governmental system, the intertwined destinies of states and their local governments are critical. This course studies the structure of decision-making at the state and local level, forces affecting decision, outcomes of decision, and the challenges governments face. (Alternate years)

POL 315 - Environmental Law 2 hours. This course discusses the background for basic state and federal environmental laws and leading court cases. The case method is used. Prerequisite: POL 110 or permission of instructor. (Sufficient demand)

POL 316 - American Constitutional Law and Politics 4 hours. An examination of the development of the Supreme Court as a major political institution concentrating primarily on the Court's decisions and its internal politics. Prerequisite: POL 110. Junior or senior standing recommended.

POL 331 - Political Parties 4 hours. Analysis encompasses theories of parties, party organization, party conduct of campaigns and elections, voting behavior, and party roles in government. Emphasis on the American system.

POL 332 - Political Interest Groups 2 hours. Analysis of group theory and examination of the internal structure and processes of politically active interest groups and of their methods of influencing the policy process. Prerequisite: POL 110. (Sufficient demand)

POL 333 - Public Opinion 2 hours. An examination of the formation and articulation of individual and group political attitudes, of the measurement techniques available, and of linkages between public opinion and public policy. (Alternate years)

POL 340 - Greek Political Philosophy 2-4 hours. This course examines the relationship of the individual to the city-state in 5th and 4th Century (B.C.E.) Greece. Major texts are Plato's Republic and Aristotle's Politics and The Constitution of Athens. There are also selected short readings from other ancient authors. Thematic emphasis is on the connection between ethics and politics. (Cross-listed as HSP 340) (Sufficient demand)

POL 341 - Modern Political Theory 4 hours. A survey of the major political theorists from the Renaissance through the twentieth century, with primary emphasis on western thinkers. Particular attention given to theory as an individual and cultural phenomenon. (Alternate years)

POL 342 - The Modern World-System 2-4 hours. Global structuring of capitalism in the modern era. Methods, techniques, and critiques of world-system theory: national/international structures of power, logistics, secular trends and hegemonic and other cycles; domestic and transnational violence, prognoses of systemic continuity and crisis. (Cross-listed as SOC 342) (Alternate years)

POL 343 - Hegemony 2 hours. Hegemony is the domination of discourse by a set of values. This interdisciplinary class acquaints students with the concept of hegemony, from its Marxist roots to the postmodern reformulation. The importance of "language games" and "tests" and "interpretation" are placed in the foreground of the class. (Alternate years)

POL 344 - Anarchism 2 hours. This course introduces the political philosophy of anarchism. Focal points include the origins of anarchism, ideas of its leading proponents, anarchism in practice, and evaluations of the theory. (Alternate years)

POL 345 - Global Ecopolitics 4 hours. A course acquainting students with the transnational factors of political economy affecting the environment. Special attention devoted to resource-utilization, in particular, the new frontiers of oceans, polar regions, and climatic forces. Also examined are the effects of global ideologies (animism, Judaeo-Christianity, Eastern religions, liberalism, socialism, and deep ecology), transnational development agencies and enterprises and international law on the "development" of planetary resources. (Cross-listed as ENS 345) (Alternate years)

POL 346 - Postmodern Political Theory 4 hours. This course explores, at an introductory level, the application of postmodern theory to the realm of politics. Students learn where postmodernism fits into the historical conversation among political thinkers, how language becomes a central concern (communication, politics, and philosophy are thereby intimately wed), why thinkers such as Jacques Derrida and Michel Foucault and Jean Francois Leotard have become so important.

POL 355 - Public Policy 4 hours. The policy process is the heart of politics: "Who gets What, When, How?" This course emphasizes the stages of the process and the types of policies that government considers. A case study of some policy area (elderly) is provided. (Alternate years)

POL 356 - Movements 4 hours. Determinants, mobilization and participation processes and outcomes of movements. Topics include competing theories; types of grievances, recruitment mechanisms; organizational dynamics; tactics; external support variables; and repressions and concessions by regimes. Prerequisites: SOC 110 or AN 200. (Cross-listed as SOC 356)

POL 411 - Public Administration 4 hours. Analysis of the administrative policy processes at the national level. Internal interaction and budgetary processes as well as interchange with external governmental and political institutions. Prerequisite: POL 110. (Alternate years)

POL 417 - American Civil Liberties 2 hours. Analysis of such current legal and political issues as free speech, religion, poverty, privacy, obscenity, and racial and sexual discrimination with attention to both established and latent areas of concern. Focuses on Supreme Court activity. Other governmental action considered, along with the theoretical and social contexts of the problems examined.

POL 431 - Research Design and Strategies 4 hours. The major research designs and techniques used in collecting social science data. The class selects, designs, and executes a research project and prepares a joint presentation and defense of its findings. Prerequisites: SOC 110 or AN 200, and senior standing or permission of instructor.

POL 450 - Independent Study Variable hours. Independent study of a specific problem under the general guidance of the instructor. Open to Political Science majors at the permission of instructor. (Sufficient demand)

POL 460 - Public Administration Internship 4 hours. Provides a first hand knowledge of how a government agency works and what agency personnel do. Interns have the opportunity to use skills developed in formal courses, and to assess personal interests in pursuing a public administration career. Prerequisite: Permission of instructor.

POL 463 - Revolutions 2-4 hours. An examination of social scientific writing on revolution, identifying those conditions in which revolutionary movements are most likely to succeed. (Alternate years)

POL 475 - Data Analysis Lab 2-4 hours. This course provides students with advanced data analysis experience. Students learn multivariate statistical techniques; how to use associated mainframe software (e.g., SPSSX) to analyze large data bases; and how to write research reports based upon their analysis. Prerequisite: SOC/POL 230 or equivalent or permission of instructor. (Cross-listed as SOC 475)

POL 492 - Seminar in Political Science Variable hours. Provides the mature student with the opportunity for in-depth analysis of a particular subject. The subject presented identified by subtitle in the course schedule. Prerequisite: Junior or senior standing. (Sufficient demand)

Graduate Courses

POL 530 - Advanced Topics in Social Science 2 hours.
POL 550 - Independent Study 2-4 hours.

Psychology

PSY 100 - Introduction to Psychology 4 hours. An introduction to the scientific study of behavior and mental processes. Topics typically include sensation and perception, learning and memory, consciousness, cognition and mental abilities, motivation and emotion, human development, personality, gender and sexuality, psychological disorders and therapies, and social influences on behavior. (E)

PSY 120 - Nonviolent Crisis Intervention 1 hour. Nonviolent crisis intervention is a behavior management system. We demonstrate techniques useful for prevention of acting out behavior, personal safety techniques which avoid staff or client injury during confrontation, and nonviolent physical control and restraint techniques for crisis management. Prerequisite: PSY 100 and permission of instructor. (Cross-listed as WST 120)

PSY 201 - Psychology of Adjustment 2-4 hours. This course examines personal and interpersonal growth and adjustment in a wide variety of contexts. Topics may include identity and self-esteem, anxiety, stress and coping, health and addictions, social cognition, marriage and family relationships, interpersonal communication, sexuality, career choices and work. Prerequisite: PSY 100.

PSY 265 - Social Development 4 hours. This course examines theories and research in child and adolescent social development. Relations with parents and peers, prosocial behavior, aggression, sex-role development, and social-cognitive development are studied. Prerequisite: PSY 100.

PSY 270 - Psychological Methods and Statistics 4 hours. An introduction to the use of data and theory in psychology. Topics include: philosophy of the scientific method, experiments and other research strategies, descriptive and inferential statistics and hypothesis testing. The course emphasizes statistical reasoning and its relationship to the scientific method. Prerequisite: PSY 100, required for majors and minors. (III)

PSY 280 - Social Psychology 4 hours. A study of the influence that people have on each other's behavior, perception, motivation, feelings and cognition. Topics include the self and identity, social perception and cognition, attribution, race and gender, prejudice and discrimination, conformity and obedience, groups and leadership, attitudes and persuasion, aggression and violence, helping and altruism, attraction and love, conflict and peacemaking. Prerequisite: PSY 100.

PSY 285 - Environmental Psychology 4 hours. This course explores the interrelationship between people and their physical environment. Representative topics include attitudes and perception of the environment, cognitive maps, work, learning, residential, and natural environments, crowding, privacy, personal space, territoriality, responses to noise, temperature, pollution, weather and natural disasters, and changing behavior to save the environment. Prerequisite: PSY 100. (Alternate years)

PSY 300 - Adult Development and Aging 4 hours. An introduction to the methodology, research, and theory of normal aging processes in adulthood. This covers physical and environmental influences on adult development, gender and minority issues in aging, and issues regarding death and dying. It also challenges popular misconceptions about aging. Prerequisite: PSY 100 or SOC 110. (Cross-listed as GRO 300)

PSY 301 - Parenting Seminar 2 hours. This course provides students with an opportunity to learn about effective parenting through reading of literature and group discussion. The course explores a wide variety of issues, concerns, and problems that parents often face as well as the joy and gratification that effective parenting brings. Prerequisite: PSY 100

PSY 302 - Psychological Measurement 3 hours. An introduction to psychological assessment through a survey of the principles of test design, scoring, and interpretation for tests of achievement, intelligence, personality, career interests, and attitudes. Specific concepts include: item analysis and norms, reliability and validity, ethical and legal standards. Prerequisite: PSY 100 and PSY 270.

PSY 305 - Psychology of Women 3 hours. This course examines the psychological, biological, social, and life-span development differences and similarities of the genders. Topics include cognitive abilities and achievement, personality characteristics, work issues, violence prevention, love relationships and sexualities, reproductive concerns, and physical and mental health issues. Prerequisite: PSY 100. (Cross-listed as WST 305)

PSY 310 - Communication and Counseling Skills 2 hours. Focused on working with adults, this course teaches interpersonal communication and counseling skills and theory to students preparing for careers in the helping professions. The course promotes self-understanding through experiential learning and role playing. Videotaping and microlabs may be employed. Prerequisite: PSY 100 or GRO 300.

PSY 312 - Psychological Research and Design 4 hours. An advanced course in psychological research methods. Includes the logic of various research designs (variables, confounds) and their statistical analysis. The class designs and conducts several studies, gathering and interpreting data. Involves APA style report writing and the use of computers in research. Prerequisites: PSY 100 and PSY 270.

PSY 313 - Cognitive Processes 4 hours. An exploration of the psychological organization and functions of the mind. The point of view of people as active processors of information is adopted. Topics include attention, recognition, varieties of memory, psycholinguistics and consciousness. Emphasis is placed on the experimental method and its relationship to the experience of cognitive activities. Prerequisite: PSY 100 or permission.

PSY 315 - Sensation and Perception 4 hours. A study of the physiological and psychological processes involved in the immediate experience of sensory stimulation. Topics include sensory systems and coding mechanisms, psychophysical methods, signal detection, illusions, and complex perceptual processes. Prerequisite: PSY 100.

PSY 324 - Freud, Jung and Religion 4 hours. (Sufficient demand). This course studies the psychological theories of Freud and Jung, emphasizing their approaches to and interpretations of various aspects of religious life such as origins, traditions, symbols, rituals, faith, etc. Attention is also paid to whether psychological work is a religious process. (Sufficient demand) (Cross-listed as HSR 324)

PSY 335 - Health Psychology 2-4 hours. The critical link between health and behavior is the focus of this course. Students discuss and explore, in seminar format, health-related topics such as nutrition, addiction, exercise, life stress, health care delivery systems, alternative medicine, AIDS, health promotion behavior and personality and proneness to disease. Prerequisite. PSY 100.

PSY 340 - Research Techniques 2-4 hours. This course involves the conduct of laboratory and/or field research and experiments to teach techniques and skills used to gather data in specific subfields of psychology, usually child development. The specific area to be covered may change from term to term (e.g., personality, social, learning, cognition). Prerequisite: PSY 270 and relevant courses (such as PSY 265 or PSY 365) or permission of instructor.

PSY 350 - Principles of Learning and Behavior Modification 4 hours. The principles and techniques of behavioral assessment and management are examined, including how to strengthen adaptive behavior through shaping, reinforcement schedules, and relapse prevention and how to minimize or eliminate maladaptive behavior through behavior modification methods such as stimulus control and extinction procedures. Prerequisite: PSY 100.

PSY 360 - Special Topics 2-4 hours. A series of directed readings, changing from semester to semester, which affords the student an opportunity to pursue topics of special interest in greater depth by intensive reading, discussion and seminar feedback. Prerequisites: PSY 100 and permission of instructor.

PSY 365 - Cognitive Development 4 hours. The course examines the theories and research in cognitive development from infancy through adolescence. Piagetian, Vygotskian, and Information-Processing Approaches are explored while examining the development of processes including attention, perception, memory, language, and reasoning. Prerequisite: PSY 100.

PSY 375 - Practicum 2-4 hours. A supervised field experience planned to develop skills in designing interventions within educational, vocational, social services or mental health settings. In addition to field placements, students may meet in weekly seminars to discuss current literature. Prerequisites: PSY 100 and permission of instructor.

PSY 380 - Child Psychopathology 3 hours. Through readings, presentations, and discussions, this course seeks to illuminate variation in child/adolescent behavior, emotion, and personality. Course material will consist of theory, research, and practice regarding “disturbed” and “disturbing” children and adolescents. Prerequisite: PSY 265 or PSY 365 or PSY 385.

PSY 381 - Child Interventions 3 hours. This seminar introduces students to interventions for children and adolescents with disabilities and mental health disorders. Treatment strategies will be explored (such as behavior modification, play therapy, family therapy) along with treatment settings in which such therapies are delivered (schools, community mental health centers, institutions). Prerequisite: PSY 265 or PSY 365 or PSY 385.

PSY 382 - Theories of Personality 4 hours. This course examines the philosophic, scientific, and applied aspects of personality theory and research. The major orientations toward investigating personality will be explored, e.g., psychodynamic, depth-psychological, trait-factor, humanistic, and social-learning models. Emphasis is placed on developing a working knowledge of each theory and methods of conducting personality research. Prerequisite: PSY 100.

PSY 385 - Abnormal Psychology 4 hours. Examines the biological, psychological and societal perspectives on the taxonomy, etiology, and treatment of clinically significant psychopathology. Provides a basis for understanding the personal and social problems of such individuals. Prerequisite: PSY 100, PSY 265, PSY 280, PSY 365 or PSY 382 recommended.

PSY 391 - Neuropsychology 4 hours. A non-laboratory course dealing with the neurological correlates and determinants of behavior. Emphasis on basic neuroanatomy and neurophysiology underlying human behavior, i.e., the physical basis of sensation, perception, emotion, motivation, learning, memory and language.

PSY 393 - Philosophical Psychology 4 hours. Discussion of the nature of consciousness, self-consciousness, and intentionality. Topics include: mind and language, the architecture of the human mind, varieties of psychological explanation, recent mind/body debates, the reality of selves, and animal consciousness and its evolutionary value. Prerequisite: previous coursework in psychology, philosophy or permission of instructor. (Cross-listed with HSP 393)

PSY 395 - The Psychology of Death and Dying 4 hours. The study of death addresses questions rooted at the center of human experience. Included are historical and modern concepts, attitudes and practices toward the dying and the bereaved; psychological stages and experiences through which the dying may pass; an investigation of suicide including prevention, intervention and postvention; the concept of death in health care, medical ethics and law. Prerequisite: PSY 100.

PSY 414 - Industrial/Organizational Psychology 4 hours. This course is designed to acquaint students with work psychologists perform in organizational settings. Topics may include methodology of industrial/organizational psychology, personnel selection, training and development, job satisfaction, leadership, work motivation, human performance and human engineering, performance appraisals, job stress and consumer behavior. Prerequisite: PSY 100.

PSY 422 - Cognition and Aging 2 hours. A lecture and discussion course covering current research and theories of cognitive processes in the older adult. Basic topics include age differences in memory, verbal processes, motor performance, perception, problem solving, and intelligence. Prerequisite: PSY 100. Recommended PSY 313 or GRO 300 or permission of instructor. (Cross-listed as GRO 422)(Alternate years)

PSY 450 - Independent Study 1–4 hours.

PSY 460 - Advanced Special Topics 2-4 hours. An advanced series of directed readings, changing from semester to semester, affording students the opportunity to pursue topics of special interest in greater depth with intensive reading, discussion and seminar feedback. Prerequisites: PSY 100 and permission of instructor.

PSY 470 - Senior Seminar 2 hours. This course provides students with an opportunity to explore contributions of important research and theorists through reading of literature, group discussions, and paper presentations. It will also focus on a variety of contemporary topics and issues. Prerequisite: completion of 20 hours of psychology. Required for majors.

PSY 495 - Clinical Procedures 4 hours. Focuses on the development and application of general clinical skills. Each student has the opportunity to demonstrate these skills through supervised interactions with a volunteer client. Prerequisites: PSY 310, PSY 382 or 385 and permission of Division Selection Committee.

PSY 496 - Clinical Practicum 4 hours. This course provides advanced clinical/ counseling-track psychology students with practical experience in a human service setting. Since each practicum site offers a somewhat different experience, attempts are made to place students in a setting that matches their interests. Supervision is provided for both on-site and in-class work. Prerequisites: PSY 495 and permission of Division Selection Committee.

Note: Undergraduate students may take some 500 level courses with permission of instructor.

Graduate Programs and Courses in School Psychology

The Division of School Psychology offers a Master of Arts (MA) degree, a Certificate of Advanced Study (CAS), and a Doctor of Psychology (Psy.D.) degree.

PSY 508 - Physical Bases of Behavior 3 hours
PSY 515 - Foundations of Assessment 1: Measurement 3 hours
PSY 516 - Foundations of Assessment II: Norm-Referenced Tests 3 hours
PSY 519 - Foundations of School Psychology 3 hours
PSY 520 - Human Development: Life Span 3 hours
PSY 521 - Foundations of Assessment III: Academic Functioning 3 hours
PSY 528 - Human Development: Exceptionality 3 hours
PSY 533 - Foundations of Interpersonal Effectiveness 3 hours
PSY 534 - Intervention I: Psychotherapy and Behavior Therapy 3 hours
PSY 535 - Research Design and Statistical Analysis I 3 hours
PSY 545 - Field Experience in School Psychology I 1 hour
PSY 546 - Field Experience in School Psychology II 2 hours
PSY 550 - Independent Study Variable hours
PSY 557 - Affective Development in the Classroom 3 hours
PSY 558 - Managing the Classroom 3 hours
PSY 560 - Special Topics 3 hours

PSY 561 - Exceptionality in Learning and Behavior 3 hours
PSY 565 - Learning and Cognition 3 hours
PSY 567 - Advanced Developmental Psychology 3 hours
PSY 601 - Behavioral School Psychology 3 hours
PSY 602 - Techniques of Play Therapy 3 hours
PSY 605 - Intervention II: Clinic I 3 hours
PSY 606 - Intervention IV: Clinic II 3 hours
PSY 607 - Intermediate Practicum 3 hours
PSY 608 - Advanced Practicum 3 hours
PSY 611 - Foundations of Assessment IV: Social-Emotional Functioning 3 hours
PSY 615 - Intervention III: Consultation and Prevention 3 hours
PSY 616 - Professional Practice Seminar 3 hours
PSY 621 - Internship in School Psychology I 9 hours
PSY 622 - Internship in School Psychology II 9 hours
PSY 624 - Service Delivery in a Rural Context 3 hours
PSY 625 - Personality and Social Psychology 3 hours
PSY 626 - Advanced Seminar: Social Cognition 3 hours
PSY 627 - Advanced Seminar: Preschool and Early Childhood 3 hours
PSY 628 - Advanced Seminar: Health Psychology 3 hours
PSY 629 - Advanced Seminar: Intelligence and School Learning 3 hours
PSY 630 - Techniques of Family Therapy 3 hours
PSY 631 - Advanced Seminar in Consultation and Intervention 3 hours
PSY 632 - Advanced Consultation and Intervention Practicum 3 hours
PSY 635 - Research Design and Statistical Analysis II 3 hours
PSY 636 - Research Design and Statistical Analysis III 3 hours
PSY 637 - Research in School Psychology 3 hours
PSY 640 - Supervision and Administration of Psychological Services 3 hours
PSY 641 - Psychoeducational Interventions 3 hours
PSY 642 - Program Evaluation 3 hours
PSY 650 - Dissertation Variable hours

Religious Studies

HSR 105 - Introduction to World Religions 4 hours. An introduction to a limited number of religious traditions, e.g., Shamanism (emphasizing the American Indian), Hinduism, Buddhism, Judaism, Christianity, and Islam. Attention given to the nature of religion and its meaning for individuals and cultures. (B)

HSR 240 - Religion in America 4 hours. An examination of the impact of religion in shaping American culture. Major thinkers such as Edwards, James, Emerson and Niebuhr, historical movements such as revivalism and social gospel, and distinctive themes such as religious pluralism, civil religion and ethnic awareness. (Sufficient demand) (B)

HSR 252 - Judaism and Islam 4 hours. Introductory comparative course highlighting similarities and differences of the two religious traditions. Topics include sources and meanings of revelation, legal theories and ritual structures that uphold community, religious experience through worship and mysticism, and philosophical interpretations. (Sufficient demand) (B)

HSR 253 - Hebrew Religious Tradition 4 hours. An exploration of the Hebrews' religious experience by centering on their biblical writings (Old Testament). Archaeological and historical findings supplement a literary treatment of the Israelites' myths, rites and festivals, their institutions of prophecy, kingship and temple priesthood, their theories of history, culture and ethics. (Sufficient demand) (B)

