### Bachelor's Curriculum For Computer Technology

#### Semester I

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENC 1101</td>
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<tr>
<td>MAC 2223</td>
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<tr>
<td>ACG 2001</td>
<td>Elementary Accounting</td>
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</tr>
<tr>
<td>CGS 3170</td>
<td>Intro to Computers (Basic)</td>
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<td>Humanities</td>
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<td>MAC 2234</td>
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<td>ACG 2011</td>
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<tr>
<td>COP 2320</td>
<td>FORTRAN</td>
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<td>EGN 3613C</td>
<td>Engineering Economy</td>
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<tr>
<td>PHY 2053</td>
<td>General Physics I</td>
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<td>PHY 2053L</td>
<td>General Physics Lab I</td>
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#### Semester V

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<td>CGS 3462</td>
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<td>ECO 2013</td>
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#### Semester VI

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<td>COP 3120</td>
<td>COBOL I</td>
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<td>FIN 3403</td>
<td>Princ. Finance</td>
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<tr>
<td>CGS 4465</td>
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#### Semester VII

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#### Semester VIII

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<td>CGS 3464</td>
<td>SIMSCRIPT Simulation</td>
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<td>COP 3130</td>
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*Approved listings of general studies, Humanities, Social Sciences and Communication courses are available in the Engineering Advising Office (ENG 104). Students who are currently following a program other than that of an Associate of Science degree in Engineering Technology at a community college and who are interested in pursuit of studies in this field should contact the College of Engineering for further guidance.

Further information is available from:
- Director of Engineering Technology
  - USF St. Petersburg Campus
  - 140 Seventh Avenue, South
  - St. Petersburg, Florida 33701

or
- Director of Engineering Technology
  - College of Engineering
  - University of South Florida
  - Tampa, Florida 33620

### Computer Service Courses

These courses marked SC are specifically designed for the non-engineering student.

Recognizing that the general purpose digital computer has made significant contributions to the advancement of all elements of the academic community and that it will have an ever greater impact in the future, the College of Engineering offers several levels of credit coursework, undergraduate and graduate, to serve students of all colleges in order that they may be prepared to meet the computer challenge.

Computer-oriented courses are offered in two broad categories: (1) those courses which are concerned with the operation, organization and programming of computers and computer systems from the viewpoint of examining the fundamental principles involved in computer usage; and (2) those courses which are concerned with computer applications to a variety of different disciplines, by means of user-oriented-languages such as FORTRAN, PL/I, COBOL, PASCAL, BASIC, "C" and ADA.
Students in engineering, the physical sciences, and mathematics must consult their adviser for suitable computer courses, since these courses are not acceptable to a number of degree programs.

**College Facilities**

Students have access to the University's IBM 3081 and 3033 systems and the College's extensive network computer system. The College has a wide range of specialized equipment, such as a thin-film and hybrid circuits facility, scanning electron microscope, a high-current test facility, a gas chromatograph/mass spectrometer, specialized computers and computer laboratories such as a DEC PDP 1 1/44 database and a color computer graphics laboratory, a differential thermal analyzer, a vacuum dry box, and X-ray diffraction unit, estuary current meters, water-quality-analysis test equipment, flow visualization equipment, a 250 kip materials testing system, a computer-aided manufacturing system, industrial robots, and a well-equipped and staffed machine shop.

**College Computing Facilities**

The College of Engineering computing facilities are used to provide support for specialized engineering calculations above and beyond those which are available at the IBM based Central Florida Regional Data Center (CFRDC).

The College operates a variety of computers including VAX machines, a nineteen node SUN net and open use small computer facilities. These machines provide support for teaching and research in all of the engineering disciplines. Additionally, the Computer Science and Engineering Department within the College runs other facilities, consisting of three VAX machines, an Ethernet with SUN and AT&T 3B2 machines, and extensive microcomputer laboratories.

The College facilities run most of the standard engineering software. Languages include Fortran, Pascal, C, Ada, several varieties of UNIX and Prolog. Applications software includes mathematical libraries, suites of programs for VLSI design, chemical process design, civil and mechanical engineering design, robotics simulation, and circuit simulation and analysis. There are high resolution color terminals for use in conjunction with these activities, and for mechanical design there are four multiple display workstations with joysticks and digitizing pads. Similar arrangements are used for VLSI design.

The multiple computer operations within the College are made accessible at each faculty desk, research laboratory or classroom terminal, through a new network (ISN). This new facility provides more extensive connectivity, including both of the Engineering buildings, CFRDC, and the remote Engineering sites at Sarasota, St. Petersburg and Lakeland. The College ISN will also provide a link between departmental networks as they emerge. There is currently a joint EE/CSE net and a CMDAT net; other departments are expected to follow suit. The College has also opened two PC classrooms with a total of about 50 machines. These classrooms are run as open access laboratories except for limited scheduled class meetings. The PC rooms are supplemented by more advanced workstation facilities with access to the Ethernet. This year has been the second part of a facilities renewal planned by the College Computer Committee. The addition of the PC's and some SUN workstations forms part of the recommended hardware revisions. Increased numbers of machines in the PC classroom, and provision for some training and documentation facilities are priorities for the coming year.

**Cooperative Education Program**

A wide variety of industries and government agencies have established cooperative programs for engineering students to provide them the opportunity to become familiar with the practical aspects of industrial operations and engineering careers. Students in the Career Resource Center's Cooperative Education (Co-op) program alternate periods of paid employment in their major field with like periods of study. Students following the Co-op program usually encounter no problems in scheduling their program, since required Social Science and Humanities, Mathematics and Science, and Engineering Core courses are offered every semester. Students normally apply for participation in this program during their sophomore year and pursue actual Co-op employment during their sophomore and junior years. The senior year is generally pursued on a full-time study basis, since many specialization courses are not offered every semester. The students receive a Cooperative Education Certificate upon successful completion of a minimum of three work assignments.

**Florida Engineering and Industrial Experiment Station (USF)**

The Florida Engineering and Industrial Experiment Station developed from early research activities of the engineering faculty at the University of Florida. In 1977, the University of Florida extended the provisions of the Engineering and Industrial Experiment to the Engineering College of the University of South Florida and two other State engineering colleges. The Legislature continues to support this extension with appropriations. The four colleges of engineering now work together in a joint effort through EIES to assist industry with special problems that can be appropriately solved by engineering colleges. During the year 1987-88, a sponsored research volume of approximately 5 million dollars passed through EIES (USF). All departments, faculty as well as students, contribute to this research at the University of South Florida. This program is administered by the Engineering Associate Dean for Research. The direct exposure of students to real research needs of the State adds extra meaning and depth to the engineering education offered by the College.