HSR 254 - Birth of the Christian Tradition 4 hours. An exploration of the early Christians' religious experience both by studying their writings (e.g., letters, gospels, apocalyptic discourses, theological treatises, liturgical manuals – some in the New Testament) and by examining the Jewish, Greek and Roman cultures from which Christianity emerged. (Sufficient demand) (B)

HSR 255 - Christianity 4 hours. Surveys the influence of Christianity on western culture. Major thinkers: St. Augustine, Thomas Aquinas, Soren Kierkegaard and others; historical movements such as monasticism, pietism, the reformation; distinctive themes such as mysticism, martyrdom and activism. (Sufficient demand) (B)

HSR 257 - Greek and Roman Myths 4 hours. This course surveys the mythical world of antiquity and pays attention to classical religion, history, art, and literature in order to understand the nature of myths and how they develop and change. Contemporary methods of interpretation are also considered. (Sufficient demand) (B)

HSR 305 - Comparative Mythology 4 hours. How can myths be true? Why do the same themes crop up in different cultures? How have they been studied? This course addresses these and other issues by investigating myths from different cultures and applying a variety of interpretive techniques. (Sufficient demand)

HSR 307 - Myth, Ritual, and the Creative Process 4 hours. A cross-cultural explanation of how people establish their world views by narrating stories and by acting out their deepest aspirations and beliefs. Special attention to how and why symbolic frameworks are transmuted from certain forms to others through creative imagination. Prerequisite: One course in Religious Studies, Philosophy of Arts, or permission of instructor. (Alternate years)

HSR 308 - Artists, Shamans and Cosmology 4 hours. This seminar examines how western artists and traditional shamans become mediums in creating worlds of meaning. Discussions center on the cosmogonic process of creating meaning through dreams, images, myths, metaphors, ritual activity, symbolic gesture, and language. Prerequisite: One course in Religious Studies, Philosophy of Arts or permission of instructor. (Alternate years)

HSR 309 - Magic and Religion 4 hours. An examination of the diversity to be found among human religious beliefs and practices. Includes the relationship between magic, science and religion, the functions of witchcraft, divination and spirit possession, and the role of religion in cultural revitalization. (Sufficient demand) (Cross-listed as AN 307)

HSR 324 - Freud, Jung, and Religion 4 hours. This course studies the psychological theories of Freud and Jung, emphasizing their approaches to and interpretations of various aspects of religious life such as origins, traditions, symbols, rituals, faith, etc. Attention is also paid to whether psychological work is a religious process. (Cross-listed as PSY 324) (Sufficient demand)

HSR 359 - History of Chinese Thought 4 hours. Focusing on the relationship between religion and philosophy, this course develops and understanding of the distinctive character of Chinese culture by surveying the development of religion and philosophy from antiquity to the medieval period and challenges of the twentieth century. (Cross-listed as HSH/HSP 359)

HSR 369 - Buddhism 4 hours. Traces the historical development of Buddhist thought, rituals and meditation from the founding by Gotama in India to the present-day divisions between the Theravada and the Mahayana. Religious expressions through myth, philosophy, and art are highlighted. (Sufficient demand)

HSR 374 - Myth, Yoga, and Philosophy of India 4 hours. Examines myths and rituals in the Hindu religious tradition from the Vedic period to present day, the theory and technique of liberation through various forms of Yoga and the philosophies of ancient India centered in the Upanishads and Bhagavadgita. (Sufficient demand)

HSR 392 - Topics in Religious Studies 2-4 hours. An examination of issues in religious studies. Topics vary each time the course is offered. (Sufficient demand)

HSR 450 - Independent Study To be arranged with instructor.

Russian

MLR 101 - Russian I 4 hours. Introduction to the language and culture of the Russian-speaking world: speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

MLR 102 - Russian II 4 hours. Continuation and further development of the skills learned in MLR 101. Prerequisite: MLR 101 or permission of instructor (II)

MLR 201 - Russian III 3 hours. Continuation and further development of the skills learned in MLR 102. Prerequisite: MLR 102 or permission of instructor.

MLR 202 - Russian IV 3 hours. Development of proficiency through use of written materials in Russian. Prerequisite: MLR 201 or permission of instructor. (II)

Science

SCI 110 - Weather Elements 2 hours. Analyzes the fundamental physical processes of the atmosphere and their relationships to the daily weather pattern and weather forecasting in the United States. May be taken for science credit. (Sufficient demand) (F)

SCI 115 - Life in the Universe 4 hours. A study of the search for extra-terrestrial intelligence including a brief introduction to astronomy, an examination of the necessary conditions for life (as we know it), and the possibility of space travel and communication. (F)

SCI 123 - How the World Works I 4 hours. In this course, students learn science by doing science, planning and executing their own experiments devised to answer questions they have about how the world works. This year-long course is centered around a single "umbrella" topic that is inherently interdisciplinary, such as Living in Space or The Hidden House. Faculty from a number of scientific disciplines and mathematics guide students in their investigations. This is the first half of a course which, after successful completion of LA/SCI 124, will satisfy both semesters of the General Education Science requirements (F), and the Quantitative Reasoning Competency (III). If only one semester is completed, then the non-laboratory (F) category requirement will be satisfied. Not open to students who have taken an (F) category course. (III) (F) (Cross-listed as LA 123)

SCI 124 - How the World Works II 4 hours. A continuation of LA/SCI 123 which, after successful completion, will satisfy both semesters of the General Education Science requirements (F), and the Quantitative Reasoning Competency (III). Prerequisite: LA/SCI 123. (III) (F) (Cross-listed as LA 124)

SCI 126 – How Your Body Works 4 hours. A multimedia introduction to human biology at the level of the "person on the street". Students will identify their questions and concerns. We will then plan and perform experiments which may help explain the functional, structural and developmental relationships. (F) (Cross-listed as LA 126)

SCI 127 - Doing Science – 4 hours. In this course, students learn science by doing science, planning and executing their own experiments devised to answer questions they have about a central theme. This semester-long course is taught by faculty from different scientific (or mathematics) backgrounds who guide students in their investigations. This is a one-semester course which will satisfy one lab science credit (F) and the Quantitative Reasoning Competency (III) requirements for LAS students. It is similar to LA/SCI 123-124, but condensed and taught in only one semester. (III) (F) (Cross-listed as LA 127)

SCI 366 - Directed Field Studies 2-4 hours. This course is offered for students who wish to pursue directed work in some area other than geology during the 3-5 week geology field trip (GEO 466/467, Geology in the Field). Prior to enrolling, the student prepares a plan of study in consultation with the instructor of GEO 466/467 and an instructor in his/her field of interest. The plan of study must be approved by both instructors and the Dean of the Summer School and must include criteria for evaluation of the work. Possible project areas include nature/scientific photography, science journalism, or studies in botany, ecology, or archaeology. Students enrolled in this course go on the entire Geology 466/467 field trip and pay the same fee as those enrolled in that course. Fee is required. Prerequisites: permission of instructor, filing of an approved plan of study

Sociology

SOC 110 - Introduction to Sociology 4 hours. The foundation course in sociology, studying such concepts as social organization, culture, personality, and social processes such as interaction, socialization, social stratification, race and ethnic relations, and collective behavior. Designed primarily for freshmen. (E)

SOC 230 - Introduction to Data Analysis and Statistics 3 hours. An introduction to statistics and data analysis in social and political life, covering the nature of variables, descriptive statistics, probability, and inferential statistics. Students use computer software to further their understanding. (Cross-listed as POL 230) (III)

SOC 235 - Socialization 4 hours. An inquiry into the processes by which social actors learn the norms, behaviors, and patterns of attention appropriate to their positions in society. Topics discussed include: "nature versus nurture," theoretical approaches to socialization, social structure, and socialization in adult life. The relationship between socialization and other sociological concepts, such as gender, social class, and occupation are discussed. Prerequisite: SOC 110 or AN 200. (Alternate years).

SOC 236 - Religion and Society 4 hours. A scientific approach to the universal phenomenon of religion in human society. How does one approach such a study? What is "religion?" What function does religion supply in the maintenance of society? Are there alternative belief systems equally functional? What kinds of people are drawn to various types of religious expression? What is the place of religion in the society of the future? Prerequisites: SOC 110 or AN 200 and junior or senior standing, or permission of instructor. (Alternate years)

SOC 242 - Social Problems 2-4 hours. Current social issues discussed and analyzed from a sociological perspective. Issues vary each term but may be drawn from the following: population and the environment; work and alienation; education; health; leisure, social welfare, and other areas. Prerequisite: SOC 110 or AN 200. (Sufficient demand)

SOC 250 - Practicing Sociology 2 hours. An introduction to the way sociology is applied in industry, international development, social services, and other areas, with an emphasis on the student's own life, relationships, and career. Relevant issues include professional opportunities for sociologists in research, consulting, and policy analysis. Prerequisite: SOC 110 or AN 200.

SOC 253 - Social Welfare Institutions 2 hours. Examines social welfare institutions in the context of change brought about by industrialization and urbanization. Focus on types of welfare, welfare policy and the structure of services. (Cross-listed as WST 253) (Sufficient demand)

SOC 254 - Class, Status, and Power 4 hours. An inquiry into the origins and consequences of inequality in social life. Theories of social stratification explored, emphasizing economic class, life styles, and differential valuation and rewards. Prerequisite: SOC 110 or AN 200 or permission of instructor. (Sufficient demand)

SOC 261 - Political Development in the Third World 4 hours. Focus on the dynamics of political development and modernization in the less developed two-thirds of the world. Comparative analysis of regional divergencies. (Alternate years)

SOC 342 - The Modern World-System 4 hours. Global structuring of capitalism in the modern era. Methods, techniques, and critiques of world-system theory; national/international power structures; logistics, secular trends, and hegemonic and other cycles; domestic and transnational violence; prognoses of systemic continuity and crisis. (Cross-listed as POL 342) (Alternate years)

SOC 343 - Race and Ethnicity 4 hours. A discussion of theory and research concerning racial and ethnic relations in the United States and in various parts of the world.

SOC 344 - Deviance and Society 4 hours. Deviance presented as an aspect of the normal functioning of a society, rather than as either a symptom of social pathology or disorganization or as the result of biologically or psychologically problematic individuals. Prerequisite: SOC 110 or AN 200 or permission of instructor.

SOC 345 - Crime and Delinquency 4 hours. The concept of deviance in particular reference to the sociological understanding and analysis of crime and delinquency. Prerequisite: SOC 110 or AN 200 or permission of instructor.

SOC 346 - Sociology of Sex and Gender 4 hours. Examines the concepts of sex and gender as they are defined in sociological literature, focusing on how social contexts (i.e., education, employment, family, sexuality and reproduction, etc.) construct gender which, in turn, shapes future opportunities for individuals in society. Prerequisite: SOC 110 or AN 200. (Cross-listed as WST 346)

SOC 348 - Sociology of Families 4 hours. An investigation of the relationship between the family and other social institutions, particularly in regard to the family functions of population maintenance, socialization and social placement. Prerequisite: SOC 110 or AN 200. (Cross-listed as WST 348)

SOC 349 - Medical Sociology 4 hours. An examination of the social definitions of health and illness, its social distribution and relationship to the organization of health delivery systems. Prerequisite: SOC 110 or AN 200. (Sufficient demand)

SOC 352 - Sociology of Organizations 4 hours. Analysis of groups with bureaucratic structures such as factories, universities, hospitals and voluntary organizations. Topics include theories of formal organizations, impact of organizations on the individual, functions of informal groups, relationship of complex organizations to their environments. Prerequisite: SOC 110 or AN 200 or permission of instructor.

SOC 356 - Movements 4 hours. Causes and consequences of social movements including determinants, mobilization and participation processes, and outcomes of movements. Topics include competing theories; types of grievances, recruitment mechanisms; organizational dynamics; tactics; external support variables; and repressions and concessions by regimes. Prerequisite: SOC 110 or AN 200. (Cross-listed as POL 356)

SOC 376 - Technology, Values, and the Environment 4 hours. A study of cultural influences on our understanding and treatment of the natural environment. Issues include the conduct of struggles over energy and environmental policy, international development, and the impact of technology in agriculture, industry, and the military on environmental quality. (Alternate years)

SOC 388 - Population Studies 4 hours. A non-quantitative introduction to how populations are studied and to the causes and consequences of global trends in fertility, mortality, and migration. Topics include population policy and the impact of population processes on economic development, food supplies and the environment. Prerequisite: SOC 110 or AN 200 or permission of instructor.

SOC 420 - Social Theory: A Survey 4 hours. An examination of contemporary theoretical schools, e.g. symbolic interactionism, structural functionalism. exchange and conflict, and ethnomethodology. Special attention devoted to the precursors and contemporary representatives of the respective schools. Prerequisite: SOC 110 or AN 200 or permission of instructor. (Cross-listed as CDS 420)

SOC 431 - Research Design and Strategies 4 hours. The major research designs and techniques used in collecting social science data. The class selects, designs, and executes a research project and prepares a joint presentation and defense of its findings. Prerequisites: SOC 110 or AN 200, and senior status or permission of instructor.

SOC 450 - Independent Study 2 or 4 hours. Work on some topic chosen by the student in consultation with the instructor. Work under this title may be carried out alone, in cooperation with other departments, or in an honors colloquium where a common problem is chosen. Prerequisite: permission of departmental staff.

SOC 460 - Special Topics 2-4 hours. An open course, varying in content from year to year, which allows for concentration on such specialized areas as Political Sociology, Demography, Criminology, Social Change, Stratification, and the like. Prerequisites: SOC 110 or AN 200 and junior or senior standing or permission of instructor. (Sufficient demand)

SOC 463 - Revolutions 2-4 hours. An examination of social scientific writing on revolution, identifying those conditions in which revolutionary movements are most likely to succeed. (Alternate years)

SOC 472 - Application of Sociology Field Work 2-4 hours. Field work associated with social services, corrections, health care, or educational agencies. Weekly class-workshop sessions and individual field work. Focus on the student's relationship with colleagues, professionals, and the public in various accredited institutional settings. Prerequisite: junior or senior standing and permission of instructor. (Sufficient demand)

SOC 475 - Data Analysis Lab 4 hours. This course provides students with advanced data analysis experience. Students learn multivariate statistical techniques; they learn to use associated mainframe software (e.g., SPSSX) to analyze large data bases; they learn how to write research reports based upon their analysis. Prerequisite: SOC/POL 230 or equivalent or permission of instructor. (Cross-listed as POL 475)

Graduate Courses

SOC 530 - Advanced Topics in Social Science 2 hours.
SOC 533 - Community Analysis 3 hours. CSA Graduate Elective.
SOC 550 - Independent Study 2-4 hours.

Spanish

MLS 101 - Spanish I 4 hours. Introduction to the language and culture of the Spanish-speaking world: speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

MLS 102 - Spanish II 4 hours. Continuation and further development of the skills learned in MLS 101. Prerequisite: MLS 101 or permission of instructor. (II)

MLS 201 - Spanish III 4 hours. Continuation and further development of the skills learned in MLS 102. Prerequisite: MLS 102 or permission of instructor. (II)

MLS 202 - Spanish IV 4 hours. Development of proficiency through use of written materials in Spanish. Prerequisite: MLS 201 or permission of instructor. (II)

MLS 300 - Advanced Spanish Practica: Conversation and Composition 3 hours. Focuses on open-ended, dramatized versions of life-like scenarios which elicit resolutions from students. Emphasis on increasing fluency and amplifying cultural competency. Students approach scenarios individually and collectively. Readings, discussions and assignments in Spanish. Prerequisite: MLS 202 of permission of instructor.

MLS 309 - Introduction to Critical Analysis: Reading and Writing 3 hours. A process-centered approach to critical "readings" of various texts, including film. Students will learn about and deploy particular strategies both for analyzing and writing about different genres. Prepares students for upper-level Spanish courses. Prerequisite: MLS 300 or permission of instructor.

MLS 310 - Peninsular Culture and Literature I: Medieval – Eighteenth Century 3 hours. An introduction to canonical cultural works of Spain from the Middle Ages through the eighteenth century. Cultural discourse placed in context with socio-historical periods. Essays, literature, videos and/or films. Predominantly in Spanish. Prerequisite: MLS 309 or permission of instructor.

MLS 311 - Peninsular Culture and Literature II: Nineteenth - Twentieth Century 3 hours. An introduction to canonical cultural works of nineteenth-and twentieth-century Spain. Cultural discourse placed in context with socio-historical periods. Can be taken independently or as a continuation of MLS 310. Course components predominantly in Spanish. Prerequisite: MLS 309 or permission of instructor.

MLS 312 - Spanish American Culture and Literature I 3 hours. An introduction to canonical cultural works of pre-Columbian through eighteenth-century Spanish America. Cultural discourse placed in context with socio-historical periods. Essays, literature, videos and/or films. Predominantly in Spanish. Prerequisite: MLS 309 or permission of instructor.

MLS 313 - Spanish American Culture and Literature II 3 hours. An introduction to canonical cultural works of nineteenth- and twentieth-century Spanish American. Cultural discourse placed in context with socio-historical period. Can be taken independently or as a continuation of MLS 312. Course components predominantly in Spanish. Prerequisite: MLS 309 or permission of instructor.

MLS 400 - Latinos/as in the United States 3 hours. An introduction to important writings, art and/or films about the experiences of Latino communities in the United States. Addresses, for example: socio-political; gender; class; language; and generational-change issues reflected in various discourses. Given in Spanish and English. Prerequisite: MLS 300 or permission of instructor.

MLS 402 - El Siglo de Oro 3 hours. A study of the Golden Age through selected readings in the novel, poetry, and drama, including the picaresque novel and selected works by such writers as Lope, Calderon, Fray Luis de Leon, Santa Teresa, and Cervantes. Taught in Spanish. Prerequisite: MLS 301 or permission of the instructor. (Sufficient demand.)

MLS 403 - Readings in Modern Peninsular Literature 3 hours. Examines 20th century Peninsular literature, emphasizing the Generation of '98, the Generation of '27, and the post-Civil War era. Readings are selected from the works of Unamuno, Valle-Inclan, Baroja, "Azorin," Machado, Garcia Lorca, Cela, Laforet, and Matute. Taught in Spanish. Prerequisite: MLS 301 or permission of instructor. (Sufficient demand.)

MLS 404 - Readings in Modern Spanish American Literature 3 hours. Spanish American literature from Modernism to the present. Readings are selected from the works of such authors as Dario, Neruda, Mistral, Borges, Garcia Marques, Cortzar, Donoso, and Vargas Llosa. Gaucho, Indianist and Revolutionary novels are also considered. Taught in Spanish. Prerequisite: MLS 301 or permission of instructor. (Sufficient demand.)

MLS 450 - Independent Study 1-3 hours. Intensive study of a topic chosen in consultation with instructor. Required of majors.

MLS 480 - Topics in Hispanic Literature 3 hours. A study of the literary manifestations of socio-cultural areas such as religion, honor, love, politics, and individuality which are of concern to Hispanics. Taught in Spanish. Prerequisite: MLS 301 or permission of instructor. (Sufficient demand.)

Theatre

THR 101 - Introduction to Theatre 4 hours. A study of theatre as a creative process and cultural phenomenon. It includes text and performance analysis, the study of dramatic literature, and opportunities to experience and explore the work of the actor, the playwright, the director, the designer, and the producer. Scripts and productions which are the sources for discussions and assignments are drawn from a full range of cultures and time periods. (C)

THR 111 - Technical Theatre 4 hours. A lecture/lab course in stage technology covering set construction, painting, lighting, costumes, make-up stage properties. Lab hours required. (C)

THR 160/260/360 - Theatre Practicum 2 hours. Theatre Practicum is a lab course designed to give students practical production experience under faculty supervision in the areas of acting, technical theatre, designing, directing, and theatre management. May be repeated for credit to maximum of 10 hours. Credit received will not be included in determining course overload. Prerequisite: Permission of instructor.

THR 190 - The Performing Arts: A Global Perspective 4 hours. This “First Year Experience” course for Freshmen introduces the student to the role of the performing arts in society at large. It has a multi-cultural focus, beginning with an exploration of the roots of musical, theatrical and movement forms of expression in early tribal society, and followed by contrasting these forms to the more familiar contemporary Western forms of expression. The course then examines the Performing Arts of selected cultures, societies and diverse populations, such as Native American/ Native Alaskan, selected minority populations of the United States, Japanese, Indonesian, Chinese, Indian, African, Slavic and others. (Cross-listed as MUS 190) (C)

THR 205 - Women in American Theatre 2 hours. A survey course tracing the role of women in the various areas of American theatre as it developed from the early 18th century to the present day. Representative play scripts are studied. (Cross-listed as WST 205)

THR 210 - Principles of Theatrical and Performance Design 3 hours. A beginning design course introducing students to common principles of theatrical and performance design: scene, lighting, costume, sound, makeup, props. Script analysis, research methods, the "isms" (realism, symbolism, absurdism, postmodernism, etc.), design unity, color, light/shadow, line/weight, shapes, etc. will be covered. (C)

THR 221 - Stage Makeup 2 hours. A basic course introducing students to the principles of designing and applying stage makeup. Projects and makeup crew assignments required. (C)

THR 241 - Acting I 4 hours. A beginning level course open to all students. Through basic then more progressive acting exercises, introduces students to realism based theatrical performance, with emphases and exploration on vocal, physical and creativity development, textual and character analysis, etc. Plays from a full range of cultures are used for scene study assignments. (C)

THR 242/342/442 - Performance Lab 3 hours. This course provides students with specialized focus on various aspects of theatrical performance in a laboratory, experimental workshop setting. This flexible course is intended to respond to unique interests and needs of students not otherwise emphasized in other courses. Lab may focus on improvisational techniques, audition techniques, monologue development, masking, puppetry, etc. Course may be repeated by registering for courses in sequence. [THR 242: (C)]

THR 303 - Theatre History I 4 hours. An examination of theatre's place in many world cultures, primarily focusing on the development of Western Drama, from earliest times through 1650. Emphasis on performance content and style, theatre architecture, and management practices as a reflection of a given culture's social, religious and political structures and aesthetic impulses.