**NASA STAC**

(Southern Technology Applications Center)

The NASA Southern Technology Applications Center (STAC) is a sophisticated network of information resources and technology transfer expertise devoted to providing high-quality service that entrepreneurs, researchers, high-tech professionals, and business managers need to survive in today's competitive climate.

Created by NASA and the State University System of Florida through the Colleges of Engineering to assist the private sector in commercializing technology, STAC has grown into a full-service technology transfer service which accesses more than 1200 databases worldwide, containing in excess of 500 million records. By using these databases and the expertise of STAC's professional staff, researchers and decision makers receive the most timely information on virtually any subject area from state-of-the-art developments to commercial applications of their innovative concepts. STAC's on-line interactive searches retrieve a greater number of relevant documents than those obtainable through traditional research techniques.

STAC's diverse services satisfy the demand for automated information research, provide tailored reports to interpret data, create linkages between universities and industry for research and development activity, and assist in consultant recruitment. STAC provides the most current, accurate and comprehensive information research available as well as technical assistance, expert connections, custom database development, demographic trends, patents and trademarks, business opportunities in space, SBIR grant assistance, and proposal writing seminars. Results are STAC's number one priority. STAC charges a minimal fee for its services since its operation is partially supported through NASA and state funds. The STAC Office, which services the southwest area of Florida, is located in the College of Engineering at the University of South Florida.

**Discover the STAC advantage resources to face tomorrow's challenges today!**
Army & Air Force R.O.T.C.
For Engineering Students

The Engineering curriculum, coupled with involvement in the Army or Air Force R.O.T.C. program, requires a minimum of five (5) years to complete the degree requirements. Army and Air Force R.O.T.C. cadets must take 16 additional hours in either military science or aerospace studies. Additionally, Air Force-sponsored summer training camp is scheduled between the sophomore and junior year for Air Force cadets, and Army cadets attend an Army-sponsored summer training program between the junior and senior years.

Bi-County Center for Engineering

The Bi-County Center for Engineering was established on the USF at Sarasota campus in 1984. It serves the Manatee and Sarasota County area by providing local access to the College of Engineering program. Selected courses from all departments are offered in response to student needs. The professional programs in Electrical and Computer Engineering, together with Engineering Technology, are areas of special emphasis. Students who begin as freshmen at Manatee Community College and complete the A.A. in Pre-Engineering are able to transfer directly into USF and continue toward the Bachelor's degree. Other transfer students will be evaluated on an individual basis. All coursework taken at USF as part of a planned degree program is applicable to that program without any campus distinction. Students may move freely between the main campus in Tampa and the regional campus in Sarasota. For information, contact the Engineering Advising Office in Tampa or the Bi-County Center Office in Sarasota.
The College of Fine Arts exists in the atmosphere of a comprehensive University. It provides opportunities for students to develop their interests and talents to the highest level possible and encourages them to do so whether they wish to commit to a life in the arts or, as a general interest, wish to develop appreciation and involvement in the arts. For these purposes, the College educates in the practice of creating, performing, presenting and understanding theatre, music, dance and the visual arts. Our mission is three-fold:

1. Teaching the disciplines for creating, performing, presenting and understanding the arts. This is done by providing the full range of educating experiences that prepare students to:
   a. Practice an art as a full time life commitment;
   b. Practice an art as an important element of the individual's life commitment;
   c. Appreciate the arts as important life enrichers.
2. Creating and researching the arts:
   a. To expand horizons and explore new dimensions in the arts;
   b. To contribute to the expansion of general knowledge and information about the arts;
   c. To improve the teacher's own effectiveness with students.
3. Serving the public by providing cultural enrichment and expertise.

In recognition of its academic and artistic achievements the College of Fine Arts has been given program of emphasis status by the Board of Regents of the State University System. The college offers degree programs and courses in art, dance, music and theatre. In addition, it also offers courses in music education and art education in cooperation with the College of Education.

Fine Arts Events
The College of Fine Arts, recognizing the importance of maintaining an arts-filled environment as an integral part of the total learning experience it offers to the students within the college and to the community, is critically aware that a truly comprehensive university performing arts program must include performances and related activities by internationally recognized artists and ensembles.

The list of prestigious artists who have been presented over the years by the College of Fine Arts is impressive and a sampling includes John Cage, the Guarneri String Quartet, Lazar Berman, the New York Pro-Musica, Alvin Alley, Martha Graham, Marcel Marceau, and the Polish Mime Ballet Theatre. (More extensive lists of visiting artists and performing organizations appear in this catalog under the sections of the specific academic units in the college in which research, demonstration, teaching, and other educational activities have directly benefited students.)

BACCALAUREATE-LEVEL DEGREE PROGRAMS
Programs Leading to the Baccalaureate Degree
The College of Fine Arts offers programs leading to the Bachelor of Arts degree in the fields of Art, Dance, and Theatre, a Bachelor of Fine Arts degree in Theatre, a Bachelor of Music degree in Music, and a Bachelor of Science in Music Education.

Admission to the College
A freshman student may elect to enter the College of Fine Arts as a major in one of the four departments as early as his/her initial entry into the University provided he/she has successfully completed an audition or portfolio review in the appropriate department. At that time, the new freshman should file a Declaration of Major or Change of Curriculum code form indicating the choice of degree program within the College of Fine Arts. However, any continuing student in the University in good standing, upon acceptance by the department, can apply to change from another major to a major in the College of Fine Arts.

The student desiring to make this change must initiate a Change of Major form in the college of the present major and transfer his/her current academic records to the College of Fine Arts' advising office.

Transfer students and students from other units within USF with previous college or university fine arts course credits (art, dance, music, theatre) must have such credits evaluated and meet appropriate portfolio or audition requirements when seeking admission to the College of Fine Arts. These students are urged to make early arrangements for any necessary portfolio reviews or auditions, as well as appointments for advising, since these must take place prior to course scheduling and registration. Further, students are required to provide copies of their transcripts showing all previous college or university coursework for advising, portfolio review and/or audition appointments. Additional information may be obtained and appointments may be made by telephoning or writing the College's advising office or the office of the department of particular interest.

Advising in the College
The College of Fine Arts operates a central advising office located in the Fine Arts Building. It maintains the records of all major students in the College (art, dance, music, theatre) and provides on-going academic advising, referral services and assistance to all present and potential students. Academic advisers are provided for each of the departments in the College.

Any student in the University, regardless of major, may enroll in courses offered by the College of Fine Arts when prerequisites are met and space is available. Where applicable, these courses may be used to satisfy elective or General Distribution Requirements.

In all cases, the responsibility for meeting all graduation requirements rests entirely upon the student.

Graduation Requirements
The College of Fine Arts currently offers three undergraduate degrees, the Bachelor of Arts (B.A.), attainable in the Departments of Art, Dance, and Theatre, the Bachelor of Fine Arts (B.F.A.) in Theatre and the Bachelor of Music (B.M.) in Music. The University requirements are presented in detail elsewhere in this catalog, but are briefly summarized here along with the college and departmental requirements:

1. 120-124 credits for the B.A., 124-126 credits for the B.M., and 154 credits for the B.F.A. with at least a “C” average (2.0) in work done at the University of South Florida and in the major. At least 40 credits must be in courses numbered 3000 or above. Since 15 hours is considered a normal, full-time load, students are reminded that programs requiring more than 120 credit hours may require additional semesters for completion of the program.

2. General Distribution Requirements may be satisfied by (1) completing the University's General Distribution Requirements as explained in this catalog, (2) completing the A.A. degree from a Florida Junior or Community College, or (3) completing the general education requirements from another Florida state university. General education courses transferred from other accredited institutions will be evaluated based on USF General Distribution equivalencies. The A.A. degree is in no way a requirement for acceptance into the College of Fine Arts (or into any one of its upper-level degree programs), or a requirement for graduation from the University.

3. Students admitted to the College of Fine Arts with transfer credits dating ten or more years prior to admission (or readmission) will have those credits reviewed by the College and Department and may be required to take specified competency tests in their major area.

4. Special Fine Arts College Requirement: All majors in the College of Fine Arts must take at least 6 credit hours in one or more of the other departments of the College.

5. A maximum number of ROTC credits totaling no more than the maximum allowed in the Free Elective Area for each major may be counted towards the B.A., B.M., or B.F.A. degree.
6. With departmental approval, a maximum of 4 credit hours of elective Physical Education credits taken at USF may be counted as general elective credit toward the B.A., B.M., or B.F.A. degree in the College of Fine Arts.

7. Satisfactorily complete the College Level Academic Skills Test CLAST and the writing and computation course requirement of 6A-10.30 (Gordon Rule).

8. Students applying for a B.A. degree must demonstrate competency in a foreign language as described under Foreign Language Competency Policy of this catalog.

9. Department Requirements:

   Art Requirements: Completion of a minimum of 46 credit hours in the major, 19 credit hours of Free Electives (of which 16 hours in art may apply), and 9 hours of non-major credits which may be distributed at the discretion of the Art Department.

   Dance Requirements: Completion of a minimum of 44 credit hours in the major, 23 credit hours of Free Electives (of which 19 hours in dance may apply), and 9 hours of non-major credits which may be distributed at the discretion of the Dance Department.

   Music Requirements: Completion of a minimum of 84-86 hours in the major.

   Music Education Requirements: For Instrumental Specialization, the completion of a minimum of 19 credit hours of Music Education courses and 52 credit hours of Music courses. For Vocal Specialization, the completion of a minimum of 15 credit hours of Music Education courses and 56 credit hours of Music courses.

   Theatre Requirements: For the B.A., the completion of a minimum of 54-55 credit hours in the major with 19 credit hours of Free Electives of which a maximum of 10-11 credit hours may be in theatre. For the B.F.A., the completion of a minimum of 75 credit hours in the major with 29-30 credit hours of Free Electives of which a maximum of 10-11 credit hours may be in theatre.

10. Residency Requirements: A minimum of 20 credit hours in the major department must be earned in residence. This requirement, however, may be waived by the department based on examination (e.g., portfolio review, audition, etc.). Also, a student must earn 30 of the last 60 hours of credits in residence at the University of South Florida. However, any course work to be taken and any credits to be earned outside of the University must have prior approval from the appropriate department and the college in order to apply these credits toward graduation.

   Waiver of prerequisite course work totaling no more than 12 credit hours in the major or Fine Arts College requirements is possible by demonstration of competence. Unless credit is awarded by approved official tests, i.e., A.P., CLEP, the credit hours must be made up according to departmental or college recommendations. The review for waiver is by faculty committee. Specific questions concerning program requirements for the B.A., B.M. and B.F.A. degrees in the College or other related problems, should be directed to the Coordinator of Advising, College of Fine Arts, University of South Florida, Tampa, Florida 33620.

   The responsibility for seeing that all graduation requirements are met rests with the student.

Courses for General Distribution Requirements:

Courses in the College of Fine Arts in the departments of Art, Dance, Music and Theatre fall within Area II of the University’s General Distribution Requirements. (See General Distribution Requirements and special policies for AA degree holders and other transfer students with “General Education Requirements” met.) However, a major in any one of the four departments in the College of Fine Arts may utilize only those courses in the other three departments of the College for Area II General Distribution Requirements.

College Policy for Academic Progress

The following criteria will serve as the basis for disenrollment from a major in the College of Fine Arts.

1. Grade-point average below 2.0 in the major.

2. Recommendation by major applied (studio) art, dance, music or theatre faculty with approval of respective department chairperson, or art education coordinator.

3. The department may recommend probationary status (rather than disenrollment) for one semester when academic progress is not maintained.

Contracts and Permission Procedures

Directed Studies Contracts:

All Directed Studies and other variable credit courses in the College of Fine Arts require contracts between students and instructors describing the work to be undertaken by the student and specifying the credit hours. These contracts are to be completed in quadruplicate and appropriately signed. It is the student’s responsibility to obtain the necessary signatures and make the required distribution of all copies. Important: the student must have his/her signed copy of a contract at the time of registration.

S/U Grade Contracts:

The College of Fine Arts requires that any S/U grading agreement entered into between student and instructor be formalized by a contract in quadruplicate signed by the student and the instructor and distributed according to instructions.

Grade Contracts:

Incomplete must be contracted for by mutual agreement between student and instructor, with the contract describing specifically the amount and nature of the work to be completed for the removal of the incomplete grade. This contract additionally clearly specifies the date that the work will be due (within legal limits) for grading. Both the student and the instructor must sign this contract and the four copies must be distributed according to instructions. A student must not register for a course again to remove an "I" grade.

Permission Procedures:

Admission into some courses is possible only by consent of instructor (CI), consent of chairperson (CC), consent of adviser, or by audit or portfolio review. When such special permission is required, it will be the student’s responsibility to obtain any required permission prior to registration.

S/U Grading in the College

1. Non-majors enrolled in courses in the College of Fine Arts may undertake such courses on an S/U basis with instructor approval. See Contracts and Permission Procedures for information concerning S/U Grade Contracts.

2. Credits earned by a non-major student with an “S” grade will not count toward the student’s minimum major course graduation requirement should that student ultimately decide to become a major student in one of the four departments in the College. Instead, such credits earned with an “S” grade will be assigned to the student’s Free Elective category (with the exception of music which will become non-countable).