THR 304 - Theatre History II 4 hours. An examination of theatre's place in many world cultures, primarily focusing on the development of Western Drama, from 1650 to the present. Emphasis on the performance content and style of dramatic literature, theatre architecture, and management practices as a reflection of a given culture's social, religious and political structures and aesthetic impulses.

THR 305 - Cultural Perspectives in Theatre and Performance 3 hours. An examination of broad range of cultural performance and theatrical traditions, and their influence/impact on contemporary American performance practices. African, Asian, Native American and other dance/drama forms will be considered from aesthetic, social, historical, religious and political perspectives. (Cross-listed as AN 205)

THR 311 - Scene Design 3 hours. A scenic design course, which builds on the principles of design taught in THR 210. It further develops skills in research methodology, script analysis, sketching and painting techniques, model building, graphics, use of computer-aided design, etc. Representative scripts will be studied. Prerequisite: THR 210 or permission of instructor. (Alternate years)

THR 321 - Stage Costume Design 3 hours. A costume focused design course which builds on the principles of design taught in THR 210. It further develops skills in research methodology, script analysis, costume design theories, artistic processes, and costume construction for specific plays. Lab hours required. Prerequisite: THR 210 or permission of instructor. (Sufficient demand)

THR 331 - Lighting Design 3 hours. A studv of basic electricity and theatrical lighting equipment with an emphasis on both the artistic as well as the technical aspects of stage lighting Crew assignments required. Prerequisite: THR 210 or permission of instructor. (Alternate years)

THR 332 - Stage Sound 2 hours. An introductory level lecture/lab course on audio equipment and its use in theatre. The emphasis is on the design of sound for stage shows. Areas covered include sound theory, field recordings, multi-track recording and dubbing and acoustics. Prerequisite: THR 210 or permission of instructor. (Sufficient demand)

THR 341 - Acting II 3 hours. This intermediate level course emphasizes text analysis, scene study, in-depth character development, character relationship explorations, and exploration of the interface between text and subtext with a direct application to performance. A variety of scenes and monologues from a wide range of plays are used, with public performance expected of selected work, at the end of the semester. Prerequisite: THR 241 or permission of instructor.

THR 380 - Internship in Theatre 2-4 hours. An independent study project allowing students to gain experience in professional or semi-professional theatre settings. An independent study form describing the requirements of the course must be written. Prerequisite: Junior status; approved by the Division Chair.

THR 411 - Advanced Projects in Theatrical Design and Technology 1-4 hours. A faculty supervised experience for the advanced student in one of several areas of design: scenic; lighting; costume; sound; props; makeup; and technical direction. Prerequisite: THR 111; One of the following: THR 221/311/321/331/332; Permission of instructor.

THR 441 - Acting III 3 hours. Intended for the serious student of acting, this advanced performance course applies the in-depth skills developed in Acting II (text analysis, character development, etc.) to historical texts: the Greek classics, Shakespeare, Restoration Comedy, *Comedia del' Arte*, turn-of-the century modern realism, etc. Public performance of selected scenes is expected. Prerequisites: THR 241; 341 or permission of instructor.

THR 450 - Independent Study 2-4 hours. For students wishing to undertake a specialized area of study not otherwise offered, under the guidance of the appropriate faculty member. Prerequisites: junior standing and/or permission of instructor.

THR 451 - Directing I 3 hours. The theory and practice of play production from script selection to early rehearsals to final production, focusing on directorial vision, staging principles, actor coaching, organization of the production book, etc. Final scenes or one-act presentations to the public are expected. A full range of scripts and approaches is discussed and used for classroom and outside assignments.

THR 452 - Directing II 3 hours. The continued exploration of the processes and practices of production direction from conceptualizing, to auditions, to staging, resulting in the public presentation of a one-act play. Topics include special rehearsal problems, actor coaching, rehearsal pacing. etc. Course limit: eight students. Prerequisite: Directing I; permission of instructor.

THR 460 - Special Topics 1-4 hours. Includes non-regularly scheduled course offerings in related areas of study. Examples could include Musical Theatre, Theatre and Social Change, Ritual and Theatre, Performance Theory, etc.

THR 471 - Senior Project 2-4 hours. Students complete a major project in their areas of interest. May include producing, directing, performance, playwriting, design. The project is to be submitted as a proposal to the faculty and approved in advance, with advisory support and supervision provided by the appropriate faculty member. Prerequisites: senior standing; approved written proposal; permission of instructor.

Women's Studies

WST 105 - Women in Society 4 hours. This interdisciplinary course is the foundation of Women's Studies. It examines the relationship of women worldwide to institutions and developments in the social, political, and economic spheres. Topics include biological issues, women and work, women as family members, media portrayal of women, and the origins and development of modern feminism.

WST 120 - Nonviolent Crisis Intervention 1 hour. Nonviolent crisis intervention is a behavior management system. We demonstrate techniques useful for prevention of acting out behavior, personal safety techniques which avoid staff or client injury during confrontation, and nonviolent physical control and restraint techniques for crisis management. Prerequisite: PSY 100 and permission of instructor. (Cross-listed as PSY 120)

WST 205 - Women in American Theatre 2 hours. A survey course tracing the role of women in the various areas of the American theatre as it developed from the early 18th century to the present day. Representative play scripts are studied. (Cross-listed as THR 205) (Alternate years)

WST 206 - Poetry Workshop 2 hours. A beginning writing course in poetry with an emphasis on originality and freshness of language and a basic understanding of poetic form. Required work includes extensive reading of contemporary poets, weekly writing, peer review, and a final portfolio of revised poems. (Cross-listed as EGL 206)

WST 218 - Autobiography 2-4 hours. "One never finds truth; one creates it" (Lillian Smith). What does it mean when an individual writes his/her life? This course combines the study of literary autobiography with traditional critical approaches to the genre. Readings include stories, letters, diaries, poems, memoirs, and criticism. (Cross-listed as EGL 218) (A)

WST 253 - Social Welfare Institutions 2 hours. Examines social welfare institutions in the context of change brought about by industrialization and urbanization. Focus on types of welfare, welfare policy and the structure of services. (Cross-listed as SOC 253) (Sufficient demand)

WST 254 - Women Writers 2-4 hours. A course that examines issues of language, gender, and culture portrayed through the lens of the woman writer. Texts may include novels, stories, autobiographies, essays, letters, and poetry. (Cross-listed as EGL 254)

WST 255 - Issues in Women's Health Across the Lifespan 2 hours. Explores diverse health concerns of women of all ages from a multicultural and historical perspective. An attempt is made to provide students with strategies enabling them to become more responsible consumers in the health care market.

WST 256 - Multicultural Literature 2 to 4 hours. The literature of diverse cultures. African, Asian, Jewish, and Native American literatures as well as other cultural traditions may be represented. (Cross-listed as EGL 256) (A)

WST 305 - Psychology of Women 3 hours. A survey of the psychological, biological, social and life-span development differences and similarities of the genders. Specific objectives include examination of areas such as socialization, female identity and personality, issues of special interest to women, and psychological health. Prerequisite: PSY 100 or permission of instructor. (Cross-listed as PSY 305)

WST 308 - Women Writers in the Middle Ages 4 hours. This course examines the writings of medieval women – abbesses, merchants, wives, mothers, and mystics – to explore the challenges female writers such as Heloise, Margery Kempe, Julian of Norwich, and Christine de Pizan presented to orthodox Christianity, to gender stereotypes, and to medieval political and social structures. (Cross-listed as EGL 308)

WST 324 - Gay American History 4 hours. What is gay and lesbian history? Why write it? Who should be included? The course addresses these and other questions as it outlines theoretical problems and possible content in the study of homosexual behavior and identity in America, and reactions to it since the seventeenth century. (Cross-listed as HSH 324) (Alternate years)

WST 346 - Sociology of Sex and Gender 4 hours. Examines the concepts of sex and gender as they are defined in sociological literature, focusing on how social contexts (i.e., education, employment, family, sexuality and reproduction, etc.) construct gender which, in turn, shapes future opportunities for individuals in society. Prerequisite: SOC 110 or AN 200. (Cross-listed as SOC 346)

WST 348 - Sociology of Families 4 hours. An investigation of the relationship between the family and other social institutions, particularly in regard to the family functions of population maintenance, socialization and social placement. Prerequisite: SOC 110 or AN 200. (Cross-listed as SOC 348)

WST 361 - American Women: History and Herstory 4 hours. Historical survey of the American woman with emphasis upon the birth of the women's movement, Progressivism and suffrage, home and work, and the recent liberation phase. (Cross-listed as HSH 361) (Alternate years)

WST 372 - Feminist Poetics 4 hours. "What difference does difference make?" (Miller). A course that explores the gendered nature of poetics. Readings include theory and literature; student writing explores distinctions between women's writing and a common language. Prerequisite: Women in Society, Creative Writing, or permission of instructor. (Cross-listed as EGL 372)

WST 377 - Women in Art 4 hours. The course considers various gender issues in art history including the role of women artists in western and nonwestern cultures, feminist reevaluation of art history, and the existence of a "feminine art." Students are assigned research papers or oral reports on topics generated by readings, lectures, and class discussions. (Cross-listed as ARH 377)

WST 380 - Women, Knowledge and Reality 2-4 hours. Conceptual foundations of the movements for the liberation of women are central. Readings are drawn from contemporary writings in feminist theory with particular attention to discussions of knowledge, values, and reality. Prerequisite: A previous philosophy course, WST 105, or permission of instructor. (Cross-listed as HSP 380) (Sufficient demand)

WST 381 - International Women Writers 4 hours. Explores literature written by contemporary women from different cultures. Study focuses on voice, content, and style, with some attention to the conditions in which the work was produced and to its reception. (Cross-listed as EGL 381)

WST 413 - Women in the Ancient World 4 hours. Survey of women in the ancient Near East, Greece, and Rome. Discusses images of women in law, literature, and art and the roles of women in the family, work, religion, and politics. Concentrates on primary sources with supplemental historical reading. (Cross-listed as HSH 413) (Sufficient demand)

WST 414 - Women in Medieval and Early Modern Europe 4 hours. Survey of women's history from 500 A.D. to 1789. Discussions focus on laws regarding women, their roles in the family and work, participation in religion and politics, depictions in literature and art, and their contributions to literature, art, politics, religion, and philosophy. (Cross-listed as HSH 414) (Sufficient demand)

WST 450 - Independent Study 1 to 4 hours.

WST 490 - Internship 1 to 4 hours.

School of Art and Design

Art History courses are listed on pp. 256-259

ART 101 - Freshman Foundation 1 8 hours. Studio and field experience conducted by members of the art staff as a team. Concentration on basic responses to color, form, structure, and drawing. Required course for BFA students and open only to students accepted into that program.

ART 102 - Freshman Foundation II 8 hours. Series of four, rotating, topic-specific studio workshops conducted by Art & Design faculty, addressing 2-D, 3-D, and 4-D concepts. Topics vary from year to year. Required course for BFA students and open only to students accepted into that program.

Note: Starred courses are for students not enrolled in the BFA program

ART 111 - Painting and Drawing* 4 hours. Studio work in painting and drawing. A general course for beginners investigating the individual's ideas in various media.

ART 121 - Sculpture* 4 hours. A course focusing on idea development, using both traditional and nontraditional three-dimensional materials.

ART 133 - Introduction to Photography* 4 hours. Introduces students to the basic elements of photography and fundamental camera and darkroom techniques. Emphasis on black and white photography as an interpretive medium.

ART 151 – Introduction to Ceramics* 4 hours. Art 151offers a preliminary approach to ceramics for individuals not enrolled in the BFA program. Students are introduced to fundamental methods of making. decorating, and firing. Additional work outside of class required.

Note: A materials fee is charged for most studios. Fees range from $1.00 to $50.00 per credit hour and are billed shortly after mid-semester.

ART 200 - Sophomore Studio 4-8 hours. Students may select two studios in the fall and spring semesters from any of the disciplines offered by the School of Art & Design. (See below, ART 201-ART 280.) Studios build upon skills and concepts learned in Freshman Foundation and are worth 4 credit hours each. Studios are open only to those students who have completed either the BFA or BAFA Freshman Foundation Programs in Art or a combination of selected 100-level Art courses approved by the Dean of the School.

ART 201 - Sophomore Handbuilding 4 hours. This course introduces an extensive range of clay construction processes exclusive of the wheel. Fundamental problems, such as timing, gravity, and weight are experienced in assignments that explore basic art-making concepts, such as image, narrative, and abstraction. The primary focus of this course is sculptural and introduces the recent history of ceramic sculpture as it relates to assignments. May not be repeated for credit. (Fall and Spring)

ART 202 - Sophomore Modeling and Mold-making 4 hours. This course focuses on understanding mold-making systems and development of castable forms. Objects transformed through casting take on new meaning, creating multiples of the same form. Although the course focuses on ceramics material, it would be appropriate for students interested in mold-making utilizing other materials, such as glass, paper, or metal. May not be repeated for credit. (Fall and Spring)

ART 203 - Sophomore Wheel 4 hours. In this course, the potter's wheel is used as the forming process for making vessels expressive of the visual, tactile, and intellectual possibilities available through the medium. Provided is a direct experience with process and materials that teach necessary skills and techniques to enable students to correlate the hand and eye with the mind. The objective of the course is to help students develop creative ideas and concepts into works of art. Historical references are also explored. May not be repeated for credit. (Fall and Spring)

ART 211 - Sophomore Design – Visual Communication 4 hours. Students gain a firm knowledge of fundamental typographic material by understanding its essential elements, visual strategies and history. Through a combination of hands-on and computer-generated assignments, students learn to communicate ideas through visual application. The class explores letter form, type as image, typographic hierarchy, and structure with an emphasis on density, contrast, balance, repetition, symmetry/asymmetry, and positive/negative space. The course culminates in an applied design project including client presentation and production. Students planning to focus in Graphic Design should also take ART 212 in an alternate semester. May not be repeated for credit. (Fall and Spring)

ART 212 - Sophomore Design – Visual Applications 4 hours. The course covers basic visual perception and visualizing techniques, sensitivity to forms and their aesthetic function including: point, line, volume, perspective, area, texture, color theory,
proportion, gestalt principles, and hierarchy. Students master the art of typography and grid systems. Through a combination of hands-on and computer-generated assignments, instruction in numerous desk-top publishing processes form a base for continued study at the junior and senior levels. Students wishing to focus in Graphic Design should also take ART 211 in an alternate semester. May not be repeated for credit. (Fall and Spring)

ART 218 - Sophomore Photography 4 hours. This course introduces basic photographic skills, including camera functions, film exposure, film development and essential black & white darkroom techniques. Through class discussions, book, and slide presentations, students are introduced to a wide range of photographers utilizing a variety of photographic techniques and ideas. Frequent class critiques help students develop the vocabulary and visualization skills necessary for critical evaluation of photographic work. May not be repeated for credit. (Fall and Spring)

ART 225/226 - Sophomore Print Media I and II 4 hours each. An introduction to various ways of image making through printmaking processes including woodcut, etching, mono print, lithography, and computer imaging. Discussions about materials, drawing, multiples, appropriating media based images, and the impact of computer technologies help students develop their unique skills (a mix of making and publishing) to participate in a bigger conversation with a mass audience. The two courses present a large variety of processes and information in different combinations over two semesters. Students interested in print media are encouraged to take both classes within separate semesters. (Fall and Spring)

ART 232 - Sophomore Video 4 hours. A beginning-level class introducing strategies and basic skills for visual and audio production of time-based cinemas. Structural, experimental, improvisational, image and audio processing and event-oriented approaches are explored in conjunction with instruction in the use of digital and analog equipment. Development of critiquing skills, studio construction, patching, as well as contemporary and historical study of the independent media field are vital parts of the course. Methods of distribution and promotion of art works are also covered. Assignments may include single-channel screening video tapes, multi-channel video installations, computer controlled videos animation, sound, performance or other electronic forms. May not be repeated for credit. (Fall and Spring)

ART 239 – Sophomore Electronic Strategies 4 hours. This course focuses on the essential aspects of electronic multimedia art making including: digital image processing, sound synthesis, video editing, and CD-Rom production. The course will develop a comprehensive theory for multimedia production through in-depth examination of student works and a historical investigation of the medium in the areas of video art, interactive media, websites, sonic arts, cinema, animation, and other new emerging forms. In a high-tech/high-touch environment, students develop artistic skills and engage in creative problem-solving, learning to adapt their understanding to the needs of this constantly changing art form. May not be repeated for credit. (Fall and Spring)

ART 240 - Web Media 4 hours. A course introducing the theory and practice of art and art making on the Internet, including building sites using HTML, Claris Home Page, and Dreamweaver. This class critically examines the World Wide Web in regards to its application as a digital arts exhibition space, design lab, and communication tool. The course not only provides technical, information but also helps frame the Internet as a conceptual forum with historical, philosophical, and aesthetic roots. Simultaneously examined is the Web's implication and influence on other forms of media as well as ways media take form on the Web (production, alteration of images, animation, QuickTime, panoramic and streaming movies. Open to Sophomores and Juniors. Currently no prerequisite, but ART 239 highly recommended. (Fall and Spring)

ART 246 - Sophomore Painting/Oil 4 hours. A beginning course in which the fundamental language of oil painting is presented. Working from still life, models, landscape, and other sources, students explore color, composition, painting technique and meaning. Through individual and group critiques, field trips, slide presentations, readings, etc. students become conversant with contemporary and historical painting ideas and techniques. Content varies from instructor to instructor. May be repeated with a different instructor. (Fall and Spring)

ART 247 - Sophomore Painting/Watermedia 4 hours. A beginning course in which the fundamental language of water-based painting is explored. Students work from both observation and imagination in a variety of media, including: watercolor, acrylic, gouache, and ink. Problems are assigned which examine color, composition, technique, and meaning in painting. Through individual and group critiques, field trips, slide presentations, readings, etc., students become conversant with contemporary and historical painting ideas and techniques. Content varies from instructor to instructor. May be repeated for credit with a different instructor. (Fall and Spring)

ART 253 - Sophomore Metal Sculpture 4 hours. This is an introductory course to stone and metal fabrication and foundry work emphasizing steel, bronze, aluminum, and stone. Processes learned include welding (stick and mig), forging, bending and rolling, and resin bonded sand casting. This class serves as an excellent base for upper-level sculptural study. May not be repeated for credit. (Fall and Spring)
ART 260 - Sophomore Glass 4 hours. An introductory course to the fundamentals of safe glass working, utilizing glass as a medium for creative expression. Processes learned include glass blowing, sand casting, fuse casting, and cold working. May not be repeated for credit. (Fall and Spring)

ART 267 - Sophomore Wood 4 hours. In an atmosphere of woodworking tools, machinery, and materials, this course explores the concepts, techniques, and practices of contemporary sculpture. The emphasis is on creative exploration of wood as a primary material and supportive or structural element in conjunction with other materials. Safe operation of basic tools, power tools, and machinery is stressed. Projects incorporate various joinery and construction methods as well as carving and lathe turning. Students learn to make working drawings, cut lists, and material estimates. May not be repeated for credit. (Fall and Spring)

ART 274 - Sophomore Papermaking 4 hours. The course introduces basic paper-working skills vital to the process of making paper from raw fibers for use in 2-D and 3-D applications. Students study fibers, fiber preparation, pigments, dyes, beating, sheet-forming, and drying as well as color processes, armature building with hand tools and oxyacetylene welding, plaster mold making, casting, pulp spraying, embossing, and Cyanotype & Van Dyke brown photo processing. The class is offered spring and fall with a slight modifications based on seasonal access to raw fibers. May not be repeated for credit.