3. Although Fine Arts majors may take coursework in their major as Free Electives, they are not entitled to the S/U grading option for these courses taken in their major subject area, even when specifically used or intended to be used as Free Electives.

4. In the college of Fine Arts, the only S/U graded courses available to a major student in his major subject area are those curriculum allowable courses designated S/U (that is, S/U only).

5. With the exception of such courses as may be specifically required under the College’s “Special Requirements” regulation, a maximum of 9 credit hours of S/U credits in non-major courses may apply towards a degree in the College of Fine Arts. Please refer to Academic Policies section for more information concerning the University’s S/U Grading policy.

Dean’s List Honors

See Academic Policies and Procedures, Programs and Services.
Interdisciplinary Study
In spite of the fact that an undergraduate interdisciplinary degree program is not formally offered in the College of Fine Arts, it is possible for a student to pursue such a program of study in the College by utilizing free electives allowed in the major program. A student may also choose a double undergraduate major in two departments within the College of Fine Arts as a means of interdisciplinary study. See the major adviser in the programs of particular interest.

Minors Program
The College of Fine Arts offers minor programs in Art, Dance, Music, Theatre. Majors in the College of Fine Arts may pursue a minor in any certified minors program at USF except within the same department as the major. The requirements for these programs are located under the departmental academic program descriptions. For University Minor Policy, consult that section in Catalog.

PROGRAMS AND CURRICULA

ART (ART)
Departmental Requirements for the B.A. Degree
The art curriculum is designed to develop the student’s consciousness of aesthetic and ideological aspects of art and its relationship to life and to assist students in the realization of personal ideas and imagery. Most B.A. recipients interested in college teaching, museum or gallery work, fine or commercial studio work pursue the extended discipline and experience offered at the graduate level.

Although the Art program allows many possible courses of study, most art major students will select one area of emphasis chosen from the course offerings listed.

The major concentrations, or areas of emphasis, available to undergraduate (B.A. seeking) art students are: Drawing, Painting, Sculpture, Ceramics, Graphics (Lithography and/or Intaglio), Photography, Cine-matography (Film), Art History and Theory. Art majors must receive a grade of "C" or better in all art courses.

Transfer studio credit will be accepted on the basis of portfolio and transcript evaluation.

For additional requirements see Graduation Requirements, College of Fine Arts.

The requirements for the bachelor’s degree in Art Education are listed under the College of Education.

Art Studio Concentration
(46 semester hours minimum)
1. Visual Concepts I, II and Introduction to Art, 12 credit hours.
2. Minimum of 12 credit hours of 3000 level studio courses (exclusive of Technique Seminars.)
3. Minimum of 8 credit hours of 4000 and/or 5000 level studio courses exclusive of Technique Seminars with an emphasis in one area.
4. Minimum of 12 credit hours in art history courses from the following:
   4. Twentieth Century art is required of all majors.
   ARH 4100
   ARH 4350
   ARH 4530
   ARH 4170
   ARH 4430
   ARH 4796
   ARH 4200
   ARH 4450
   ARH 4937
   ARH 4301
5. Art Senior Seminar, 2 credit hours.
6. Maximum of 18 semester hours of art electives.

Art History Concentration
(46 semester hours minimum)
1. Visual Concepts I, II and Introduction to Art, 12 credit hours.
2. Minimum of 16 credit hours of 4000 level art history courses including Twentieth Century art history.
3. Seminar in the History of Art History, 4 credit hours.
4. A minimum of 12 credit hours in Directed Readings (1 to 4 semester hours each) and/or Critical Studies in Art History (4 semester hours each).
5. Art Senior Seminar, 2 credit hours.
6. Must demonstrate competency in French or German as described under Foreign Language Competency Policy of this catalog.
7. A maximum of 16 semester hours of art electives.

For more specific information concerning this requirement, the student should consult with the art adviser or the faculty of the art history area of the art department.

Requirements for a Minor in Art
(20 semester hours minimum)
1. Studio Concentration:
   ART 2202C (4)  ART 2203C (4)  ARH 3000 (4)
   Plus: Two 4 semester hour classes from 3000 studio level (8)
2. Art History Concentration:
   ART 2202C (4)  ART 2203C (4)  ARH 3000 (4)
   Plus: Two 4 semester hour classes from any of the following:
   ARH 4100 (4)  ARH 4301 (4)  ARH 4450
   ARH 4170 (4)  ARH 4350 (4)  (Required) (4)
   ARH 4200 (4)  ARH 4430 (4)  ARH 4530 (4)

Visiting Artists and Artist-In-Residence
The art department is widely known for the consistent level of excellence of its programs. Aside from the contributions of its permanent staff, and to insure the continuing expansion of learning opportunities available to students, the art department has brought to the campus internationally known artists and lecturers such as Scott Barlett, Larry Bell, Lucas Samaras, Robert Irwin, James Rosenquist, Robert Rauschenberg, Philip Pearlstein, Edward Fry, Alice Aycock, Alfred Leslie, Linda Benglis, Ron Gorchov, Patterson Sims, Jack Burnham, Barbara Kuger, Jim Dine, Donald Kuspit and Robert Storr.

ART MUSEUM
The Art Museum presents a schedule of changing contemporary exhibitions in the new Art Museum (FAM), in the Teaching Gallery in the Fine Arts building (FAH), and in the lobbies of Theatres I and II. The new Art Museum features two uniquely triangular galleries, receiving, conservation, fabrication, collection storage areas and administrative offices. The exhibition program focuses on contemporary American and European art and also showcases the work of faculty, students and alumni. The exhibitions and art collection serve as an integral part of the studio and art history curriculum of the Art Department and offer an opportunity to other liberal arts students to test and broaden their perceptual and analytical abilities. Brochures and catalogues of major exhibitions are published by the Art Museum to enhance and contextualize the installations. Educational programs are offered by the University and Tampa Bay community.

In addition, the Art Museum houses the art collection of the University of South Florida which is composed of original graphics, drawings, photographs, and African and Pre-Columbian artifacts. Selections from this collection are loaned through the Art Bank program to museums and institutions throughout the United States.

DANCE (DAN)
The dance curriculum is designed for students interested in dance as an art form. Their objectives may be to continue their education in graduate school, to teach in a college, public or a private school, or pursue a career as a performer and/or choreographer.