ART 275 - Sophomore Sculpture – Robotics 4 hours. This course introduces students to the fundamentals of kinetic work as well as interactive kinetics, integrating computer programming with sculptural applications. Assignments incorporate a variety of materials, motors, infrared and proximity sensors, and micro-controllers, Processes include: simple mechanical engineering and computer programming of robotic programs. (Spring)

ART 281 Sophomore Drawing I 4 hours. A continuation of skills acquired in the freshman year with emphasis on observational drawing, seeing, and translating. The course deals with exploration and improvement of basic drawing skills with the goal of setting up a continued practice of drawing regardless of concentration. This is a required course to be completed during the sophomore year . Course content varies from instructor to instructor. May be repeated for elective credit with a different professor. (Fall and Spring)

ART 290 - Production Methods in Design 2 hours. This elective investigates methods of design, typography, digital display, and pre-press production. Provided is an overview of the digital, printing, photographic, and paper industries and their importance to the designer. Assignments include electronic file management and preparation for print and digital media, as well as digital color management. Students learn individual design responsibility, how to maintain the creative process within the constraints of production requirements, and to critically judge the quality of other professions and services integral to a successful design career. Ideally, this course should be taken in the sophomore year but may be delayed until Junior year if it does not fit in the student's schedule. (Fall)

ART 301/302 - Ceramic Sculpture I and II 4 hours. This course emphasizes the rigorous development of conceptual skills with the goal of developing an individual approach to a full integration of ideas, material and process. Students are encouraged to experiment with different strategies, including installation work, mixed-media projects, and a variety of traditional ceramic techniques. Construction and firing techniques are explored as well. Prerequisite: ART 201 or 202. (Fall and Spring)

ART 303 - Ceramic Tile 4 hours. Ceramic tile is a potent form of artistic inquiry that offers students an alternative approach to clay not covered in traditional pottery or sculpture courses. The course challenges assumptions about tile, presenting ideas of space, shape modulation, movement, repetition, density, image, color and texture. Students will address problems involved in planning, fabricating, and installing large projects. Prerequisite: ART 201 or 202. (Fall)

ART 304 - Ceramics – Hand/Color 4 hours. This course focuses on questions concerning glazing and surface in relationship to form. Assignments cover both pottery and sculptural problems with the goal of understanding how to use surfaces on ceramics. Experimentation with materials is encouraged. Prerequisite: ART 201 or 202. (Spring)

ART 305/306 Ceramics Pottery I and II 4 hours/4 hours. This course focuses more specifically on issues of functional pottery, including historical and cultural implications of making contemporary utilitarian ware. Primarily wheel based, these classes may include casting and hand-building assignments as well. Prerequisite: ART 203. (Fall and Spring)

ART 311/312 - Junior Design – Text and Image I and II 4 hours/4 hours. This course addresses problems related to the communication of ideas through text and image with an emphasis on conceptualization. Assignments include make-over of an existing design, order and progression in relation to point/counterpoint of a layout, a personal book project, an illustration-related applied project and a photo-related applied project. Software skills gained in the sophomore year are refined as well as the application of color to concepts and proper paper selection. Students wishing to focus in Graphic Design should also ART 313 and 314. Prerequisite: ART 211/212. (Students who have taken ART 225/226, ART 232 or ART 240/340 may also be admitted by permission of the instructor.) (Fall and Spring)

ART 313/314 - Junior Design – Advanced Applications I and II 4 hours/4 hours. A variety of communication problems are posed to students for interpretation and subsequent visual representation. This includes understanding of research methods, semantics and meaning, symbols and signs, visual metaphor and context, information and conceptualization. Information graphing (graphs, maps, diagrams), book design, and packaging design are covered. Students wishing to focus in Graphic Design should also take ART 311 and 312. Prerequisite: ART 211/212. (Students who have taken ART 225/226, ART 232 or ART 240/340 may also be admitted by permission of the instructor.) (Fall and Spring)

ART 318 - Alternative Process 4 hours. This course is an introduction to alternative methods of black & white printing. Students learn the basics of negative enlargement, including an introduction to digital imaging and manipulation as well as theories of negative scales. The course also covers paper, sensitization and the different chemistry involved in each of the processes. Printing methods include cyanotype, Van Dyke brown, kallitype, gum bichromate, platinum/palladium and printing out paper. Prerequisite: ART 218. (Fall)

ART 319 - Color Photography 4 hours. Students learn C41 film processing and RA4 chromogenic print processing using a 30” x 40” color processor with an emphasis on mastering color correction in shooting and printing situations, including daylight, tungsten, flash and fluorescent light sources. Students are encouraged to use color experimentally, such as night photography, painting with light, manipulating development, large format printing and durations printing. Prerequisite: ART 218. (Fall)

ART 320 - Advanced Black & White 4 hours. This course is designed to give students the opportunity to test photographic materials and equipment leading to the mastery of essential photographic skills. Students begin testing their individual camera, film, and paper preferences to establish a personalized ASA, film development time and print development time. This leads into a modified zone system and densitometry. Students experiment with a variety of films as well as different papers, paper developers, and chemical additives. Prerequisite: ART 218. (Spring).

ART 325/326 - Advanced Media Print I and II 4 hours/4 hours. This courses deals with issues involving specific forms of print media (book, print-suite, single print, mass production, or advanced digital processes) and allow more time and instruction for students desiring to master one or a few printmaking processes (etching, stone lithography, or photographic printmaking). Students may also experiment with new and/or non-toxic, water-based printmaking techniques (woodcut, photo etching, and large format digital imaging). Discussion centers on contemporary trends in print media in relation to issues shared by theorists/artists who help redefine art relevant to our time. Content varies from instructor to instructor. Currently no prerequisites, but ART 225 and ART 226 are highly recommended. (Fall and Spring)

ART 327 - Electronic Imaging 4 hours. This course explores the dialogue of new electronic technologies and print media. Traditional as well as new electronic print forms will be used to explore how the print has evolved through the use of new electronic imaging tools., such as image setters, film recorders, and wide-format printing technologies, and a wide range of software. The course utilizes the 2-D and Electronic Imaging Lab as well as the print shop. Currently no prerequisite, but ART 225/226 strongly recommended. (Fall)

ART 328 - Artists Multiples 4 hours. This course explores ideas about artist books and multiples. The notion of the democratic multiple is explored in contrast to the traditional fine art print. Offset printing, traditional processes, and new emerging technologies will be utilized to produce work. Currently no prerequisite, but ART 225/226 strongly recommended. (Spring)

ART 332 - Junior Video 4 hours. A studio-based class focused on the production of new media video works. The course covers video production concepts and practices from historical to the newly emerging. Tools include analog and digital camcorders, a variety of analog and digital processing tools and involves high-speed image processing and real-time digital video image manipulation, linear video tape editing and nonlinear video computer editing. Conceptual schemas, such as structuralism, semiotics, psychoanalysis, cognitive psychology, post-structuralism and cultural studies are applied to work analysis. Currently no prerequisite, but ART 232 and/or 239 highly recommended. May be repeated for credit. (Fall and Spring)

ART 339 - Junior Sonic Arts 4 hours. A studio-based course designed for visual arts students with little or no prior experience with sound or music. The course involves in-depth exploration of acoustic, electronic, electroacoustic, improvisational and digital experimental music history and practice. This work also includes multi-media, long distance web concerts, “Net Radio”, long-distance phone concerts, and interactive ”Real Audio” streaming web broadcasts. May be repeated for credit. No prerequisite, but ART 232 or 239 highly recommended. (Fall and Spring)

ART 340 - Web Media 4 hours. A course introducing the theory and practice of art and art making on the Internet, including building sites using HTML, Claris Home Page, and Dreamweaver. This class critically examines the World Wide Web in regards to its application as a digital arts exhibition space, design lab, and communication tool. The course not only provides technical, information but also helps frame the Internet as a conceptual forum with historical, philosophical, and aesthetic roots. Simultaneously examined is the Web's implication and influence on other forms of media as well as ways media take form on the Web (production, alteration of images, animation, QuickTime, panoramic and streaming movies. Open to Sophomores and Juniors. Currently no prerequisite, but ART 239 highly recommended. (Fall and Spring)

ART 346 - Junior Painting I 4 hours. Junior painting involves intensive exploration into issues of painting and drawing with emphasis on the beginnings of each student's unique means of expression. It is a continuation of the basic painting experience begun in the sophomore year with concentration on problem solving through structured assignments. Students are encouraged to find ways of approaching common experience as well as developing independent work. Sessions are complimented by readings, critiques, presentations, and field trips. May be repeated. Course content varies from instructor to instructor. (Fall and Spring)

ART 348 - Junior – Mixing Materials 4 hours From Picasso's cubist collages to Anselem Keifer's lead and straw works, the class combines both traditional and non-traditional painting and drawing materials that enhance narrative structures, work as metaphoric transformations, and the creation of formal dynamic juxtapositions. Projects are designed to encourage exploration of new realms of expression. (Spring)

ART 353 - Junior Sculpture 4 hours. This course explores an in-depth investigation of materials, concepts and techniques used in advanced joinery, forging, and fabrication. Students learn to cut, weld, form, and cast metals. Materials covered include: steel, stainless steel, copper alloys, brass, bronze, iron, and aluminum with an emphasis on
stone sculpture in the spring semester. Project parameters will be adjusted to accommodate students repeating this course for credit. Prerequisite: ART 253. (Fall and Spring)

ART 360 - Glass Sculpture I 4 hours. An intermediate-level exploration of glass and combinations of glass and other media as they apply to sculpture. Concentration in hot glass and glassblowing techniques (including color techniques), and mold-making. Projects are developed to foster self-determination of ideas in relation to media. Prerequisite: ART 260. (Fall)

ART 361 - Glass Sculpture II 4 hours. A continuation of ART 361 that further develops personal expression in glass sculpture. Processes include glass blowing, solid working, mold-making, and color, utilizing high-temperature glass enamels. Prerequisite ART 360. (Spring)

ART 362 - Glass and Light 4 hours. An in-depth investigation into the potential of light as a material and a comprehensive introduction to working with luminous tube technology -- a normally commercial process --as a means of sculptural expression. The course examines neon's potential in combination with other materials both traditional and non-traditional as well as the sealing, bending, and processing of neon tubes, safe installation, and wiring. No prerequisite. (Spring)

ART 363 - Lamp Design 4 hours. The goal of the course is to use the “lamp” format as a medium of creative expression. The course incorporates a variety of material and processes including tube bending, simple electric circuiting and elemental metal and woodworking. No prerequisite. (Fall)

ART 364 - Glass Casting 4 hours. An introductory investigation of personal expression through cast glass sculpture with an emphasis on mold-making. Students learn open-faced solid glass casting using both loose and rigid sand molds. Topics range from the object and figurative sculpture to geometric abstraction and site-specific environments. No prerequisite. (Fall)

ART 366 Advanced Glass Casting 4 hours. A continued development of sculptural expression using glass casting techniques introduced in ART 354. An intense mold-making experience casting 3-dimensional glass projects in sand, wax, plaster, latex, and ceramic shell molds. Prerequisite: ART 364. (Spring)

ART 367 - Junior Wood: Expanded Applications I 4 hours. This course expands upon skills, concepts, and practices acquired as sophomores with respect to the use of wood in contemporary sculpture. Projects are designed to challenge students' technical and conceptual development, individual application of wood as a material, as well as broadening the range of experience. Emphasis is on in-depth query and development of a personal language. May be repeated for credit; second semester involves different projects and research assignments. Prerequisite: ART 267.

ART 374 - Junior Sculpture: Structure & Surface 4 hours. This course integrates sculptural mixed-media printmaking and video practices utilizing wood, metal, fabric and paper screens, and armatures. Processes taught include: wood and metal construction, printmaking techniques for sculptural applications (silk-screen, liquid light photo transfers), and video installation techniques. (Spring)

ART 375 - Junior Sculpture: Robotics 4 hours. This course builds on fundamentals of kinetic work acquired at the sophomore level. Projects include interactive kinetics, integrating computer programming with sculptural applications. Assignments incorporate a variety of materials, motors, infrared and proximity sensors, and micro-controllers. Processes include: simple mechanical engineering and computer programming of robotic programs. Prerequisite: ART 275. (Fall)

ART 381 - Advanced Drawing 4 hours. A topical course providing students an intense immersion in both observational and conceptual drawing practices. Topics may include figure drawing, nature drawing, and drawing systems. May be repeated for credit, preferably with a different instructor. Course content varies from instructor to instructor. (Fall)

ART 382 - Raw Materials and Lab 4 hours. This course concentrates on clay, starting with an understanding of geology as it pertains to the uses of clay in ceramics. It introduces clay body formulation for traditional and experimental applications including casting, throwing, and sculptural uses. This course includes developing formulas for engobes and slips for the surface. 1 ½ hour lecture plus 2-hour lab. Elective. (Spring)

ART 383 - Glaze Calculation and Lab 4 hours. This course introduces the basic science of glaze formulation and the effects of the interaction of commonly used materials. The goal of the course is a fundamental understanding of how glazes are formulated for functional, sculptural or experimental work. 1 ½-hour lecture plus 1-hour lab. Elective. (Fall)

ART 384 - Color Theory 2 hours. An in-depth study of the physical and psychological phenomena of color through problems in 2-D and 3-D forms. Paint is the primary medium for this course. (Offered occasionally)

ART 385 - Special Topics Variable hours.

ART 390 - Internship Variable hours.

ART 401 - Senior Studio 4-6 hours. The senior level studio course content is defined by students near the end of the junior year. Faculty are designated on the basis of the senior proposal.

ART 402 - Senior Show 0 hours. The culminating exhibit for the BFA degree. Prerequisite 68-72 studio credit hours earned and senior standing in the BFA program.

ART 411 - Senior Design – Advanced Visual Communication 4-6 hours. Senior design entails longer, more comprehensive projects, such as corporate identity systems. Included are logotype development, application of brand/identity to various materials (such as cards, posters, letterhead, corporate brochures, and web sites). Formal presentations are refined through development of verbal skills and proposal writing in anticipation of entering the world of work. Career options in design are examined.

ART 412 - Design – Advanced Problem-solving 4-6 hours. Some subjects covered in the course include publication design, poster design, web design, architectural graphics, and signage systems. Both hard-copy and slide portfolios are developed in anticipation of moving into a professional work setting. Students work diligently to refine both writing and verbal communication skills and practice making formal presentations to clients. Fall and spring course content differs in application but not in the level of preparation for students entering employment. Spring semester emphasis is on senior shows and portfolio preparation.

ART 450 – Independent Study Variable hours.

ART 481 - Kiln Design and Lab 2 hours. An introduction to the principles of gas kiln design. A kiln is built every year by this class. Students must enroll in both lecture and lab. (Fall)

ART 482 - Advanced Kiln Design and Lab 2 hours. An introduction to the principles of electric kiln design. Students learn how to build and repair common types of electric kilns. Students must enroll in both lecture and lab. (Spring)

ART 490 - Museum Practicum 2 hours. This course presents practical and theoretical professional experience from a historical perspective and provides hands-on exercises relating to museum administration, museum registration and exhibition preparation, conservation and curation. Permission of instructor required.

Art History

Note: Except for ARH 211, enrollment in Art History courses is open to all University students.

ARH 111 - Foundation to Art History I 3 hours. A team-taught lecture course with weekly smaller discussion sections concerning art history topics within a chronological sequence from the Ancient Period to 18th Century in Western Art. Required for BFA majors. Should be taken Spring Semester freshman year.

ARH 112 - Foundation to Art History II 3 hours. A team-taught lecture course with weekly smaller discussion sections concerning Western and Non-Western art history within the modern period. Required for BFA majors. Should be taken Fall Semester sophomore year.

ARH 211 - Issues and Debates in Contemporary Art 3 hours. A topically structured, discussion-based thematic study of issues and debates relevant to major movements and developments in contemporary art. Students are introduced to vital, ongoing conversations within the School as well as a variety of coexisting and competing opinions about investments in art. The course encourages students to develop, strengthen, and present their own views about art. Should be taken Spring Semester sophomore year.

ARH 321-322/521-522 - African Art I and II 4 hours. A two-semester survey of the arts of sub-Saharan Africa with an emphasis on sculpture. The course focuses on the role art plays in African cultures and also introduces students to a wide range of art forms and styles.

ARH 323/523 - Oceanic Art 4 hours. A survey of the arts of Melanesia, Micronesia, Polynesia, and Australia. The course surveys the arts of sculpture, ceramics, and personal adornment and examines their relationship to other aspects of oceanic society.

ARH 334 - Topics in Greek/Roman Art 4 hours. A study of art and architecture from ancient Greece and Rome. Among other issues, the course addresses changing attitudes of style, function, and patronage during this period and investigates the influence of social and religious belief. The study of Greek art emphasizes the development of stylistic periods. Roman art study focuses on individual historical periods of various emperors as reflected in the patronage.

ARH 335 -Topics: Medieval Art, AD 300-1500 4 hours. This course explores the medieval image in art with an emphasis on manuscript illumination. Various media, including wall painting, mosaic, enamel work, stained glass, ivory, wood, and (non-architectural) stone sculpture are investigated. The Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic Eras are studied with regard to the work of art in its cultural and historical context, regional style, iconography, and patronage.

ARH 336 - Medieval Architecture, AD 300-1500 4 hours. This course focuses on architecture and architectural sculpture. It traces the development of Imperial and Byzantine architecture of the Mediterranean region and then investigates early medieval, Romanesque and Gothic architecture. Topics discussed include the imperial tradition, the Pilgrimage Road, the monastic orders, birth of Gothic style under the patronage of Abbott Suger, and the development of High Gothic, both secular and ecclesiastical.

ARH 343/543 - Renaissance Art 4 hours. An in-depth study of the Renaissance Period and its theories. Artistic developments in Italy, France, Flanders, Netherlands, and Germany are emphasized.

ARH 348/548 - Art of the 18th Century 4 hours. A thematic survey of 18th Century art, architecture, art institutions, and art theory of Europe from classical Baroque, Neo-Classicism, and early Romanticism with contextual emphasis on economic, social, cultural, intellectual, and political developments in France, Austria, Venice, England, and Spain.

ARH 353/553 – Impressionism 4 hours. This course presents an exploration of the origins and development of Impressionism and Post-Impressionism against its social, historical, and art historical milieu. Students study Impressionism's "realist" underpinnings, themes of modernity, and stylistic development as well as its intersection with academic and vernacular forms of visual expression.

ARH 354/554 - Primitivism: A Western Perspective 4 hours. This course surveys the concept of the "primitive" in Western art from the Enlightenment to the present. Students explore the shifting nature of primitivism, examine the relationship between art and colonial expansion, and critique the formal and thematic appropriation of non-Western artifacts by European and American artists.

ARH 355 - Modern Art 4 hours. Encompassing the movements of Symbolism to Surrealism, this course covers the developments in modern art during the first half of the 20th Century. Students explore such themes as modernity, primitivism, and utopian theory as well as the stylistic developments and formal innovations of this period.

ARH 363 - Contemporary Art 4 hours. This course surveys developments in Western Art from the late modernism of the post-war era to post-modernist interventions at the end of the 20th Century.

ARH 364/564 - Contemporary Projects in Art 4 hours. A thematic study of selected artists' projects since 1963 in the historical, social, and economic context. It investigates contemporary art theories, the formation of contemporary assumptions on the role, status and function of artists and art. The impact of art-world institutions and of new technologies on the production of art is studies through the analysis of contemporary art projects.

ARH 372 - History of Graphic Design 4 hours. A study of the evolution of European and American graphic design from Ancient Rome to 1955. An introduction to paleography, codicology, and incunabula up to 19th Century printing. After mid-semester, the focus is on late 19th Century to post-WW II movements. The last week of lectures are provided by graphic design faculty concerning more contemporary topics.

ARH 373 - History of Photography 4 hours. A survey course covering the pre-history of photography up to Post Modernism. Required readings directly related to the slide lectures are placed on reserve at Scholes Library. The course is open to Sophomores, Juniors, and Seniors.

ARH 374/574 - History of World Ceramics 4 hours. An introduction to the history of world ceramics, focusing on a thematic approach and covering such topics as the quest for whiteware users, funerary users, what makes a masterpiece, artist or factory marks, recent discoveries, the influence of metal work and craft art on ceramics.

ARH 376 - Topics in American Art and Architecture 4 hours. Topics concerning aspects of the American character and aspirations as shown through images created by craftspersons, artists and architects from Colonial America and the United States will be discussed. Topics integrate not only traditional fields of painting, sculpture, and architecture but often include house-hold art, furniture, folk art, and crafts. Each topic will slice across a span of cultural time often including Colonial, Early Republic, Civil War, Victorian, Early Modernism, the Great Depression, and Contemporary periods.

ARH 377 - Women in Art 4 hours. This course considers various gender issues in art history including the role of women artists in western and non-western cultures, feminist re-evaluation of art history, and the existence of a “feminine art.” Students are assigned research papers or oral reports on topics generated by readings, lectures, and class discussions. (Cross-listed as WST 377)

ARH 424/524 - Pre-Columbian Art 4 hours. A survey course that acquaints students with major monuments and styles of Pre-Columbian American art, including: architecture, sculpture, ceramics, dress, and body adornment Examined are several millennia of pre-contact art traditions in Meso America and South America from earliest art producing cultures to the Aztecs and Incas. The course looks at archaeological contexts and investigates possible meanings for art and written records dating from early periods that enhance our understanding of later cultures.

ARH 458/558 - Pablo Picasso Seminar 4 hours. This course examines issues of representation and reception in the work of Pablo Picasso. Students will critically explore a broad range of Picasso's work, including painting and printmaking, sculpture, and ceramics. This artist, whose production spanned most of the 20th century, will serve as a case-study for discussions on the nature of modern theory and art criticism.

ART 475 - History of Sculpture 4 hours**.** A series of case studies exploring contemporary issues in sculpture will be the focus of this class. Artists include: Ann Hamilton, Mona Hatoum, Juan Munoz, and Doris Salcedo. Historical precedents and cross-cultural practices will be discussed to highlight current debates.

ARH 481/581 - Artist Technology and Techniques, Ancient to Medieval 4 hours. A study of primary documents investigating how artists worked, focusing on technology and techniques during the Ancient and Medieval periods. Emphasis is on ceramics, glass, metalwork, and painting. Before enrolling, students must consult both a studio instructor and the art history instructor to make arrangements for studio space in one of the above areas that will be necessary to produce studio work in lieu of a research paper.

ARH 483/583 - Issues in Non-Western Art Seminar 4 hours. A round-table seminar based on extensive group discussions and in-depth individual research on non-Western art topics.

ARH 484/584 - New Histories Seminar 4 hours. This seminar emerges from recent interest in rethinking monuments, in reconstructing historical narratives and in reshaping public memory. Students examine recent art dealing with historical events and the recovery of these narratives into a new collective memory. Students debate the nature of history and memory in contemporary culture and the use of visual forms to combat cultural amnesia.

ARH 485/585 - Contemporary Topics Seminar 4 hours. A round-table seminar based on extensive group discussions and in-depth individual research on significant contemporary events and developments in and around the art world.

ARH 486/586 - New Technology Seminar 4 hours. A round-table seminar based on extensive group discussions and in-depth research on recent innovations in technology and how that technology has impacted art production and theory.

ARH 488 - Surrealism 4 hours. This course will examine the inter-war movement of Surrealism, its symbolist roots and its contemporary manifestations. A wide range of surrealist and dissident surrealist ideas from Andre Breton's manifestos to Georges Bataille's essays will be investigated and related to the artistic innovations of this group.

School of Ceramic Engineering and Materials Science

CES 101 - Materials Processing 3 hours. An introduction to the behavior and processing of ceramics, glasses, metals, electronic materials and polymers.

CES 110 - Materials Science I 3 hours. An introduction to the basic principles of solid materials structure. Electronic, atomic, and crystal structure are the primary focus for discussion. Structure is the foundation for understanding the physical and chemical properties of materials and for discussing defects in crystals. Key concepts are bonding within solids, rules that govern packing of atoms to form crystals, crystal structure, techniques for describing material’s crystallography and selected properties of crystalline materials. Discussions culminate in an overview of common crystal structures in metals and ceramics.

CES 120 - Engineering Communications I 3 hours. Methods of engineering communication are developed and practiced with emphasis on oral and written reports and presentations. The use of computers as engineering tools for data interpretation, analysis, reporting and visualization is a major component. Informal logic, engineering ethics and the role of the engineer in society are also discussed.

CES 121 - Engineering Communications II 3 hours. Refines and expands skills developed in CES 120. Introduces the Java object-oriented programming language (OOP) and presents principles of computer-assisted engineering drawing and drafting, modeling, and graphics. Written and oral presentation of project work continues student practice of essential engineering tools.

CES 171 - Seminar I 0 credit.

CES 172 - Seminar II 0 credit.

CES 200 - Materials and Society 3 hours. Non-technical survey of the nature, sources, production, and uses of ceramics, metals, glasses, and plastics in the modern world. Includes comparison of the material properties as related to the material's structure. Discusses materials as the enabling basis of our modern technological society and highlights the possibilities of new materials. Covers environmental effects of the materials lifecycle from original production through disposal or reuse. Material properties are examined and measured in the associated hands-on laboratory. Satisfies natural science elective (F) for liberal arts and business students.

CES 205 - Introduction to Ceramic Powder Processing 3 hours. An introduction to the fundamental concepts of ceramic powder processing. Concepts are reinforced through a series of experiments investigating colloidal suspension stability and rheology, powder characterization (involving particle size distribution, powder surface area, and powder density), spray drying and compaction of ceramic powder/binder systems, and particle packing behavior of fine and coarse powders. Prerequisite: CES 101.

CES 212 - Materials Science II 3 hours. This course introduces the student to the relationships between the various levels of structure (electronic, atomic, crystal, microstructure and macrostructure) in a material and the influence of structure on properties and performance. The influence of structure on mechanical, electrical, optical, thermal and magnetic properties are discussed in the context of bonding, defects, crystal, micro and macrostructure. A significant aspect is the emphasis on the raw materials from which fuels, engineering polymers, ceramics and metals are derived.

CES 220 - Mechanics of Materials 3 hours. Successfully completing this course enables students to understand the nature of forces acing on objects and to calculate the stresses and strains generated by those forces in simple situations. Situations include classic beam loading as well as more materials-oriented cases such as stresses in dams and reinforced materials (e.g., concrete, composites). Applications to engineering design and to mechanical testing of materials are demonstrated. Students learn to calculate the variations of stress and strain using Mohr's circle method. Prerequisite: PHY 125.

CES 235 - Thermodynamics of Materials 3 hours This course introduces the fundamental concepts of thermodynamics and their application to materials systems. Prerequisites: CH 105, 106, MAT 119.

CES 241 - Thermal Processes in Materials 3 hours. This course studies the basic principles of high-temperature reactions and processes. The course is divided into several subunits: ternary phase diagrams, surface and interface phenomena, atomic defects in materials, diffusion, and sintering theory. Students will get a solid foundation in each of these areas as well as seeing the interrelation and importance of those principles with respect to a control of the microstructure and properties of materials. Prerequisite: CES 235.

CES 252 - Microscopy & Microstructural Characterization 3 hours. Students learn how to use optical and scanning electron microscopes for a range of applications. Underlying principles of the interactions of light and electron beams with materials are presented, and these interactions are related to crystal structure and microstructure of materials. Topics covered include mineral, phase, and element identification, characterization of microstructure, measurements of geometrical quantities, determinations of index of refraction, identification of defects, analysis of fracture surfaces, uses of microscopy in quality control, specimen preparation, photography using microscopes. There are two lectures and one lab each week. Prerequisite: CES 110.

CES 271 - Seminar III 0 credit.

CES 272 - Seminar IV 0 credit.

CES 302 - Introduction to Glass Science 3 hours. A survey of the nature of the vitreous state with detailed consideration of structural and kinetic theories of glass formation. Composition-structure-property relationships are emphasized to illustrate how glass compositions can be designed to fulfill a particular set of product requirements. Processes for “post-forming” treatments which further tailor properties are also presented.

CES 304 - Mass Transport in Glasses and Melts 3 hours. A thorough discussion of the fundamentals of diffusion processes, which will be followed by discussion of ionic diffusion and ion exchange, gas diffusion, viscosity, ionic conductivity and dielectric relaxation, mechanical relaxation, chemical durability, and weathering in glasses, glass-ceramics, and melts. The effects of both atomistic structure and morphology will be discussed for each of these topics. Prerequisites: CES 235, CES 241 and CES 302.

CES 305 - Ceramic Properties Laboratory 3 hours. Thermal, mechanical, electrical, and magnetic property measurements on ceramic materials. Prerequisite: Junior status.

CES 306 - Polymer Science 3 hours. An introduction to the polymeric materials for engineering and industrial use that studies the fundamental classes, processing, properties, and uses of polymeric materials. In addition to the major polymers, specialty polymers for biological, electrical, and high-performance uses are discussed. Necessary organic nomenclature is covered. Prerequisite: CES 235 or CH 343.

CES 307 - Thermal & Mechanical Properties 3 hours. An introduction to the thermal and mechanical behavior of materials, including ceramics, glasses, metals, and polymers. Properties considered include strength, elastic modulus, hardness, toughness, thermal stresses, heat capacity and enthalpy, thermal conductivity, and thermal expansion. Discussion includes the effects of atomic, crystallographic, and microstructural characteristics of materials. Prerequisites: CES 212, CES 235 and CES 241.

CES 308 - Glass Laboratory 2 hours. This laboratory prepares students to fabricate and measure the properties of glass correlating composition and property relations, and observing trends. Optical property analysis is emphasized as are novel fabrication techniques such as sol-gel glass design for high-tech applications such as biomedical and photonics.

CES 309 - Electrical, Magnetic, and Optical Properties 3 hours. Introduction to electronic and electrical properties of materials (metals, semiconductors, ceramics and polymers). Topics include band theory, semiconduction, ionic conductivity, polarization, dielectrics, optical absorption, and magnetism. Fundamental electronic properties of solids are stressed. Prerequisites: PHY 126, MAT 322, CES 241.

CES 311 - Engineering Design and Graphics 3 hours. Conceptual and detailed studies in engineering design related to the following areas: ceramic or glass products, or assemblies of materials. Consideration of aesthetics in the design of products. Development of manual or computer-aided drafting presentation skills. Course format: studio.

CES 316 - Electroceramics 3 hours. A survey of ceramics that are used for their electrical, magnetic, optical and piezoelectric functions including discussion of their design, composition, critical properties, processing techniques and applications. Categories include insulators, ceramic superconductors, capacitors, resistors, gas sensors, thermistors, varistors, piezoelectric, magnetic and electro-optic ceramics. Prerequisite: PHY 126, CES 212.

CES 326 - Co-op Program 2 hours. Students are employed in an engineering position off campus. Prerequisite: Junior status.

CES 331 - Chemical Processing in Ceramics 3 hours. This course provides the knowledge and working understanding of the chemical facts and principles involved in the synthesis of raw materials and the chemical fabrication techniques used in current industrial practice. The discussion focuses attention on both oxide and non-oxide ceramics involved in high-performance structural and electronic applications. The design of chemical processes is emphasized in assignments. Prerequisite: CH 106.

CES 332 - Transport Properties 3 hours. This course introduces the basic principles of transport phenomena (momentum, energy, and mass transport) used in the quantitative solution of engineering problems.

CES 336 - Electrical Engineering Lab 3 hours. An introduction to electrical engineering, covering quantitative analysis of DC/AC circuits, power characteristics of single and polyphase AC devices, and design factors for electrically heated kilns and ovens. Amplification is studied through operational amplifiers and simple transistor amplifiers. The laboratory emphasizes basic measurements in electronic circuits and power devices. Prerequisite: PHY 126.

CES 342 - Ceramic Processing Principles 3 hours. Processing ceramic materials into finished shapes ready for firing is discussed in terms of engineering unit operations and scientific principles. Topics include specifications of raw materials, characteristics of processing additives, particle packing, rheology, milling; mixing, filtration, sizing and spray drying, dry pressing, plastic forming, injection molding, casting processes, and drying. Examples of process systems used and control of defects are discussed. Prerequisite: CES 205.

CES 348 - Spectroscopy 2 hours. This course, which includes a laboratory, introduces spectroscopic techniques used to characterize atomic structure of materials. Prerequisite: CES 212.

CES 349 - X-ray Characterization 2 hours. This course, which includes a laboratory, introduces x-ray techniques used to characterize materials. Prerequisite: CES 212.

CES 361/362 - Design of Materials and Structures 3 hours each. This course sequence provides an introduction into the use of materials and components in design. Designs focus on the use of free-form and conventional materials in architectural structures. Models of structures are constructed of wood, ceramics, glass, concrete, fabrics, plastics, and connecting materials. Individual projects emphasize custom design and may include elements of alternative structures such as geodesics and space-frame construction. Conceptual design with aesthetic detailing is the focus in the fall semester. Detailed component workup and working drawings presentation are the focus in the spring semester.

CES 365 - Ceramic Science for the Potter/Artist 4 hours. The science and technology of whitewares covering mineralogy, raw material characterization, mixing, suspension behavior and control, rheology and plasticity, forming processes, drying, firing, the use of phase diagrams, thermal stress and microstructural evolution, mechanical properties, and glazing. This course provides the non-engineering student with the practical basis necessary for analyzing problems commonly encountered in the production of whitewares. Homework assignments are practical in nature. The project will require the application of the principles learned in class. Prerequisite: Junior standing, non-ceramic-engineering students.

CES 371 - Seminar V 0 credit.

CES 372 - Seminar VI 0 credit

CES 402 - Polymer Characterization 3 hours. An introduction to the scientific principles of synthesis, processing, characterization, and testing of polymeric materials. Relationship of polymer properties and performance to the underlying structure and synthetic conditions is emphasized by application of appropriate scientific approaches. Hands-on experience with structure-property characterization of polymeric materials is included in the required laboratory. Prerequisite: CES 306 or CH 451.

CES 409 - Science of Whitewares 3 hours. The science and technology of whitewares (i.e., primarily stonewares and porcelains) covering mineralogy, raw material characterization, mixing, rheology and plasticity, forming processes, drying, firing, phase equilibria, thermal stress evolution, microstructural characterization, physical properties, and glazing. This course provides students with a fundamental basis for analyzing problems encountered in whitewares production so that general knowledge can be used to solve specific problems. Prerequisites: CES 101, 205, 342 or permission of instructor.

CES 414 - Refractories 3 hours. This course provides technical information concerning the raw materials, processing, microstructure, properties and applications of the principal types of refractories and high-temperature insulations. Technological and engineering factors pertinent to manufacture, process design and control and design of refractory and insulation systems are presented. An understanding of current practice is used as a basis for recognizing refractory needs for design and applications, and areas for research and development of materials for future applications.

CES 418 - Optical Glasses 3 hours. A detailed discussion of the primary glasses used in optical applications. Approximately one-half of the course will focus on pure and doped vitreous silica. The remainder of the course will deal with glasses containing rare-earth ions, infrared- transmitting glasses, and traditional optical glasses. The production, structure, and general properties of each type of glass will be discussed in detail. The optical application of each glass will be stressed throughout the course. Prerequisite: CES 302.

CES 424 - Optical Properties of Materials 3 hours. An introduction to the optical behavior of materials, including glasses, ceramics, metals, semi-conductors, and polymers. Topics covered include diffuse and specular reflection, refraction, scattering, dispersion, absorption (uv, visible, and infrared), non-linear effects, anti-reflection coatings, radiation effects, origins of color, infrared transmitting materials, and other basic optical phenomena. Production and application of common optical materials is discussed, including optical waveguides, fiber optics, lasers, photochromic glasses, and other commercial optical materials. Prerequisites: CES 302, CES 309.

CES 426 - Advanced Glass Science 3 hours. This course provides a general review of techniques for the characterization of glasses and glass-ceramics, with an emphasis on those techniques that are unique to these materials. Characterization will be taken to include atomic and molecular composition and distribution (intrinsic and extrinsic species), morphology, phase (amorphous and crystalline) identity and concentration, thermal history, and properties that are commonly used to establish reproducibility of glass compositions. Techniques considered will include microscopy (optical and electron), x-ray analysis methods, spectroscopy, chemical analysis, thermal analysis, surface methods, and property measurements. Discussion will include the principles behind each method, equipment, and possible sources of error. Both qualitative and quantitative analysis will be considered where ver possible. Emphasis will be placed on readings from the literature. Prerequisite: CES 302.

CES 428 - Fundamentals of Optical Behavior 2 hours this course provides an introduction to the principles of basic optical phenomena in solids, particularly those based on the existence of a refractive index. Topics covered will include specular and diffuse reflection, refraction, birefringence, scattering, dispersion, and linear and circular polarization of light by interaction with solids. The effect of composition, temperature, and pressure/stress on the refractive index of solids will be discussed. Basic optical behavior of lenses, including lens defects, mirrors, and prisms will be introduced. Several applications of transparent optical materials will be covered, including non-linear optical materials, antireflection films, dielectric mirrors, and the origin of rainbows.

CES 429 - Optical Spectra of Solids 2 hours This course provides an introduction to the optical spectra of solids. Materials discussed will include crystalline and amorphous ceramics, metals, semi-conductors, and polymers. The course will consider the primary optical phenomena that occur between the ultraviolet and infrared edges. A number of applications of optical materials that are based on their optical spectra will be discussed, including lasers, phosphors, solar cells, infrared windows, optical sensors, and photochromic/electrochromic materials.

CES 430 - Industrial Glass and Glass-Ceramics 3 hours. Topics include glass compositions, raw materials, glass melting, furnace operation, glass forming-container, sheet tubing and pressed ware. Glass product manufacture, glass-to-metal sealing, annealing and tempering, quality control, glass-ceramics, phase transformation, immiscibility, homogeneous and heterogeneous nucleation, crystal growth, and industrial glass-ceramics processes. Prerequisite: CES 302.

CES 433 - Mechanics of Ceramics 3 hours. Mechanics of deformable bodies with applications in the design of beams, columns, plates, shafts, and membranes. Kinetic and energy methods. Failure theories. Examples of mechanical design using ceramic materials are presented: refractories, electroceramics, and bioceramics. Prerequisite: CES 220.

CES 434 - Statistical Foundations for Manufacturing 3 hours. Following a review and extension of ANOVA and regression, experimental design is introduced as an extension of statistical methods. Various standard designs and their analysis are introduced and applied to research and quality control situations. Factorials, fractional factorials, response surface designs, and mixture designs are covered. Statistical process control, control charts, and optimization are introduced. Computer methods will involve some standard packages such as SPSS, Mini Tab, or IMSL on the mainframe, or software packages on computers in the College micro-computer labs. Prerequisites: IED 315 or MAT 312.

CES 437 - Phase Equilibria 3 hours. The fundamental theories of phase equilibria and phase transformation are presented. Applications of these theories are given for various phenomena in materials science such as sintering, single crystal growth, transformation toughening, catalyzed crystallization of glass, prediction of composition by phases and microstructure, and others. The role of ambient gas phases in developing equilibrium chemical states in solids and liquids is also introduced. Pre-requisites are CES 235 and CES 241.

CES 438 - Introduction to Physical Metallurgy I 3 hours. Introduction to the physical and mechanical properties of metals with an emphasis on relating structure to properties. Strength, toughness, ductility, dislocations, phase diagrams, alloying, phase transformations, strengthening mechanisms, heat treatment, and solidification in metal systems. Processing and properties of plain carbon steels. Overview of forming and joining methods. Prerequisites: CES 212/220/235 or MED 221/233/291.

CES 448 - Ferroelectric Materials and Devices 3 hours. The course starts with a basic discussion of polarization in a dielectric, reviews electrostatic boundary conditions and then develops the concept of domains with the occurrence of spontaneous polarization. Domain reorientation is shown to develop anisotropic properties and frequency effects in the dielectric constant. The structural transitions are modeled with thermodynamic theory and soft mode concepts. The second part of the course is concerned with the effect of the symmetry of spontaneous polarization on the structure and properties. The properties are expanded into devices and the use of ferroelectric material as piezoelectrics, pyroelectrics, electrooptics, and dielectrics.

CES 449 - Physical Metallurgy II 3 hours. Structure/processing/property relationships for metals with an emphasis on mechanical properties. Mechanical testing techniques and the effect of test temperature and strain rate on properties. Failure analysis, corrosion, fracture, fatigue, and creep. Brief introduction to the physical metallurgy of aluminum, titanium, magnesium and stainless steel alloys. Laboratory experiments emphasizing mechanical testing, heat treatment and microstructural development. Prerequisite: CES 438.

CES 450 - Independent Study 1 or 2 hours.

CES 461 - Thesis 2 hours. An independent research project carried out under the supervision of a faculty member.

CES 462 - Thesis 2 hours. An independent research project carried out under the supervision of a faculty member.

CES 464 - Composite Design and Fabrication 3 hours. The influence of materials, design and processing on composite properties is investigated. Discussions include details concerning state-of-the-art fabrication technology and performance of continuous-fiber-reinforced composites. Reviews of the open literature are presented concisely in order to understand and identify approaches toward addressing composite materials limitations. Prerequisites: CES 220, CES 307, and CES 309.

CES 466 - Boundary Phenomena in Electronic Ceramics 3 hours. This course focuses on grain boundary phenomena in electronic ceramics. The first part of the course covers topics such as thermodynamics, composition, structure, formation and characterization of interfaces (grain boundaries). Relevant topics in solid-state and liquid-phase-assisted sintering are covered. The second part of the course focuses on the electrical properties of grain boundaries. Important electronic and dielectric phenomena associated with semiconductors, dielectrics and ferroelectrics are reviewed. Electrical character of junctions (p-n, Ohmic contacts, Schottky barriers) are also discussed. These concepts will be extended to grain boundaries to explain the behavior of grain-boundary-controlled electronic ceramics such as PTCR thermistors, IBL capacitors and ZnO varistors. Prerequisites: PHY 126, CES 241, CES 309.

CES 470 - Materials for Electronic Packaging 3 hours. Electronic package systems for information processing include the function of electrical interconnection, cooling and physical support for the sets of semiconductor I.C. chips plus other components in electronic systems. Semiconductors, ceramics, polymers and metals are generally used in combinations in all packages; and, hence, it is necessary to understand their bulk properties as well as their interface structures and characteristics. This course focuses on the design of materials and processing needs for packaging technology from chip to board using principles involved in key areas of materials science and engineering disciplines. Basic properties and processing methods used in the design and fabrication of semiconductor IC’s, ceramic substrates, metal interconnections, and polymers are discussed. Prerequisites: CES 309, CES 342 or permission of instructor.

CES 471 - Seminar VII 0 credit.

CES 472 - Seminar VIII 0 credit.

CES 474 - Engineering Operations 4 hours. This course helps students understand the engineering and business aspects of a glass and ceramic manufacturing facility with an overview of large scale manufacturing processes of glass/ceramic products. Major topics covered are: quality control, plant layouts and the use of charts, the economics of manufacturing including cost estimation, cost accounting, depreciation, cash flow, tax consequences and rate of return analysis. Significant emphasis is placed on a term report covering set-up of business plans for a hypothetical glass or ceramic product. A visit to at least one glass or ceramic manufacturing plant if required.

CES 483 - Interfaces: Non-Fusion Joining and Materials Processing 3 hours. An introduction to interface science and its application to materials engineering. The thermodynamics and mechanical properties of interfaces. An overview of basic non-fusion joining methods for joining metals, ceramics, polymers, and dissimilar materials. An overview of interface development in the processing of composites. Prerequisites: CES 235/241, CES 220 or equivalent.

CES 485 - Kiln and Automatic Control 3 hours. This course discusses the systems and hardware used in the design and operation of both electric and combustion kilns. Emphasis is also placed on the design of temperature sensors and automatic control systems. Practical applications and troubleshooting are discussed and demonstrated in detail. Prerequisite: CES 336.

CES 486 - Biomedical Materials 3 hours. A survey of ceramic, metal and polymer materials and devices for repair and replacement parts in the human body. Emphasis is on the nature of the materials, the design and fabrication of devices, properties, applications and the problems of introducing foreign materials into the biosystem. Prerequisites: CES 210, CES 220.