Concerts are presented each semester as well as workshop performances. Noted professional dancers and companies perform on campus and in the community providing students with the opportunity of studying with visiting artists.
### Requirements for the B.A. Degree

**Performance Concentration**

**(44 semester hours minimum)**

4 levels of Ballet and Modern Technique, 3 levels of Jazz Dance

#### Suggested core curriculum pattern:

**First Year - All Majors**

- DAN 3100 (3) Introduction to Dance
- DAN 2610 (2) Music for Dance I
- DAN 2611 (2) Music for Dance II
- TPA 2223/32 (3) Theatre Crafts
- DAN 3590 (1) Practicum in Dance
  - (4) Fundamental Dance Techniques

**Second Year - all students (12 credit hours plus electives)**

- DAA 2160 (3) Modern Dance II (Ballet requirement, Modern elective)
- DAA 2201 (3) Ballet II (Modern requirement, Ballet elective)
- DAA 3700 (2) Choreography I
- DAA 3701 (2) Choreography II
- DAN 3590 (2) Practicum in Dance Production I
- DAN 4120 (3) Survey History of Dance

**Third Year - Modern Concentration (16 credit hours)**

- DAN 3161 (6) Modern Dance III
- DAN 3202 (3) Ballet III
- DAN 4702 (2) Choreography III
- DAN 4703 (2) Choreography IV
- DAN 3710 (1) Repertory
- DAN 4151 (3) 19th & 20th Century Dance History
- DAA 4906 (1) Directed Study (Junior Project)

**Third Year - Ballet Concentration (16 credit hours)**

- DAA 3202 (6) Ballet III
- DAN 3161 (3) Modern Dance III
- DAN 4702 (2) Choreography III
- DAN 3710 (1) Repertory
- DAN 4151 (3) 19th & 20th Century Dance History
- DAA 4906 (1) Directed Study (Junior Project)

**Fourth Year - Modern Concentration (14 credit hours)**

- DAA 4162 (8) Modern Dance IV
- DAN 3710 (1) Repertory
- DAA 4170 (2) Dance Senior Seminar
- DAA 4790 (1) Senior Project

**Fourth Year - Ballet Concentration (14 credit hours)**

- DAA 4203 (8) Ballet IV
- DAA 3220 (2) Ballet Variations
- DAN 3710 (1) Repertory
- DAA 4170 (2) Dance Senior Seminar
- DAA 4790 (1) Senior Project

### Dance Minor Program

A minimum of 20 hours are required for a dance minor. Ten of the 20 hours must be upper level (3000 and 4000) courses.

Courses for lower level (Minimum of 10 hours required)

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<thead>
<tr>
<th>Select from:</th>
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<tbody>
<tr>
<td>Theatre Dance Styles</td>
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<td>Introduction to Dance - 6A</td>
<td>DAN 2100 (3)</td>
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<tr>
<td>Modern I</td>
<td>DAA 2104 (2)</td>
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<td>Modern Dance II</td>
<td>DAA 2160 (3)</td>
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<td>Ballet I</td>
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<td>Music for Dance I</td>
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<tr>
<td>Dance Improvisations</td>
<td>DAA 2704 (2)</td>
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Courses for Upper Level (minimum of 10 hours required)

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<tr>
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<td>DAA 3080 (2)</td>
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<tr>
<td>Modern Dance III</td>
<td>DAA 3161(3-4)</td>
</tr>
<tr>
<td>Ballet III</td>
<td>DAA 3202(3-4)</td>
</tr>
</tbody>
</table>

### Performance

1. Pointe Class
2. Men's Class
3. Character Dance

### Jazz Dance

- Performance
- Jazz Dance
- Jazz Theatre Dance
- Practicum in Dance Production
- Choreography I
- Choreography II
- Survey Hist of Dance - 6A
- 19th & 20th Century Dance
- Modern Dance IV
- Ballet IV
- Teaching of Dance
- Choreography III
- Choreography IV
- DAA 4703(2)

### Selected Topics in Dance

1. Massage for Dance
2. Movement Lab

### Department Policy For Academic Progress

A maximum of 17 credit hours of Dance electives may apply toward the dance degree. TPA 2232 or 2223 Theatre Crafts: Lighting, or Costume (3) is required of all dance majors and may apply toward Area II of the General Distribution Requirements, or non-major electives, or the 6 hour Special College Requirement.

Dance majors must enroll for at least a minimum of 2 credit hours (1 per semester) in DAN 3590 Practicum in Dance Production. By doing technical preparation and working backstage in a minimum of two major concerts, the student will have a better grasp of production problems and their solutions. The major student is expected to earn 2 credits in DAN 3710 Repertory by performing in at least two faculty directed concerts in their junior or senior year.

Junior dance majors are required to complete a junior research project through directed studies (DAA 4906) and senior dance majors are required to choreograph a group work and perform a solo as a senior project.

Entrance to all major technique courses is by faculty examination. Until the student is accepted into Modern Dance III or Ballet III he/she will be considered as a probationary dance major. DAA 2160 or DAA 2201 may be repeated only once for credit towards degree requirements.

Prospective Majors are urged to contact the dance department to arrange for an audition prior to registration.

### Critiques

1. All students will be evaluated periodically at faculty sessions as well as critiqued per semester. Majors will be advised accordingly.
2. If the faculty feels that a student is deficient in some area which necessitates a probationary action, the student in question will be advised and asked to sign a probation form. This form is kept on file with the student’s advisor.
3. Failure to make satisfactory progress within the following semester shall constitute grounds for Departmental recommendation to drop and discontinue the major.

### Minimum Grade for Dance Courses

A student must receive a “C” grade or better in required major courses. Should a student fail to do so, the course(s) in which the student received a “D” or “F” must be repeated and a “C” grade or better earned.

### Additional Standards

In addition to meeting the specific requirements and standards discussed above, the student and adviser will periodically evaluate the student’s general progress. A less-than-satisfactory rating in one or more of the following areas could place the student on probation.
student on probation is given a specific amount of time to achieve a satisfactory rating before being dropped from the major program. The criteria are:

1. Adequate technical skill and adaptability.
2. Evidence of creative potential.
3. "B" average in major studio classes.
4. Good health which includes adequate control of body weight.

Class probation and department probation require review and final determination at the end of the subsequent semester. Students will be notified of the results of final faculty review, i.e., reinstatement in good standing or recommendation to drop major.

A dance major is expected to keep his/her weight at a level that is aesthetically acceptable to the dance faculty for classroom training and all performances.

For other non-major requirements see both Fine Arts College requirements and the University’s General Distribution and graduation requirements.

Requirements for a Minor in Dance
(20-semester-hour minimum)

1. Minimum of 10 semester hours upper-level courses (3000 and 4000 level courses).
2. Admission to all studio classes is by audition only (as with major students) and the student must be ranked by level before being admitted. Studio courses may be repeated for credit as stipulated in the Catalog.
3. Prospective students must contact the Dance department to arrange for an audition prior to registration. DAA 2160 and DAA 2200 may be repeated only once for credit toward the minor.
4. The student must audition each semester to stay at his/her present level or to advance to a higher level for all technique courses.