CES 487 - Introduction to Photonics 3 hours. This course introduces the field of photonics, which can be defined as the creation, manipulation and detection of light for signal carrying capacity, in other words photonics is to light, what electronics is to electricity. Students learn about waveguides, both planar and fiber optic, lasers, semiconductor devices (Lasers, LED's, diodes, etc.) and nonlinear optics. The materials processing aspects of these devices are emphasized, and the accumulation of devices and operations for communication systems computing and integrated optics are outlined. Prerequisites: CES 309 or permission of the instructor.

CES 488 - Magnetic Materials 3 hours. This course provides a basic knowledge of magnetic ceramic materials. The first section deals with fundamentals of magnetism, magnetic properties (intrinsic and structure-sensitive) and crystallography of ferrites. In the second section, the technology of ferrites is described in terms of raw materials, conventional vs. non-conventional techniques of processing, sintering, microstructure control, the effect of additives and applications. Prerequisites: CES 241, CES 309.

The following **500 level courses**, intended primarily for graduate students, may also be taken by seniors in good standing or with permission of instructor. This list may be supplemented periodically.

Note: Some of these courses may only be offered if there is sufficient demand. All are 3 credit hours.

CES 502 - Polymer Characterization
CES 503 - Thermodynamics of Materials
CES 504 - Advanced Physical Chemistry
CES 506 - Advanced Engineering Mathematics
CES 509 - Science of Whitewares
CES 510 - Advanced Ceramic Processing
CES 511 - Advanced Crystallography
CES 513 - Analytical Transmission Electron Microscopy
CES 521 - Anisotropic Properties
CES 522 - Energy, Environment and Materials
CES 525 - Characterization for Material Science & Engineering
CES 526 - Surface and Porosity Characterization
CES 527 - Statistical Foundations for Manufacturing
CES 537 - Defects and Defect-Related Processes
CES 538 - Polymer Science and Engineering Processes
CES 539 - Quantum Physics
CES 541 - Solid State Physics I
CES 542 - Solid State Physics II
CES 545 - Diffusion in Solids
CES 546 - Advanced Solid State Chemistry
CES 548 - Properties and Applications of Ferroelectrics
CES 549 - The Rheology of Particle Systems
CES 551 - Structure and Characterization of Glasses
CES 559 - Advanced Optics
CES 562 - Mechanical Properties of Ceramics and Glass
CES 564 - Composite Design and Fabrication
CES 566 - Advanced Topics in Boundary Layer Devices
CES 568 - Introduction to Biomaterials I
CES 570 - Advanced Physical and Mechanical Metallurgy
CES 575 - Bioadhesion and Biofilm
CES 584 - Bioelectrochemistry
CES 585 - Behavior of Glass Forming Melts
CES 587 - Properties and Behavior of Glass Melts
CES 589 - Properties of Glass II – Surface Properties
CES 590 - Photonics
CES 597 - Special Topics in Glass

Engineering

EGR 111 - Introduction to Engineering 2 hours. Answers questions about engineering covering such areas as branches of engineering, engineering report writing, professional liability, ethics and responsibility, the library, problem solving techniques. The concepts of teamwork and the engineering design process are presented through a required design project.

EGR 112 - Computer Aided Design 2 hours. Computer aided design (CAD) is introduced, using the professional software. Students develop the ability to draw and design in two and/or three dimensions, to visualize these drawings in three dimensions, and to communicate with others using drawings. Prerequisite: EGR 111.

EGR 113 - Introduction to Software Engineering 2 hours. An introduction to software engineering concepts using the C programming language. The majority of the course is concerned with learning proper programming techniques, including structured programming, top-down programming, modular techniques, loops and subroutines. Prerequisite: EGR 112.

EGR 114 - Computer Aided Engineering 2 hours. An introduction to engineering computations using the Matlab software package. Interactive numeric computations, data analysis, graphing are presented with engineering applications. Matrix, vector, and scalar computations are covered. Elementary math functions, trigonometric and hyperbolic functions, and complex numbers are used. Techniques for solution of linear systems of equations, interpolation and curve fitting, roots of polynomials, and numerical integration and differentiation are presented. Prerequisite: EGR 113.

EGR 171-472 - Seminar I-VIII 0 hours. A series of lectures each semester on topics of importance to mechanical and electrical engineers, undergraduate and graduate students, and faculty. Attendance mandatory.

EGR 212 - Dynamics 3 hours. Rectilinear and curvilinear motion, translation and rotation, momentum and impulse principles, and work-energy relationships. Prerequisites: PHY 125, MAT 121.

EGR 220 - Circuit Theory I 4 hours. (3 hours lecture, 1 hour laboratory) Voltage and current laws, voltage and current sources, resistor, capacitor, and inductor. Series and parallel circuits, equivalent circuits, mesh and node equations, sinusoidal response, electric power and energy. Co-requisite: MAT 322 or permission of instructor.

EGR 260 - Engineering Economy 3 hours. The analysis and evaluation of alternative uses of capital in engineering and business projects. Financial decision-making for engineering and management alternatives involving investment, operating cost and time value of money. Prerequisite: MAT 120.

EGR 291 - Thermodynamics I 3 hours. Thermodynamic properties of gases, vapors and liquids. Laws of thermodynamics, energy and availability analysis. Prerequisites: MAT 121, PHY 125.

EGR 315 - Engineering Statistics 3 hours. Statistics as a tool in scientific and engineering applications. Topics include design of experiments, hypothesis testing, analysis of variance, regression analysis, statistical quality control, Bayesian decision-making and industrial applications and design. Prerequisite: MAT 120.

Division of Electrical Engineering

EED 100 - Discoveries Laboratory 2 hours. A hands-on laboratory in which freshman electrical engineering students will build motors, generators, lasers, solar-cell power generators, programmable robots and more.

EED 210 - Digital Logic 4 hours. (3 hours lecture, I hour laboratory) Number systems, conversion, module-N arithmetic and digital coding techniques. Boolean algebra and minimization techniques. Combinational and sequential logic design.

EED 310 - Signals and Systems 3 hours. Signal and system modeling concepts, system analysis in time domain, Fourier series and transform, Laplace transform, state variable techniques, z-transform, analysis and design of digital filters, FFT and applications. Prerequisite: EED 220 or permission of instructor.

EED 315 - Software Engineering 4 hours. (3 hours lecture, 1 hour laboratory) Software engineering concepts and techniques, structured design and modular construction, fundamentals of programming style; high level language programming for microcomputers. Prerequisite: EED 102 or permission of instructor.

EED 320 - Circuit Theory II 4 hours. (3 hours lecture, 1 hour laboratory) Natural and forced response, step response, passive and active filters, transformers, dependent sources (modeling, biasing, and gain calculation), Fourier series, Fourier and Laplace transformations. Prerequisite: EED 220 or permission of instructor.

EED 330 - Device Electronics 3 hours. Introduction to semiconductor devices and circuits. Unipolar. bipolar, and MOS devices. Introduction to amplifiers, oscillators, and filters. Prerequisite: MAT 322 or permission of instructor.

EED 373 - Microprocessor Systems and Applications 3 hours. (2 hours lecture, 1 hour laboratory) Microcomputer components and buses, machine instructions, machine language arithmetic, assembly language, microprocessor interfacing. Prerequisite: EED 210 or permission of instructor.

EED 390 - Electronic Circuits 4 hours. (3 hours lecture, 1 hour laboratory) Analysis and design of small signal and large signal electronic amplifiers. Frequency response, feedback, operational amplifiers. Prerequisite: EED 320 or permission of instructor.

EED 410 - Control Systems 3 hours. Linear feedback control system modeling analysis, and compensation techniques. Prerequisite: EED 310 or permission of instructor.

EED 420 - Engineering Design Methods 2 hours. The purpose of design is to convert resources into devices, systems. processes and products to meet human needs. Detailed analysis and application of the design problem solving process from problem identification to implementation. Value engineering and other innovation processes are introduced. Prerequisite: Senior status or permission of instructor.

EED 421 - Senior Design Project 4 hours. Individual design project with a faculty advisor. Conception, design, construction and testing of an original project. Complete report required. Prerequisite: EED 420.

EED 440 - Communication Systems Engineering 3 hours. Analog and digital communication systems, modulation principles, multiplexing techniques and data transmission are among the topics covered. Prerequisite: EED 320 or permission of instructor.

EED 442 - Applied Electromagnetism 3 hours. Complex vectors, Maxwell's equations, uniform plane waves, reflection and transmission of waves, waveguides and resonators, transmission lines, antennas, special topics in waves, electrostatic fields, electric force and energy, special techniques to solve electromagnetic equations, direct currents, magnetostatic fields, magnetic circuits, electroquasistatic fields, magnetoquasistatic fields, examples of applications.

EED 443 - Plasma Engineering 3 hours. Single particle motions, plasma as fluids, wave in plasmas, diffusion and resistivity, equilibrium and stability, kinetic theory, non-linear effects, induct circuits, power supplies, auxiliary equipment, design, applications.

EED 450 - Independent Study Variable hours.

EED 460 - Topics in Electrical Engineering 2-4 hours. Special topics in electrical engineering which vary from year to year. Prerequisite: Permission of instructor. (Sufficient demand)

EED 463 - Digital Control Systems 3 hours. Discrete time systems and the z-transform, sampling and stability analysis techniques, digital controller design, microcomputer implementation of digital systems, quantization and round off noise analysis. Prerequisite: EED 410 or permission of instructor.

EED 471 - Digital Simulation 3 hours. Introduction to simulation modeling and analysis of systems. Topics include input analysis, performance measurements and analysis, variance reduction techniques and graphic animation.

EED 475 - Image Processing 3 hours. An introductory course containing both optical and digital image processing. Contents include: partial coherence and optical transform, optical signal processing, spatial light modulators and detectors, image plane, impulse functions, fourier transform, convolution, restoration, projection-slice, tomography, compression, basics of pattern recognition.

EED 481 - Electric Power Systems 3 hours. The history of power in electric utilities and industry, discussing present and future trends. Introduction to computer programming/modeling techniques currently used in power system engineering. Phasors, complex power, matrix operations, symmetrical components, power transformers, power transmission lines, power flows, faults, power system controls and transients. Field trips to industry. Prerequisite: EED 320 or permission of instructor.

EED 482 - Electric Machinery 3 hours. Magnetic theory and circuits, balanced polyphase circuits, and fundamentals of electromechanical energy conversion. Phasors, per-unit notation, transformers, three-phase and single-phase induction motors, synchronous, direct current and specialized machines. Prerequisite: EED 220 or permission of instructor.

EED 485 - Superconducting Electronics 3 hours. Metals, alloys and ceramics in the superconducting state: London, Ginzburg-Landau and BCS theories; High Tc superconductor theories such as Anderson's RVB model, types I and II, and high Tc superconductors. Applications in power generation and transmission, computers, magnetic field control systems, Josephson junctions, SQUID. Prerequisite: PHY 126 or permission of instructor.

EED 486 - VLSI Design 3 hours. Design of VLSI circuits concentrating on CMOS technologies. Logic design, fabrication principles, CAD layout and introduction to VLSI systems architecture. Structured design emphasis will be with the concept of hierarchy. Design methodology will focus on design of VLSI subsystems using advanced hierarchical design tools including Verilog HDL. This will be in the form of class homework and short projects. Prerequisite: EED 210 or permission of instructor.

EED 487 - Analog VLSI Design 3 hours. Continuation of the analog design component of EED 486. Transistor circuits, current sources and mirrors, differential operational amplifiers, comparators. Switched capacitor techniques. Analog-to-digital/digital-to-analog conversion, analog signal processing. Prerequisite: EED 486.

EED 489 - Introduction to Fuzzy Logic 3 hours. The notion of approximate reasoning and its application in the solution of engineering problems. The general rules of logic and implication, modeling techniques, computational aspects of fuzzy inference, and the mathematics of process will be discussed in detail. Includes a design project. Prerequisites: MAT 322, EED 315, or permission of instructor.

EED 490 - Laser Theory and Applications 3 hours. Wave mechanics, atom-field interaction, simulated emission and dipole oscillators. Semiclassical laser theory, multimode operation, gas laser theory, ring laser, Zeeman laser. Application of YAG and Excimer lasers. Prerequisite: PHY 126 or permission of instructor.

EED 495 - Applied Complex Variables 3 hours. Complex numbers, algebra, functions and integration. Taylor and Laurent series, theory of residues, conformal mapping, and the Schwarz-Christoffel transformation. Applications to fluid dynamics, electrostatics and electrical machines. Impulse functions. Applications to Fourier transforms and the inversion of the LaPlace transform. Some linear algebra and matrix theory introduced as needed for an understanding of dynamic systems. Prerequisite: MAT 322, senior or graduate standing, or permission of instructor.

Division of Mechanical Engineering

MED 211 - Statics 3 hours. Two and three-dimensional force systems, the concept of equilibrium, analysis of trusses and frames, centroids, bending moment and shear diagrams, friction. Prerequisites: PHY 125, MAT 120, concurrent MAT 121.

MED 221 - Mechanics of Materials 3 hours. The mechanics of solid deformable bodies, members subjected to tension, compression, flexure and torsion. Beam topics, stability of columns, combined stresses and strains. Prerequisites: MED 211, MAT 121.

MED 222 - Material Mechanics 4 hours. Equilibrium force analysis (internal and external) of two and three-dimensional force systems acting on particles, rigid bodies, beams, trusses, and frames. Relationship between forces and resulting stresses and deformations (tension, compression, flexure, and torsion) of deformable bodies, beam topics, stability of columns, and combined stresses and strains. Prerequisite: PHY 125 and MAT 121.

MED 233 - Engineering Materials 3 hours. Structure and properties of metals, alloys, polymers. Equilibrium diagrams, relation of structure to electronic and structural properties. Prerequisites: CH 105, CH 106, and MAT 120.

MED 310 - Heat Transfer 3 hours. Principles of steady-state and transient conduction, radiation and convection and their application to heat exchangers and environmental problems. Prerequisites: EGR 291, MED 312 MAT 322.

MED 312 - Fluid Mechanics 3 hours. Principles of mechanics and thermodynamics applied to fluids at rest or in motion. Compressible and incompressible flow, viscous and non-viscous flows, boundary layers, pipe flow, dimensional analysis. Prerequisites: EGR 212, MED 211, MAT 121.

MED 326 - Co-op 3 hours. Cooperative experience with an approved engineering organization. Prerequisite: 70 semester hours total and 36 semester hours of engineering coursework.

MED 330 - Thermal Sciences Lab 2 hours. Experiments are conducted to illustrate aspects of fluid mechanics, thermodynamics, and heat transfer. Prerequisites: EGR 291, MED 310, MED 312.

MED 341 - Kinematics and Dynamics of Machinery 3 hours. Analysis and synthesis of mechanisms with applications to reciprocating engines, cams, gears, flywheels, balancing, critical speeds, torsional vibration. Prerequisite: MED 211, EGR 212, MAT 121.

MED 344 - Machine Design 3 hours. Analysis, synthesis and design of machine elements and systems. Development of engineering judgment, stress and failure analysis, design for finite and infinite life. Corrosion, wear, lubrication, springs, and bolts. Prerequisites: MED 221, MED 341, MAT 322.

MED 350 - Mechanics of Materials Lab 2 hours. Experiments designed to illustrate the principles of mechanics of materials and the methods of experimental mechanics. Prerequisites: EGR 212, MED 221, MAT 322.

MED 391 - Thermodynamics II 3 hours. Applications of thermodynamic principles to the analysis of energy systems including power and refrigeration cycles. Mixtures and solutions, chemical reactions and equilibrium. Prerequisite: EGR 291, MAT 322, MED 312.

MED 421 - Senior Design Project I 3 hours. Comprehensive design projects employing basic and professional approaches to planning, organizing, judgmental and economic factors, integrative aspects of creative design and analysis, interdisciplinary systems. Emphasis on technical communication skills. Prerequisite: Senior standing, MED 310, MED 344, COM 101, EGR 260, concurrent EGR 315.

MED 422 - Senior Design Project II 3 hours. Continuation of MED 421 culminates in a comprehensive design report and developmental prototype as required. Prerequisite: MED 421, EGR 315.

MED 434 - Manufacturing 3 hours. Analysis of manufacturing processes. Topics include casting, molding, forging, sheet-metal working, machining, joining, and many others. Plant tours are a required part of the course. Prerequisite: MED 233, MAT 121.

Mechanical Engineering Electives

MED 450 - Independent Study 1-3 hours. Self-directed study of an approved topic with guidance by a faculty advisor. Prerequisite: approval of topic by faculty advisor and division chair.

Energy

MED 411 - Combustion 3 hours. Combustion processes, combustion thermodynamics, and reaction kinetics. Flame ignition and stability limits. Detonation and deflagration waves. Gas phase reactions and solid particle fuel combustion (coal and wastes). Applications to furnaces, incinerators, gasifiers, gas turbines and engines. Prerequisites: MED 310, MAT 322, EGR 291.

MED 415 - Energy Conversion 3 hours. Energy sources and use. Production of electrical energy, fundamental principles, technological options. Energy management and future projections of energy requirements. Prerequisite: EGR 291.

MED 420 - Heating and Air Conditioning 3 hours. Applied engineering thermodynamics; psychometrics; humidification and dehumidification processes; air cooling processes, heating processes; heat and vapor transmission, fluid flow and pressure losses; air conveying and distribution. Prerequisite: EGR 291.

MED 425 - Advanced Fluid Mechanics 3 hours. Advanced topics in fluid mechanics: compressible flows, boundary layers, potential flow, turbomachinery. Prerequisites: EGR 291, MED 312, MAT 322.

MED 432 - Advanced Heat Transfer 3 hours. An advanced treatment of free and forced convection. The boundary layer equations, laminar and turbulent transfer in channels and over external surfaces. Applications to heat exchange devices and processes. Prerequisites: MED 310, MED 312, MAT 322.

MED 435 - Thermal Systems 3 hours. Principles of thermodynamics, fluid mechanics, and heat transfer are applied to the analysis, design and computer simulation of thermal systems. Typical systems include power plants, heating, ventilating and air conditioning, heat exchangers, piping systems, etc. Prerequisites: MED 391, MAT 322

MED 469 - Computational Fluid Mechanics and Heat Transfer 3 hours. This course presents the basics of field computational fluid mechanics and heat transfer. Numerical solutions of many fluid mechanics and heat transfer problems with no closed form solutions will be presented. Attention is given to the idea of the subject, and recent developments, as well as practical computer application in problem assignments. Prerequisite: MED 310.

Structures and Motion

MED 410 – Continuum Mechanics 3 hours. Vectors and tensors, analysis of stress and deformation. Velocity fields and compatibility conditions, constitutive equations, mechanical properties of fluids and solids. Derivation of field equations and boundary conditions for fluids and solids. Prerequisites: MED 221, MED 312, MAT 322.

MED 430 - Advanced Mechanics of Solids 3 hours. Beams on elastic foundations, curved bars, inelastic behavior, instability, introduction to thin plates and shells, introduction to elasticity, energy methods. Prerequisites: MED 221, MAT 322.

MED 440 - Mechanical Vibrations 3 hours. Harmonic oscillator; response of damped linear systems; multi-degree of freedom systems; introduction to vibrations of continuous systems. Prerequisites: MAT 322, MED 341.

MED 444 - Advanced Mechanical Design 3 hours. Design of mechanical engineering systems with topics including interaction of materials, processing and design; analysis, prediction and prevention of principal modes of mechanical failures. Emphasis placed on analytical, experimental and judgmental techniques to develop the ability to work on unstructured systems. Prerequisite: MED 344.

MED 445 - Manufacturing II 4 hours. Analysis of modern manufacturing systems. Topics include computer integrated manufacturing, automation, flexible manufacturing systems, group technology, numerical control, industrial robots, process control and automated inspection. Prerequisite: MED 434.

MED 446 - Systems 3 hours. System modeling and simulation of mechanical, electrical, thermal and fluid systems. Prerequisites: MED 310, EED 220, MED 346.

MED 447 - Viscous Flows 3 hours. This course covers several aspects of viscous flow mechanics: Navier-Stokes equations; exact solutions of viscous flows; boundary layer theory; properties of laminar and turbulent boundary layers; thermal boundary layers; boundary layer control, Stokes flow; jets and wakes; and numerical methods for solutions of two-dimensional viscous flows.

MED 462 - Geometric Dimensioning and Tolerancing 3 hours. Theory and practice of geometric dimensioning as a precise language to specify part geometry based on the function and relationship of assembled parts. Prerequisite: EGR 114.

MED 464 - Design of Jigs and Fixtures 3 hours. Theory and practice of designing and constructing tooling to improve productivity and quality in various manufacturing applications. Computer-aided design and machining (CAD/CAM) software is used. Prerequisites: EGR 114, MED 344.

MED 466 - Statistical Process Control 3 hours. Design and analysis of procedures for control of production processes. Topics include control charts for variables, defectives and defects, attribute and variable sampling plans, sequential sampling plan, rectifying control procedures, and military standards. Emphasis is also placed upon the economic design of control charts, benefits of quality control to an organization, and human errors in inspection. Prerequisite: EGR 315.

MED 470 - Finite Element Analysis 3 hours. Use of the finite element method to solve problems in the areas of stress analysis, heat conduction. and fluid flow. Weighted residual and variational approaches, shape functions, numerical integration, and the patch test. Prerequisites: MED 221, MAT 322.

MED 474 - Introduction to Optimal Design 3 hours. An introduction to some basic optimization techniques for mechanical design. Conventional versus optimum design process, problem formulation. Unconstrained and constrained design problems. Numerical methods for optimization. Practical design optimization, with engineering examples. Prerequisites: MED 221, MED 310, MAT 322, or permission of instructor.

MED 476 - Introduction to Composite Materials 3 hours. An introduction to composite materials with an emphasis on their selection, analysis, and use in modern engineering applications. Advantages and limitations of composite materials, basic concepts and characteristics. Stiffness and strength theories for uniaxial and multidirectional composite materials, with a macromechanical emphasis. Prerequisites: MED 221, MED 233, MAT 322.

MED 480 – Introduction to Fatigue and Fracture Mechanics 3 hours. An introduction to linear elastic fracture mechanics, calculation of stress intensity factors. Concepts of fracture, fracture toughness, fracture resistance. Fatigue crack nucleation, crack growth, high and low cycle fatigue, temperature effects, predictive equations. Prerequisites: MED 221, MAT 322 or permission of instructor.

Division of Athletic Training

ATT 103 - Prevention and Care of Athletic Injuries 4 hours. An introduction to the athletic training profession, inflammation process, anatomy review, rehabilitation, recognition and prevention of common athletic injuries, taping, rehabilitation and evaluation skills in a laboratory portion, including athletic training room observation, cleaning duties and sport rotations. Prerequisite: PE 311.

ATT 201 - Clinical Experience in Athletic Training I 1 hour. Practical experience supervised by a Certified Athletic Trainer in an athletic training environment at Alfred University. A minimum of 200 clock hours is required. Emphasis on clinical proficiencies of basic first aid, wound care, preventive taping and wrapping, record keeping and team assignment during fall sports season. Prerequisites: PE 311, ATT 103.

ATT 202 - Clinical Experience in Athletic Training II 1 hour. Practical experience supervised by a Certified Athletic Trainer in an athletic training environment at Alfred University. A minimum of 200 clock hours is required. Continued emphasis on clinical proficiencies of basic emergency care and therapy techniques, record keeping, and team assignment during spring sports season. Prerequisites: PE 311, ATT 103, 210, 201.

ATT 210 - Advanced Athletic Training 3 hours. The study of specific concerns related to the field of athletic training in order to develop a thorough understanding of the etiology, pathology, treatment and management of athletic injuries and illnesses. Prerequisites: PE 311, ATT 103.

ATT 301 - Clinical Experience in Athletic Training III 1 hour. Practical experience supervised by a Certified Athletic Trainer in an athletic training environment at Alfred University or affiliated site. A minimum of 200 clock hours is required. Emphasis on clinical proficiencies of basic injury assessment and therapeutic modalities, development of clinical competencies required by the National Athletic Trainers' Association. Clinical assignment during fall sports season. Prerequisites: Formal retention within ATEP, BIO 101, 103, 104, PE 311, PHY 111, ATT 103, 210.

ATT 302 - Clinical Experience in Athletic Training IV 1 hour. Practical experience supervised by a Certified Athletic Trainer in an athletic training environment at Alfred University or affiliated site. A minimum of 200 clock hours is required. Emphasis on clinical proficiencies of basic therapeutic exercise and advanced therapeutic modalities. Continued development of clinical competencies required by the National Athletic Trainers' Association. Clinical assignment during spring sports season. Prerequisites: Formal retention within the ATEP, BIO 101, 103, 104, PE 311, PHY 111, ATT 103, 210, 356.

ATT 334 - Physical Evaluation of the Lower Extremity 4 hours. This course is designed to provide students with an intensive, thorough study of orthopedic evaluation techniques used within the clinical and on-field environments to assess athletic related injuries to the lower extremity sustained by physically active individuals. Normal joint kinematics and subsequent pathomechanics will also be discussed. Prerequisites: BIO 101, 103, 104, 110; ATT 201, 202, 103, 210 and concurrent enrollment in ATT 301; or permission of instructor.

ATT 348 - Physical Evaluation of the Upper Extremity 4 hours. This course is designed to provide students with an intensive, thorough study of orthopedic evaluation techniques used within the clinical and on-field environments to assess athletic related injuries to the upper extremity sustained by physically active individuals. Normal joint kinematics and subsequent pathomechanics will also be discussed. Prerequisites: BIO 101, 103, 104, 110; ATT 201/202, 103, 210 and concurrent enrollment in ATT 302; or permission of instructor.

ATT 356 - Theory and Techniques of Therapeutic Modalities 4 hours. This course presents therapeutic modality theory as well as application of techniques necessary in their planning and implementation. Prerequisites: Formal retention within ATEP, BIO 101, 103, 104, PHY 111, ATT 103, 210.

ATT 367 - Theory and Techniques of Therapeutic Exercise 4 hours. An examination of treatment theories and techniques necessary in the planning and implementation of therapeutic exercise for prevention, care, and rehabilitation of athletic injuries. Prerequisites: Formal retention within ATEP, BIO 101, 103, 104, ATT 103, 210.

ATT 392 - Biomechanics 3 hours. The study of skeletal, joint, and muscular systems in the human body, including analysis of muscular-skeletal movement applied to exercise, sports, and dance-related skills. Emphasis will be placed on the principle of rigid body mechanics (statics and dynamics), Newton's Laws and how they govern human movement in sport and exercise. Prerequisites: ATT 210, BIO 101, 103, 104, PHY 111.

ATT 393 - Physiology of Exercise 3 hours. The study of physiological changes in the body with exercise, sports, and dance activities. Emphasis on neuromuscular, cardiovascular, and respiratory systems, and their adaptations to training. Prerequisites: BIO 101, 104, CH 103.

ATT 401 - Clinical Experience in Athletic Training V 1 hour. Practical experience supervised by a Certified Athletic Trainer in an athletic training environment at Alfred University or affiliated site. A minimum of 200 clock hours is required. Emphasis on clinical proficiencies of advanced injury assessment, therapeutic modalities, and therapeutic exercise protocols for major joints. Development of end of season injury report utilizing the Sports Injury Monitoring System. Clinical assignment during fall sports season. Prerequisites: ATT 334, 348, 356, 367.

ATT 402 - Clinical Internship in Athletic Training 6 hours. Provides seniors with an opportunity for off-campus affiliated clinical experience related to the field of athletic training and sports medicine. Practical experience supervised by a Certified Athletic Trainer. A minimum of 200 clock hours is required. Prerequisites: ATT 210, 334, 348, 356, 367.

ATT 432 - Administrative Aspects of Athletic Training 3 hours. An in-depth study of administrative techniques including budgeting, personnel, and the use of computers in the athletic training setting. Prerequisites: Formal retention within the ATEP, ATT 103, 210.

ATT 460 - Research Design in Athletic Training 3 hours. This course is for seniors majoring in athletic training. It is designed to introduce students to current research topics within the field of athletic training/sports medicine. Major topics will include developing and writing a research grant proposal, along with a case study related to a specific orthopedic condition. Prerequisites: ATT 210, 356, 367, 432.

Accounting

ACC 215 - Financial Accounting 3 hours. Introduces financial reports and the underlying concepts and processes. Financial reports are a major way in which a business enterprise communicates its activities and their results to owners, government authorities and the general public.

ACC 216 - Managerial Accounting 3 hours. Internal accounting reports are used by management to assess results, plan further operations and make decisions as to capital projects, product lines, and pricing. Illustrates the use of such interpretive techniques as cost-volume-profit analysis, variance analysis, cash forecasting, and rate of return to develop managerial decisions based on accounting data. Prerequisite: ACC 215.

ACC 441 - Auditing Theory and Practice 3 hours. Current auditing practices and objectives of independent accounting firms examined in detail. Particular emphasis placed on auditing theory and procedures and the ethical and legal responsibilities of auditing. Prerequisite: ACC 462 either previously or concurrently.

ACC 450 - Independent Study 1-4 hours.

ACC 461 - Financial Accounting II 3 hours. A transitional course in theory of financial accounting with heavy emphasis on the proper presentation of accounting information for external reporting purposes. Prerequisites: ACC 215, junior standing.

ACC 462 - Financial Accounting III 3 hours. An advanced course in theory of financial accounting. Special topics include: pensions–service cost, interest on liability, actual vs. expected return on plan assets, prior service cost amortization, unexpected gains and losses on plan assets, corridor amortization, minimum liability computation; leases–bargain purchase options and residual value considerations, direct financing and sales type leases, initial direct costs, sale–leaseback; earnings per share–for the complex capital structure–basic, primary and fully diluted EPS, materiality and anti-dilution, common stock Equivalents, modified treasury stock method, effective yield test; income tax accounting–deferred taxes, deferred tax liability, deferred tax asset and the valuation account, revision of future tax rates. Prerequisite: ACC 461.

ACC 463 - Applications of Advanced Accounting Principles 3 hours. An advanced course in the theory of financial accounting with heavy emphasis on special problem areas in accounting such as partnership accounting, home office and branch accounting, mergers and acquisitions, consolidated statements, bankruptcy, estates and trusts, fund accounting and international accounting problems. The current pronouncement of the major authoritative bodies reviewed and illustrated. Prerequisite: ACC 462.

ACC 464 - Financial Reporting and Analysis 3 hours. A course covering a variety of complex topics in financial reporting. These include accounting for income taxes, employee compensation, disclosures, earnings per share, accounting changes, and statement analysis. Prerequisite: ACC 462.

ACC 470 - Business and Personal Taxes 3 hours. Income taxes, payroll taxes and estate and gift taxes. The importance of income taxation relating to business decisions and the need for tax research and planning emphasized. Preparation of individual, partnership, and corporate returns with detailed analysis of the underlying tax concepts. The burdens and benefits of social security taxes and unemployment taxes. The tax aspects of family estate planning. Prerequisites: ACC 215, junior standing.

ACC 471 - Cost Accounting 3 hours. Analysis of cost behavior, cost-profit volume analysis, budgeting, job order and process cost systems, standard costs and cost control. Quantitative methods and behavioral developments are applied to cost accounting data. The objective is improvement of the quality of the cost information provided for managerial decision making. Prerequisites: ACC 216, ECO 201, junior standing.

ACC 495 - Seminar in Accountancy 3 hours. Details major issues in the field of accountancy with primary topics changing from semester to semester. May include taxes, financial accounting theory, managerial accounting theory, C.M.A. and C.P.A. problems, or international accounting problems. Primary resource material: library research and outside readings which are used as the basis for seminar presentation. Prerequisite: 12 hours of accounting. May be taken more than once.

Business

BUS 113 - Business Statistics 3 hours. The elements of basic statistical theory and technique are introduced with an emphasis on applications to business situations. Computer-based software packages complement these objectives.

BUS 200 - Family Business Management 3 hours. The course builds on seven segments of focused study related to family business management. The course looks at the family and business systems and the special role of the entrepreneur. Also explores the dual relationships of family and business and its challenges.

BUS 260 - Operations Research 3 hours. Scientific approach to the analysis and solution of economic and business problems to provide a quantitative basis for model building and decision making. Mathematics is applied to business decision making through techniques such as linear programming, queuing theory, network models, Markov analysis, etc. Prerequisites: MAT 104 and BUS 113; ECO 201 either previously or concurrently.

BUS 410 - Seminar in Estate and Financial Planning 3 hours. The purpose of this seminar is to provide the student with a firm grounding in the basic lifetime financial planning process along with an overview of the tax advantages of proper estate planning. (Cross-listed as LAW 410 and FIN 410)

BUS 439 - Entrepreneurship in the 21st Century 3 hours. The primary objectives of this course are twofold: 1) provide students with an introduction to the theoretical and practical aspects of entrepreneurship and small business development, and 2) identify, probe and gain insights into the role family based business plays in socio-economic development and private enterprise.

BUS 450 - Independent Study 1- 4 hours.

BUS 457 - International Business 3 hours. The volume, composition and pattern of world trade; the significance of international trade to the American economy. An introductory description of the international payments mechanism, an elementary analysis of the balance of payments, and a survey of U.S. commercial policies, the role, impact and structure of the multinational enterprise and the government policies towards it, firms, marketing, accounting, and management response to the international environment. Prerequisite: junior standing.

BUS 460 - Internship 1-4 hours. Faculty-supervised experience in which the student applies theoretical knowledge in practical situations. Each student submits a paper outlining the experience and is responsible for procuring an on-site supervisor's evaluation of his/her work. A minimum of 80 hours of practical experience is required for each credit. A maximum of four (4) internship credits can be included in the 120 academic credits required for graduation. The internship may be offered for a letter grade or on a pass/fail basis at the instructor's discretion.

BUS 495 - Seminar in Business Administration 3 hours. A seminar that focuses on special topics in the field of management and business administration.

BUS 499 - Policy Formulation and Administration 3 hours. An integrating course approaching the fields of policy making and strategy from the point-of-view of top management. The course also covers the new tools and emerging concepts in the policy area. By means of the case study approach, the student is taught to develop the habit of solving strategic management problems from a systemic perspective. Prerequisites: MGT 328, FIN 348, MKT 321; Senior standing.

Economics

ECO 201 - Introduction to Economics and Markets 4 hours. Introduction to the principles of microeconomics and a survey of contemporary economic issues. Includes study of market systems and structures, government regulation of business, labor markets and income distribution, strategic behavior, and market failure. Prerequisite: 70 or better on Math Competency Exam, or sophomore standing. (E)

ECO 202 - Principles of Macroeconomics 3 hours. Study of the factors involved in the problems of unemployment, inflation, economic growth, and the role of fiscal and monetary policies. Includes coverage of the money and banking system and international trade. Prerequisite: ECO 201

ECO 312 - Environmental Economics 3 hours. Fundamental economic causes of environmental problems are stressed. Alternative paradigms from within and outside economics are developed and applied through preparation of cases. Appropriate roles for government, non-governmental organizations, and individual actions are identified. Prerequisite: ECO 201. (For ENS majors: ENS 101 and ENS 102.)

ECO 331 - Money and Banking 3 hours. The principles and organization of the monetary and banking system and importance of the money supply. The structure of the banking system and the techniques used by the Federal Reserve are covered, along with monetary theory, other factors affecting income, employment and inflation, the controversies surrounding the use of monetary and fiscal policies and the international dimensions of the issues. Prerequisites: ECO 201/202, junior standing. (Cross-listed as FIN 331)

ECO 412 - International Economics 3 hours. An introduction to the workings of the world economic system and the interactions among different countries. It consists of three parts: Trade, which asks how and why different countries engage in the process of exchanging goods and services and the consequences of such interactions on the country itself and on others; International financial and monetary system, which looks at a country's balance of payments account, exchange rate determination, and open macroeconomic analysis and policy; International development, which surveys experiences of developing countries, including their relationship with developed countries. Builds upon students' earlier knowledge of economic models and analytical tools, tailoring them to analyzing developments in the world economy, and using them to judge the soundness and/or appropriateness of government actions. Prerequisites: ECO 201/202, junior standing.

ECO 445 - Managerial Economics and Microeconomic Analysis 3 hours. Emphasizes the application of fundamental theoretical and analytical tools of economics useful in managerial decision making. Empirical studies and cases involving actual managerial situations at the levels of industry and firms are examined. Prerequisite: FIN 348 or permission of instructor. (Cross-listed as FIN 445)

ECO 450 - Independent Study 1-4 hours.

ECO 462 - Industrial Organization 3 hours. In this course, the theory of the firm is extended using the structure-conduct-performance paradigm and more recent theories of industrial organization. An important portion of the course is allocated to presentation of factual and institutional material on market structure, firm conduct, industry performance, and antitrust policy. Prerequisites: ECO 201/202 and junior standing.

ECO 465 - Public Finance 3 hours. The course analyzes the effect on the economy of different forms of taxation and expenditure patterns at the federal, state, and local level. Attention is given to the effects of government policy on the distribution, composition and size of total income and to the political bases for budgetary decisions. Prerequisites: ECO 201/202, junior standing. (Alternate years)

ECO 466 - Benefit Cost Analysis 3 hours. Covers the practice of economic evaluation of public and private projects and programs. Includes use of case studies for both conducting and evaluating BCA. Prerequisite: ECO 201. (Alternate years)

ECO 495 - Special Topics 3 hours. An introduction to current work in economics. The focus is on particular topics of special interest within the discipline. Students are responsible for presenting, discussing, and writing about ideas expressed in the professional literature. Prerequisite: One course in Economics numbered 300 or above.

Finance

FIN 331 - Money and Banking 3 hours. The principles and organization of the monetary and banking system and importance of the money supply. The structure of the banking system and the techniques used by the Federal Reserve are covered, along with monetary theory, other factors affecting income, employment and inflation, the controversies surrounding the use of monetary and fiscal policies and the international dimensions of the issues. Prerequisites: ECO 201/202, junior standing. (Cross-listed as ECO 331)

FIN 348 - Managerial Finance 3 hours. An introductory course explaining the tools and the new responsibilities modern financial managers deal with in a rapidly changing world environment characterized by uncertainty. The course identifies and examines the financing needs of the firm, its cost of capital, and assets and liabilities management using modern decision support systems for the application of new financial innovations, such as contingent claims and securitization of assets. Prerequisites: ACC 215/216, ECO 201/202.

FIN 410 - Seminar in Estate and Financial Planning 3 hours. The purpose of this seminar is to provide the student with a firm grounding in the basic lifetime financial planning process along with an overview of the tax advantages of proper estate planning. (Cross-listed as LAW 410 and BUS 410)

FIN 445 - Managerial Economics 3 hours. Emphasizes the application of fundamental theoretical and analytical tools of economics useful in managerial decision making, through an examination of empirical studies and cases involving actual managerial situations at the levels of industry and firms. Prerequisite: FIN 348 or permission of instructor. (Cross-listed as ECO 445)

FIN 450 - Independent Study 1-4 hours.

FIN 453 - Financial Markets and Institutions 3 hours. Surveys the dynamic roles played by financial intermediaries in transforming traditional financial institutions to a modern financial services industry responding to new institutions and individual investors in channeling savings and investments. The course focuses on the role played by non-bank financial institutions, the structure of interest rates, the flows of loanable funds and the measurement and management of risk in a regulated and deregulated financial system, using financial instruments such as SWAPS and asset securitization. Prerequisite: FIN 331 or permission of instructor.

FIN 454 - Security Analysis 3 hours. Provides a comprehensive introduction to the application of the techniques of security analysis and portfolio management. Relates economic-industry-company analysis to evaluate individual securities: bonds, preferred stocks, common stocks, and options. Considers the procedures involved in the selection of securities portfolio along the concept of risk-return tradeoffs. Prerequisite: FIN 348,

FIN 455 - Business Financial Decisions 3 hours. Examines the question of how financial resources available to the firm should be allocated to many possible investment projects. Emphasizes developing analytical techniques which make it possible to answer questions such as: Should a new plant be built? Equipment replaced? Bonds refunded? A new product introduced? Should a merger or divestment take place? Prerequisites: FIN 348 and BUS 260.

FIN 457 - Portfolio Management 3 hours. This course emphasizes individual and institutional investors' selection, diversification of securities through appropriate asset-allocation strategies resulting in optional portfolios. Both fixed income securities and equity portfolios are examined in a domestic and worldwide context. Prerequisite: FIN 348.

FIN 458 - International Financial Management 3 hours. Emphasizes the practical relevance of the microelements of international finance which influence the profit and loss accounts and balance sheets of corporations with overseas operations. Factors such as the impact of exchange rate fluctuations, major alternative non-traditional sources of financing and regional investment decisions, imperfections in world product, factor and financial markets along with country risk-return profiles are examined. Prerequisite: FIN 348 or permission of instructor.
FIN 495 - Finance Seminar 3 hours. Examines financial theory both at the macro and micro-levels and attempts to develop the interdependency between security analysis and the cost of funds to the firm with emphasis on capital structure and dividend policies and portfolio analysis. Prerequisites: FIN 454/455 and permission of instructor.

Health Planning and Management

HPM 200 - The Health Care Delivery System 3 hours. This course covers such topics as quality of care; demand for health services; the contemporary health system; health facilities, rising cost of care; health manpower; health maintenance organizations: financing of care. Regulation, planning and alternate levels of health care are also introduced.

HPM 205 - Public Health Concepts and Issues in Community Health 3 hours. This course covers individual, social and environmental determinants of health and disease, including epidemiological concepts and methods for gathering information in the public health area, as well as a description of risks.

HPM 450 - Independent Study 1-3 hours.

HPM 495 - Seminar and Practicum in Health Planning and Management 3 hours. A seminar that focuses on special topics in the field of health planning and management. Prerequisites: HPM 200, ACC 215/216, ECO 201/202, senior standing or permission of the instructor.

Law

LAW 241 - The Legal Environment of Business 3 hours. An introduction to the body of law associated with the business environment. Topics include the judicial system and court procedure, business torts and crimes, contracts, bailments, forms of business structure, bankruptcy, an overview of securities regulations and the antitrust laws and consumer protection statutes.

LAW 405 - Real Estate Law 3 hours. An overview of the legal framework of the real estate business. Topics of study include co-ownership of property, acquisition of title, recording, land contracts, real estate brokers, landlord and tenant, escrow, zoning, eminent domain and government regulation of the real estate business. Also included is an introduction to mortgages and mortgage financing. Prerequisites: LAW 241, junior standing.

LAW 410 - Seminar in Estate and Financial Planning 3 hours. The purpose of this seminar is to provide the student with a firm grounding in the basic lifetime financial planning process along with an overview of the tax advantages of proper estate planning. (Cross-listed as FIN 410 and BUS 410)

LAW 442 - Commercial Law 3 hours. An overview of the common law principles and statutory law affecting commercial transactions. Topics include agency, partnerships, corporations, commercial paper and sales. Prerequisites: LAW 241, junior standing.