Transfer Student Requirements

Transfer students must complete a minimum of 8 credits in major technique on campus. The Dance faculty will consider a transfer of credits and/or a waiver of one or two credits for the remaining technique credits required upon the written request of the student. The written request must be accompanied by a letter of recommendation from the student’s former instructor. Such a request and letter of recommendation does not obligate the faculty to accept the credits the student wishes to transfer. No technique credits will be considered for transfer unless the university or college from which the student is transferring has a recognized major in dance.

Visiting Artists and Artists-in-Residence

By supplementing its excellent ongoing regular staff-instructed dance curriculum with other professional resources made available through the Visiting Artist and Artist-in-Residence programs, the Dance department provides for dance students an overall dynamic program for practice, study and learning.

MUSIC (MUS)

The B.M. Degree (Performance, Piano Pedagogy Composition and Jazz Studies):
The music curriculum is designed for students gifted in the performance and/or composition of music. Candidates for a major in music are required to pass an entrance audition in their respective performance area. Undergraduate students are required to submit appropriate scores and/or tapes of their compositions for faculty appraisal. All students admitted to the degree program must take a music theory diagnostic examination prior to scheduling music theory classes. Freshmen must pass this examination or enroll in a music fundamentals course which does not fulfill a requirement in the music major curriculum. Transfer students are required to take a similar placement test and enter at the appropriate level. Students may obtain dates and times for these examinations from the music department office.

Academic programs offered include:

Bachelor of Music degree with concentration in Performance (voice, jazz, piano, harp, guitar and orchestral instruments), Composition, and Piano Pedagogy, and Jazz Composition.

General Requirements:

All students seeking a Bachelor of Music degree are required to (1) complete successfully the piano proficiency and music theory-history-literature requirements; (2) present a partial recital during the junior year (except composition majors); (3) present a full recital during the senior year; (4) present a record of satisfactory recital attendance through registration in MUS 3001 (see the specific requirements for MUS 3001 as set by the music faculty). Those requirements are in addition to the course requirements listed below.

Core Requirements for all Performance Pedagogy and Composition Concentrations
(48-52 semester hours minimum):

Music Theory (22)

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Senior Seminar (1)

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Major Ensemble Performance and Pedagogy Majors (8), Composition (4)

All undergraduate students enrolled in applied music for 4 or 2 credit hours are required to be enrolled concurrently in a major ensemble appropriate to their performing medium.

Music Electives

- Performance Concentration: 10 hours
- Piano Pedagogy Concentration: 4 hours
- Composition Concentration: 10 hours

Core Requirements for Jazz Studies Performance and Jazz Studies Composition Concentrations
(54-58 semester hours minimum):

Music Theory (26)

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Music Literature (3)

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Senior Seminar (1)

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</thead>
<tbody>
<tr>
<td>MUS 4395 (1)</td>
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</tbody>
</table>

Elective Hours in Music (9)

Major Ensemble: Performance (8), Composition (4)

All students enrolled in applied music for 4 or 2 hours are required to enroll concurrently in a major ensemble appropriate to their performing medium.
Additional Requirements for Specific Concentrations:

Performance Concentration
A total of 32 credit hours of applied music major is required with a minimum of 8 hours to be completed at the senior level and concurrent registration in MUS 3001 (Recital Attendance).

Promotion to the next higher level in applied music is made upon the recommendation of the faculty in the student's respective performance concentration based upon a jury examination conducted by that concentration's faculty.

Piano Pedagogy Concentration
(86 semester hours minimum):
The following requirements for the piano pedagogy concentration are in addition to the above performance concentration requirements:

- Piano Pedagogy (8)
- MVK 4640 (4)  MVK 4641 (4)

Junior and senior recital requirements may be fulfilled in one of the following ways; (1) lecture/recital, (2) ensemble performance, (3) full recital with music.

Jazz Studies-Performance Concentration
The following courses are required in addition to the core requirements:
- MUT 3663 (2)  MUT 3664 (2)

Applied music (major) through the 3000 level (min. of 24 hours).

In addition to the major instrument Jazz Bass and Jazz Guitar majors are required to enroll for 4 credits in the corresponding double bass or classical guitar applied music lessons in addition to the major applied studies.

Jazz Studies-Composition Concentration
The following courses are required in addition to the core requirements:
- MUC 4203 (6)  MUC 2202 (3)  MUC 3203 (3)
- MUC 2201 (3)  MUC 3202 (3)

Applied music (principal) through the 2000 level (min. of 8 hrs.).

In addition to the principal applied music study Jazz Bass and Jazz Guitar majors are required to enroll for 2 credits in the corresponding double bass or classical guitar applied music lessons in addition to the principal applied studies.

Elective composition (6)

Composition Concentration
(72 semester hours minimum)
All students seeking a degree in music with a composition concentration are required to fulfill the senior composition requirements (with the approval of the entire composition faculty) in one of the following ways; (a) a complete public performance of works by the student composer, (b) the public performance of several compositions in various concerts throughout the composer's senior year, (c) the formal presentation to the composition faculty of an extensive portfolio of compositions plus the public performance of at least one of these works during the senior year, or (d) in other ways designated by the composition faculty.

Major Ensemble (4)
All undergraduate students enrolled in applied music for 2 credit hours are required to be enrolled concurrently in a major ensemble appropriate to their performing medium.

Applied Music (Principal) (8)
A minimum of 8 credit hours of applied music is required with a minimum of 4 credit hours at the 2000 level and concurrent registration in MUS 3001 (recital attendance).

Composition Courses (30)
Undergraduates concentrating in composition must complete a minimum of 24 credit hours from the following sequence of courses including MUC3402, and at least one semester of MUC4204, satisfying all necessary prerequisites for all courses:
- MUC 2201 (3,3)  MUC 3401 (3)  MUC 3411 (2)
- MUC 3202 (3,3)  MUC 3402 (3)  MUC 4312 (2)
- MUC 4203 (3)

and a minimum of 5 hours selected from
- MUC 2301 (2)  MUC 3601 (3)  MUC 4406 (3)
- MUC 3441 (3)  MUC 3602 (3)  MUC 4501 (2)
- MUC 3442 (3)  MUC 4405 (3)  MUC 3353 (3)

For other degree requirements for all the above concentrations, see Fine Arts College requirements and the University's General Distribution and graduation requirements.

MUSIC EDUCATION
Requirements for the B.S. Degree (MUE):
The music education curriculum is designed to serve students who wish to develop a high level of musical expertise and have a commitment to help develop similar musical potential in other people.