Management

MGT 328 - Management and Organizational Behavior 3 hours. This course builds an understanding of individual and group behavior within organizations, the means of assessing such organizational behavior and specific techniques for managing behavior toward improved performance. The goal for the course is for students to develop skills grounded in behavioral science that are essential for assuming a leadership position in organizational environments. Prerequisite: Junior standing.

MGT 431 - Organization Theory 3 hours. Development of a procedure for systematic analysis to determine the most suitable organizational structure for efficient operation. Organization structure examined as a tool which may be controlled and modified by management in order to improve the performance of individuals in the organization. Prerequisite: MGT 328.

MGT 450 - Independent Study 1-4 hours.

MGT 472 - Human Resource Management 3 hours. Examines the contribution that a properly functioning personnel department makes to the effectiveness of a business. Covers internal organization and workings of the personnel department, its relationship to the rest of the enterprise, major problem areas, and the legal environment defining the employer–employee relationship. Prerequisite: MGT 328.

MGT 485 - Operations Management 3 hours. Introduces students to functions, problems, and techniques associated with management of production operations in manufacturing firms and service organizations. The problem oriented approach focuses on analytical techniques so students learn to recognize problems arising in operations management areas and to apply analytic techniques meaningfully. Topics include plant location, plant layout and design, inventory control, quality control, production planning and control (including PERT), production scheduling, queuing, mathematical programming, simulation, and forecasting. Prerequisites: BUS 113, BUS 260, ACC 216, MGT 328.

MGT 495 - Seminar in Management 3 hours. Seminar in management considers major issues in the management field in detail. These issues change from year to year. Examples of topics include corporate culture, creativity, computer based simulations, total quality management, managing strategic change, and human capital development. Prerequisites: MGT 328 and senior standing. (May be taken more than once)

Management Information Systems

MIS 101 - Business Perspectives 3 hours. This course helps students develop a sense of business systems, methods and issues. It is designed to raise sensibilities about the business environment, ethics, and decision making. It also acknowledges the importance of fundamental computer concepts for business, covering spreadsheet, database, presentation software. as well as website design.

MIS 190 - Introduction to Management Information Systems 3 hours. This first course in information theory covers the subjects of computer hardware and software, the system development process, principles of data management and modern computer-based information systems. Emphasis is placed on business problem analysis and determining how automation can contribute to satisfying business needs. Development of computer-based business applications. Prerequisite: MIS 101 or equivalent.

MIS 290 - Computer Programming 3 hours. An introduction to the fundamentals of computer programming. The course is offered using Visual Basic and Java in alternate years, and may be repeated once for credit. Topics covered include programming concepts, program design and development, debugging and testing.

MIS 420 - Electronic Commerce 3 hours. This course is an introduction to the theory and application of Electronic Commerce. The primary theme of the course is exploring the implications of electronic commerce on the supply chain as well as on intra-business transactions. The application of Electronic Commerce at the Internet, Intranet and Extranet levels will be explored and evaluated. Prerequisite: MIS 190, CMP 156, or permission of instructor. (Cross-listed as CMP 420)

MIS 440 - Inter-Networking Fundamentals 3 hours. This course stresses a top-down, business oriented approach to understanding, evaluating, and selecting network technology. Topics covered include IP addressing, network hardware and software, media and design, ARP/RARP, network topology, cabling, OSI model and network management issues. Concepts of Wide Area Network (WAN) are presented. Prerequisite: MIS 190, CMP 156, or permission of instructor. (Cross-listed as CMP 440)

MIS 450 - Independent Study 1-4 hours.

MIS 465 - Data Base Management Systems 3 hours. Providing a comprehensive coverage of organizational data base systems, this course is structured around the data base development life cycle which provides the framework for conceptual data base design, for data base implementation, and for the management of data base systems. Using a strategic and tactical management framework, issues covered include data base planning, data base management system selection, data base administration, security and integrity, and distributed data bases. Prerequisite: MIS 190 or CMP 156 or permission of instructor.

MIS 466 - System Analysis and Design 3 hours. Information system development beginning with a study of the decision making process and the levels of decision making to provide a framework for the information system. Emphasis is on information analysis and logical system design. Topics covered include information need analysis and information systems development methodology. Prototyping and development software are addressed and used. Prerequisite: MIS 190 or CMP 156 or permission of instructor.

MIS 468 - Data Visualization 3 hours. This course is an introduction to multi-dimensional information analysis. It stresses a business oriented approach to using information technology (software and hardware) to explore the hidden value in databases. Topics covered include data warehousing, data mining and visual statistical analysis. Prerequisite: MIS 190 or CMP 156 or permission of instructor. (Cross-listed as CMP 468)

MIS 495 - Seminar in Information Theory 3 hours. Seminar course serving as a capstone for the information theory emphasis. The course emphasizes information theory as related to planning, organizing and controlling information systems in the business environment. Prior seminar topics include Neural Networks, Expert Systems, Artificial Intelligence, and Web Development. Prerequisite: MIS 190 or CMP 156 or permission of instructor. (Cross-listed as CMP 495)

Marketing

MKT 321 - Marketing Principles and Management 3 hours. A survey of marketing concepts, principles, techniques and theories. Emphasizes the development and implementation of an effective marketing strategy, and control of the marketing function within the firm. The role of marketing in society and the efficient distribution of goods and services are addressed. Prerequisites: ECO 201, junior standing.

MKT 450 - Independent Study 1-4 hours.

MKT 452 - Marketing Research 3 hours. Emphasizes planning, organization and application of marketing research in making marketing decisions. Topics include: marketing information systems, research design, data collection and analysis, and evaluating research results. Emphasis given to sampling methods, hypothesis testing, market measurement and forecasting, use of models in marketing, decision making techniques, and behavioral research methodologies. Cases are used as part of the course. Prerequisite: MKT 321.

MKT 480 - Consumer Behavior 3 hours. Deals with changing markets and the influence of environmental and interpersonal factors on consumer behavior. Integrates concepts, theories and tools from social science and quantitative disciplines to provide a framework of understanding consumers and forecasting market demand. Different strategies and techniques of consumer research are presented and evaluated. Prerequisite: MKT 321.

MKT 482 - Sales Management 3 hours. Concerned with the management of the personal selling function, this course uses theories and tools of behavioral sciences for developing an effective sales force through recruiting, selection, training, compensating and evaluation of sales performance. Emphasizes sales forecasting, establishment of sales quotas, and sales analysis. Prerequisite: MKT 321.

MKT 486 - Promotional Strategy 3 hours. Investigates current theory and methods of promotion. The major elements of the promotional mix are analyzed in detail with emphasis on using pertinent decision theory models when allocating scarce resources to the defined elements of the total promotional mix. Prerequisite: MKT 321.

MKT 490 - International Marketing 3 hours. Emphasizes marketing management problems, techniques and strategies in the global marketing environment and the culture dynamics involved in international marketing. Strategies are developed for product, price, promotion and distribution functions given the complex international legal environment and consumer customs in foreign business. Prerequisite: MKT 321.

MKT 495 - Seminar in Marketing 3 hours. Intensive investigation of marketing techniques, theories and issues. Students are required to investigate specific topics, make class presentations and submit reports. Prerequisites: MKT 321 and senior standing.

Reserve Officers Training Corps Military Science Program

Seneca Battalion – St. Bonaventure University

Basic Course
MS 101 - Introduction to Military Science I 2 hours. This course introduces students to the United States Army, Army Reserve and Army National Guard, and provides a general examination of the roles and contributions these organizations offer to society. Fundamental leadership, management, problem solving and decision making techniques are presented and practiced. (Fall Semester)

MS 102 - Introduction to Military Science II 2 hours. A continuation of MS 101 furthering students' knowledge and broadening practical experience. Military customs and courtesies are introduced and various Army career fields are previewed. (Spring Semester)

MS 201 - Military Training Techniques 2 hours. This course builds on the leadership skills taught in MS 101 and MS 102. Students are taught various methods of conducting military training. They then prepare, conduct, and evaluate military training sessions themselves, using military first aid techniques as a training medium. The students are expected to demonstrate competency in the first aid subjects. (Fall Semester)

MS 202 - National Security Seminar 2 hours. Students learn military written communications formats and briefing techniques. Using these skills, they write papers and present briefings on national defense issues covered in their readings of current articles from professional military journals. The subjects covered include geopolitics, strategic concepts, mobilization and other issues relating to national security. (Spring Semester)

Advanced Course
MS 301/302 - Advanced Military Science III 2 hours. These courses qualify students for the rigorous six week summer leadership camp at Fort Bragg, North Carolina. Intensive studies in military skills and techniques are tested and evaluated in performance oriented scenarios throughout the year. Spring semester adds a demanding leadership dimension as the students plan, organize, instruct and lead the Base Course lab exercises. At least three overnight field exercises are required, including a four day field evaluation at Fort Drum, New York, competing with students from other regional universities. Instruction, rehearsal in classroom, practice, refinement, evaluation in leadership lab. (Fall and Spring Semesters)

MS 401/402 - Advanced Military Science IV 2 hours. These courses complete the General Military Science curriculum and qualify the student for commissioning as an officer in the U.S. Army. Classroom instruction and leadership requirements are a prelude to initial officer training at one of the various Army service schools after commissioning. Classroom/seminar topics include military justice, command and staff functions, problem resolution, decision making, ethical conduct, and a continued examination of the duties and responsibilities of an Army officer. (Fall and Spring Semesters)

Federal Higher Education General Information System Codes (HEGIS)

The following majors are offered by Alfred University. Their federal Higher Education General Information System (HEGIS) codes are listed to allow cross-reference between Alfred University and other institutions. These numbers may be requested by state and federal offices when filing for loans and awards. Enrollment in other than registered or otherwise approved programs may jeopardize a student's eligibility for certain student aid awards.

Major	HEGIS Code	Degree
Biology	0401	BA
Biology "7–12"	0401.01	BA
Middle Childhood Ed/Adolescent Ed-Biology	0401.01	BA
Environmental Studies	0420	BA
Business and Marketing	0501	BS
Accounting	0502	BS
Finance	0504	BS
Business Administration	0506	BS
Management	0506	BS
Marketing	0509	BS
Business Economics	0517	BS
Communications Studies	0601	BA
Computer Science	0701	BA
Elementary "N–6"	0802	BA
Early Childhood Ed/Childhood Ed	0802	BA
Special Education	0808	BS
Art K-12 Teacher	0831	BFA
Business Education	0838	BS
Electrical Engineering	0909	BS
Mechanical Engineering	0910	BS
Industrial Engineering	0913	BS
Glass Engineering Science	0916	BS
Materials Science and Engineering	0916	BS
Ceramic Engineering	0916	BS
Fine Arts	1001	BA
Special Subjects: Visual Arts	1002	BFA
Theatre	1007	BA
Ceramic Art	1009	BFA
Performing Arts	1099	BA
French	1102	BA
French "7–12"	1102.01	BA
Middle Childhood Ed/Adolescent Ed-French	1102.01	BA
German	1103	BA
Spanish	1105	BA
Spanish "7–12"	1105.01	BA
Middle Childhood Ed/Adolescent Ed-Spanish	1105.01	BA
Foreign Language and Culture Studies	1199	BA
Health Planning and Management	1202	BS
Athletic Training	1299.30	BS
English	1501	BA
English "7–12"	1501.01	BA
Middle Childhood Ed/Adolescent Ed-English	1501.01	BA
Philosophy	1509	BA

Mathematics	1701	BA
Mathematics “7–12”	1701.01	BA
Middle Childhood Ed/Adolescent Ed-Math	1701.01	BA
Physics	1902	BA
Physics “7–12”	1902.01	BA
Middle Childhood Ed/Adolescent Ed-Physics	1902.01	BA
Chemistry	1905	BA
Chemistry “7–12”	1905.01	BA
Middle Childhood Ed/Adolescent Ed-Chemistry	1905.01	BA
Geology	1914	BA
Earth Science “7–12”	1917.01	BA
Middle Childhood Ed/Adolescent Ed-Earth Science	1917.01	BA
Psychology	2001	BA
Public Administration	2102	BA
Criminal Justice Studies	2105	BA
Social Studies “7–12”	2201.01	BA
Middle Childhood Ed/Adolescent Ed-Social Studies	2201.01	BA
Economics	2204	BA
History	2205	BA
Political Science	2207	BA
Sociology	2208	BA
Gerontology	2299.10	BA
Interdepartmental Major	4901	BA
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Comparative Cultures	4903	BA

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STEPHEN S. CRANDALL (1977)
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Cataloger/Head of Special Collections/Archives: Associate Librarian

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Scholes Library of Ceramics

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Emeriti

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Fall Semester 2001-2002

	Day	Date
Residence Halls open 8:00 a.m. for New Students	Thursday	8/23
Orientation for Freshmen and Transfer Students and Registration/Schedule Changes	Thurs-Sun	8/23-8/26
Residence Halls Open for Returning Students	Saturday	8/25
Classes Begin	**Monday**	**8/27**
Last Day to **Add** courses, Last Day to **Drop** or select P/F in "A" Block courses	Friday	8/31
Last Day to **Drop**, select P/F in a full-semester course	Friday	9/07
Family Weekend	Fri-Sun	9/14-9/16
**Rosh Hashanah*	*Tue-Wed*	*9/18-9/19*
Last Day to **Withdraw**, cancel P/F in "A" Block	Friday	9/21
**Yom Kippur*	*Thursday*	*9/27*
Homecoming Weekend	Fri-Sun	10/5-10/7
Last Day of "A" Block, Mid-Term Grades due in Registrar's Office by 12:00 noon)	Monday	10/15
Mid-Term Break - No classes	Mon-Tue 10/15-10/16	
Classes Resume	**Wednesday**	**10/17**
Add/Drop or Select P/F option in "B" Block courses	Wed-Fri 10/17-10/19	
Last Day to **Withdraw**, cancel P/F in a full-semester course	Tuesday	10/23
Pre-Registration for Spring Semester	Fri-Fri	11/2-11/9
Last Day to Withdraw, cancel P/F in "B" Block	Tuesday	11/13
Thanksgiving recess begins after last class	Tuesday	11/20
Classes Resume	**Monday**	**11/26**
Last Day to Defend a Graduate Thesis/Project (for students graduating in December)	Friday	11/30
Classes End (after last class meeting)	**Friday**	**12/7**
Mid-year Commencement	**Sunday**	**12/9**
Final Exams begin (grades due within 48 hours)	Monday	12/10
**Hanukkah begins*	*Monday*	*12/10*
Fall Semester ends after last Final Exam	Friday	12/14
Final Grades due in Registrar's Office by 10:00 a.m.	Monday	12/17

***Denotes Religious Holidays/Observances Occurring During Semesters**

Spring Semester 2001-2002

	Day	Date
Residence Halls open 10:00 a.m	Sunday	1/20
Registration/Schedule Changes 8:30 a.m. to 4:30p.m. (Martin Luther King Day)	Monday	1/21
Classes Begin	**Tuesday**	**1/22**
Last Day to **Add** courses, Last Day to **Drop** or select P/F in "C" Block courses	Monday	1/28
Last Day to **Drop**, select P/F in a full-semester course	Monday	2/04
**Ash Wednesday*	*Wednesday*	*2/13*
Last Day to Withdraw, cancel P/F in "C" Block	Monday	2/18
Last Day of "C" Block, Spring Break begins after last class	Friday	3/8
Mid-Term Grades due in Registrar's Office by 10:00 a.m.	Monday	3/11
Classes Resume	**Monday**	**3/18**
Add/Drop or Select P/F option in "D" Block courses	Mon-Wed	3/18-3/20
Last Day to **Withdraw**, cancel P/F in a full-semester course	Monday	3/25
**Passover begins*	*Thursday*	*3/28*
**Good Friday*	*Friday*	*3/29*
Pre-Registration for Fall Semester	Fri-Fri	4/5-4/12
Honors Convocation	Friday	4/12
Last Day to Withdraw, cancel P/F in "D" Block	Monday	4/15
Last Day to Defend a Graduate Thesis/Project (for students graduating in May)	Friday	5/3
Classes End (after last class meeting)	**Monday**	**5/6**
Final Exams begin (grades due within 48 hours)	Wednesday	5/8
Spring Semester ends after last Final Exam	Tuesday	5/14
Commencement	**Saturday**	**5/18**

***Denotes Religious Holidays/Observances Occurring During Semesters**

Summer Sessions 2002

First Session	Mon-Fri	5/20-6/28
Second Session	Mon-Fri	7/1-8/9

Fall Semester 2002-2003 (Preliminary)

	Day	Date
Residence Halls open 8:00 a.m. for New Students	Thursday	8/29
Orientation for Freshmen and Transfer Students and Registration/Schedule Changes	Thurs-Sun	8/29-9/1
Residence Halls Open for Returning Students	Saturday	8/31
Classes Begin	**Monday**	**9/2**
Last Day to **Add** courses, Last Day to **Drop** or select P/F in "A" Block courses	Friday	9/6
**Rosh Hashanah*	*Saturday*	*9/7*
Last Day to **Drop**, select P/F in a full-semester course	Friday	9/13
Family Weekend	Fri-Sun	9/13-9/15
****Yom Kippur -No Classes***	***Monday***	***9/16***
Homecoming Weekend	Fri-Sun	9/27-9/29
Last Day to **Withdraw**, cancel P/F in "A" Block	Monday	9/30
Last Day of "A" Block	Friday	10/18
Mid-Term Break (Mid Term Grades Due in Registrar's Office by 12:00 Noon)	Monday	10/21
Add/Drop or Select P/F option in "B" Block courses	Tue-Thurs 10/22-10/24	
Last Day to Withdraw, cancel P/F in a full-semester course	Tuesday	10/29
Pre-Registration for Spring Semester	Fri-Fri	11/8-11/15
Last Day to **Withdraw**, cancel P/F in "B" Block	Tuesday	11/19
Thanksgiving recess begins after last class	Tuesday	11/26
**Hanukkah begins*	*Saturday*	*11/30*
Classes Resume	**Monday**	***12/2***
Last Day to Defend a Graduate Thesis/Project (for students graduating in December)	Friday	12/6
Classes End (after last class meeting)	**Friday**	**12/13**
Mid-year Commencement	**Sunday**	**12/15**
Final Exams begin (grades due within 48 hours)	Monday	12/16
Fall Semester ends after last Final Exam	Friday	12/20
Final Grades due in Registrar's Office by 10:00 a.m.	Monday	12/23

***Denotes Religious Holidays/Observances Occurring During Semesters**

Spring Semester 2002-2003 (Preliminary)

	Day	Date
Residence Halls open 10:00 a.m	Sunday	1/19
Registration/Schedule Changes 8:30 a.m. to 4:30p.m. (Martin Luther King Day)	Monday	1/20
Classes Begin	**Tuesday**	**1/21**
Last Day to **Add** courses, Last Day to **Drop** or select P/F in "C" Block courses	Monday	1/27
Last Day to **Drop**, select P/F in a full-semester course	Monday	2/3
Last Day to **Withdraw**, cancel P/F in "C" Block	Monday	2/17
**Ash Wednesday*	*Wednesday*	*3/5*
Last Day of "C" Block, Spring Break begins after last class	Friday	3/7
Mid-Term Grades due in Reg. Office by 12:00 Noon	Monday	3/10
Classes Resume	**Monday**	**3/17**
Add/Drop or Select P/F option in "D" Block courses	Mon-Wed	3/17-3/19
Last Day to Withdraw, cancel P/F in a full-semester course	Monday	3/24
Pre-Registration for Fall Semester	Fri-Fri	4/4-4/11
Honors Convocation	Friday	4/11
Last Day to Withdraw, cancel P/F in "D" Block	Monday	4/14
Passover begins	Thursday	4/17
**Good Friday*	*Friday*	*4/18*
Last Day to Defend a Graduate Thesis/Project (for students graduating in May)	Friday	5/2
Classes End (after last class meeting)	**Monday**	**5/5**
Final Exams begin (grades due within 48 hours)	**Wednesday**	**5/7**
Spring Semester ends after last Final Exam	Tuesday	5/13
Commencement	**Saturday**	**5/17**

***Denotes Religious Holidays/Observances Occurring During Semesters**

Summer Sessions 2003

First Session	Mon-Fri	5/19-6-27
Second Session	Mon-Fri	6/30-8/8

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Telephone Directory

General Information	**607 871 2111 or 607 871 2175**
Specific information Concerning an Academic Branch	
College of Business	607 871 2124
College of Engineering and Professional Studies	607 871 2141
College of Liberal Arts and Sciences	607 871 2171
New York State College of Ceramics	607 871 2411
School of Art and Design	607 871 2412
School of Ceramic Engineering and Materials Science	607 871 2411
Graduate School	607 871 2141
Catalogs and Admissions Information	
Director of Admissions	607 871 2115 or 800 541 9229
Financial Aid and Scholarships	
Director of Financial Aid	607 871 2159
Housing	
Director of Residence Life	607 871 2186
Business Matters	
Controller	607 871 2127
Summer Sessions/Programs	
Summer Programs Office	607 871 2612
Transcripts and Academic Records	
Registrar	607 871 2122
Parent Relations	
Director of Parent Programs	607 871 2612
Health Records	
Crandall Health Center	607 871 2400
Student Affairs	
Vice President for Student Affairs; Dean of Students	607 871 2132