All students seeking a degree in music education are required to pass an audition in their respective performance area and to take a music theory placement test prior to registering for any music theory class. Students who do not pass the diagnostic test will be placed in a music fundamentals course which does not fulfill a requirement in the music major curriculum. All transfer students are required to take a theory placement test and enter at the appropriate level of study. Students may obtain the dates for these examinations from the music office.

Special requirements for all music education majors; successful completion of the piano proficiency requirements as defined by the music and music education faculties; participation in a major performing ensemble each semester the student is enrolled in applied music; and the presentation of a one-hour recital in the major performing medium during the last semester of enrollment in applied music.

Students are to present a record of satisfactory recital attendance through registration in MUS 3001 (see the specific requirements for MUS 3001 as set by the music faculty).

For other degree requirements see College of Education requirements and the University's General Distribution and graduation requirements.

Note exceptions applicable to this program.

1. Instrumental Specialization (72 cr. hrs.)
   Music Education courses (20 cr. hrs.)
   - MUE 2090 (1)  MUE 3450 (1)*  MUE 4311 (3)
   - MUE 3421 (1)  MUE 3451 (1)  MUE 4321 (3)
   - MUE 3422 (1)  MUE 3460 (1)**  MUE 4332 (3)
   - MUE 3423 (1)  MUE 3461 (1)  MUE 4480 (2)
   Must be taken up to two hours
   * Not required of woodwind majors
   ** Not required of brass majors

   Music courses (min. 52 cr. hrs.)
   - MUE 1111 (3)  MUE 2117 (3)  MUEH 3300 (2)
   - MUE 1211 (3)  MUE 2246 (1)  MUE 3301 (3)
   - MUE 1241 (1)  MUE 2247 (1)  MUE 3302 (3)
   - MUE 1242 (1)  MUE 2211 (3)  MUE 3101 (2)
   - MUE 2116 (3)

   Applied Music (Principal) 12 cr. hrs. 3000 level.
   Music electives (2)
   Applied Music Secondary (Techniques - 3 cr. hrs.)
   (One each: string, percussion, voice)
   Major performing ensembles
   (Minimum of one per semester of applied music - 6 cr. hrs.)
   Graduating recital
   Piano proficiency requirement
   Other Fine Arts Requirement
   Art, Dance, Theatre (min. 3 cr. hrs. to be selected from one or more of the other departments of the College of Fine Arts)
2. Vocal Specialization (72 cr. hrs.)
Music Education courses (16 cr. hrs.)
MUE 2090 (1) MUE 3423 (1) MUE 4352 (3)
MUE 3421 (1) + MUE 3450 (1) or 3451 (1)*
MUE 3452 (1) MUE 3460 (1) or 3461 (1)*
MUE 4331 (3) MUE 4311 (3)
*Must be taken up to two hours.
Other Fine Arts Requirement:
Music courses (min. 56 cr. hrs.)
MUT 1111 (3) MUT 2116 (3) MUT 2111 (3)
MUT 1112 (3) MUT 2117 (3) MUH 3300 (2)
MUT 1241 (1) MUE 3246 (1) MUH 3301 (3)
MUT 1242 (1) MUT 2247 (1) MUH 3302 (3)
MUG 3101 (2)
Applied Music (Principal) 12 cr. hrs. through 3000 level.
Applied Music Secondary (Techniques 2 cr. hrs.)
(one each: string, percussion)
Major Ensembles:
(Minimum of one per semester of applied music - 6 cr. hrs.)
Music Electives (7)
Piano proficiency requirement
Graduating recital
Other Fine Arts Requirement
Art, Dance, Theatre (min. 3 cr. hrs. to be selected from one or more of the other departments of the College of Fine Arts)

COLLEGE OF FINE ARTS 99
b. Applied Music (Principal) 8-12 hours
Performance Studio courses which may include up to 2 semester hours of class-studio (6-8)
Music Ensembles (2-4)
MUS 3001 Recital Attendance concurrent with applied music (principal) registration.
Faculty jury recommendations for sophomore-level studio study (minimum)
MUS 3002 (7-8)

3. Admission to all studio courses is by audition. Class or studio courses may serve as preparation for auditions. Registration in all music courses is by permission of the instructor. Studio courses may be repeated for credit as stipulated in the Catalog.

The Faculty:
USF's superior music faculty has been carefully chosen for its training, performing ability, and ability to teach. It is in every sense a team. This achievement has been demonstrated by such fine musical ensembles as the Faculty String Quartet, the Ars Nova (faculty) Wind Quintet, the Faculty Musart Piano Trio and the Faculty Jazz Quartet. USF music graduates are found teaching successfully in public schools and universities around the country and performing in a variety of concert settings.

Student Organizations:
Sigma Alpha Iota, national professional music fraternity for women, and Phi Mu Alpha Sinfonia, a professional music fraternity for men, are dedicated to serve the cause of music in America. College Music Educators National Conference is an affiliate of the Music Educators National Conference and is open to all interested students.

Financial Aid:
The University has made available to highly qualified undergraduate students a number of music service awards. Awards are made following open auditions held in January, February and March. The award is made for the following year for two semesters. Out-of-state tuition waiver is also possible. Also available are scholarships awarded in specified areas including Dawn Randall Zimmerman Flute Scholarship, Mary Corey Bogdanas Scholarship, Richey Symphony Society Scholarship Fund, Steve Panovich Scholarship, Marjorie Roe Cello Scholarship, and the Zbar Piano Award. Additionally, loans, grants and work programs are available to qualified University of South Florida students. Financial aid is granted on need, academic promise and talent.

SYCOM
The SYstems COMplex for the Studio and Performing Arts exists to provide essential instructional services and state-of-art reproducing, mixing, editing, and electronic sound generating and processing equipment (digital and analog) for development and implementation of exploitative research and creative activity by artists, scientists, and students (generally enrolled in related classes) at USF.
Basic recording facilities in Studio A include a custom designed 12 channel quad, mixing console, constructed around an OPAMS frame (with patchbay, remotes and monitor controls), an MCI eight-track recorder (1/2" format; 7 1/2, 15, 30 ips) with DBX 208, an Ampex ATR 102 two-track recorder with Dolby A, a TEAC 40-4 four-track recorder with DBX, a MIC MIX stereo reverber and four White 1/3 octave equalizers, four JBL 4315 B studio monitors are powered by two Yamaha amplifiers. Eu Systems provides a modular synthesizer with a real time 16 voice microprocessor controlled, keyboard/sequencer (6000 notes of storage, cassette "load and store" of software, a Prophet-5 and Emulator complete sound generating capabilities). Computer facilities
include a standard Z80 cpu (system upgradable to a Z8000) with 64 K of RAM, and IBM compatible, digital tape drive (7 or 9 track; 800 or 1600 BPI), a 29 megabyte Shugart disk, two 500 K double density floppy diskettes, four channels of 12 bit d to a for synthesizer control (8 for pitch; 8 for amplitude; 16 separate triggers), one channel of analog-to-digital conversion and two Hazeltine 1500 terminals. A Megasystems hybrid microprocessor/sequencer with 2000 notes of storage and an array of specialized software entered on a standard ASCII terminal is also available. Peripherals include a Technics SL 1600 MK2 turntable system, an Akai GX-M50 cassette deck, a frequency counter and a digital clock.

Written proposals for individuals or group projects to be sponsored or subsidized by SYCOM and/or extramural granting agencies should be submitted for consideration to the director of SYCOM. The subsequent results of project activities will be exhibited in the form of public lectures, performances, reports, publications, or large theatrical events and special workshops, such as Sound Gallery, the Event/Complex Series, Art-Tech Workshop, and the new music/media festival, INTER-MUSE.

Unique Learning Opportunities:
The music department at the University of South Florida offers the student the opportunity to study with a distinguished faculty, work with the newest in creative equipment, and to be in the company of other superior music students for an extensive, exciting and exciting period of study. In addition to the already established programs in the music education, choral, orchestral and wind ensemble areas, opportunities are now available in jazz with performances with the jazz ensemble and chamber jazz ensembles, a full range of jazz courses and professional playing opportunities in the area.

Visiting Artists and Artists-in-Residence:
The Department of Music utilizes guest composers, conductors, and performing musicians to enhance its offerings in terms of teaching faculty, forum appearances, and the conducting of musical programs, symposia, and clinics. Some prominent musicians who have appeared in the past are:

- Norman Dello Joio
- Randall Thompson
- Virgil Thompson
- Walter Trampler
- Fred Hemke
- Lukas Foss
- Maurice Andre
- Jean Pierre Rampal
- Adele Adison
- Byron Janis
- Louis Bellson
- David Samuels
- Julius Baker
- Ransom Wilson
- T. J. Anderson
- Hale Smith
- George Russell
- Art Blakey
- Andre Watts
- Olly Wilson
- Guarneri String Quartet
- Beaux Arts Trio
- Boris Goldovsky
- Gregg Smith
- Norman Luboff
- Phil Woods
- David Baker
- John Cage
- Karel Husa
- Leslie Bassett
- Samuel Adler
- Gunther Schuller
- Robert Merrill
- Doc Severinsen
- Bethany Beardslee
- Robert Shaw
- Toshiko Akiyoshi
- Christopher Hogwood

one of the following areas of study: Performance, Design, Theatre Arts, or Theatre Education. To allow for greater preparation in design, a Bachelor of Fine Arts degree in Design is offered. The department also offers a minor in Theatre. For advanced upper level students a Theatre Honors Program of specialized courses is offered, often involving guest artist residencies.

Through the production program, which includes a variety of performances for the university community and the general public, the student is encouraged to participate in all aspects of theatre practice. The Department also offers opportunities to the advanced student to work with visiting professional companies.

Visiting Artists and Artists-in-Residence:
TheatreUSF actively promotes guest artists on campus. A partial list of the internationally known artists and the theatres with which they are affiliated includes: Edward Albee, Marge Barstow, Joseph Chaikin, Daniel Chunley, Martin Easlin, Mirian Goldina, Boris Goldovsky, Henry Hewes, Bob Kelly, Mesrop Kesdekian, Michael Kirby, Arthur Lithgow, Marcel Marceau, Siobhan McKenna, Bob Moody, Estelle Parsons, Olga Petrovna, Ben Piazza, Sergei Ponomarow, Alan Schneider and Doug Watson; London's West End, The Actors' Studio, Dublin's Abbey Theatre, Broadway, Washington's Arena Stage, San Francisco Mime Troupe, The Stratford Ontario Shakespeare Festival, The Welsh National Theatre, BBC, the London Academy of Music and Dramatic Art, the Working Theatre, Coventry's Belgrade Theatre, East Berlin's Deutscbs Theatre, Free Theatre of Munich, the Socialist Republic of Armenia and Poland.

Requirements for the B.A. Degree with a major in Theatre:
Of the total 124 credit hours needed for graduation in the Performance, Design, or Theatre Arts areas, the student following a Performance area must take a minimum of 54 credit hours, and the student following the Design area or Theatre Arts area must take a minimum of 55 credit hours within the Department of Theatre. In addition, a maximum of 11 credit hours (Performance) and a maximum of 10 credit hours (Design or Theatre Arts) may apply to the theatre electives area. Of the 137-140 total credit hours needed for graduation in the Theatre Education area, the student must take a minimum of 54 credit hours within the Department of Theatre and a minimum of 37-40 credit hours within the College of Education.

The student may choose one of four areas for the B.A. degree: Performance, Design, Theatre Arts, or Theatre Education. Common to all is the following core:

Core Curriculum (35 hours)

- First Year (11 credit hours)
  - THE 2020 2 credit hours
  - TPA 2200 3 credit hours
  - TPA 2223 3 credit hours
  - TPA 2110 3 credit hours

- Second Year (10 credit hours)
  - THE 3110 4 credit hours
  - TPA 3086 3 credit hours
  - TPA 3111 3 credit hours

- Third Year (8 credit hours)
  - Choice of two:
    - THE 4320 3 credit hours
    - THE 4370 3 credit hours
    - THE 4423 3 credit hours
    - plus 2 credits of either THE 3925 or THE 4927 for Pi*

- Fourth Year (6 hours)
  - Choice of one:
    - THE 4180 4 credit hours
    - THE 4562 4 credit hours
    - plus 2 credits of either THE 3925 or THE 4927 for Pi*
All Theatre Majors must complete 4 Pl's (Production Involvement) as part of their graduation requirements. Pl's must be taken under:

THE 3925 Performance 1 credit hour and/or
THE 4927 Advanced Performance 1 credit hour

for a total of four (4) hours. Students may register for Pl credit in the second semester of the Sophomore year and are expected to register each consecutive semester until completion of four involvements. A graduation requirement.

All students desiring admittance into the Scene Study sequence must audition and those entering the upper level Design sequence must have a portfolio review.

Required Courses for Areas of Study:

Performance Area
(54 hours minimum with core) - 19 hours as follows:

- **Second Year (4 hours)**
  - TPP 3500 2 credit hours
  - TPP 3790 2 credit hours

- **Third Year (6 hours)**
  - TPP 4140 3 credit hours
  - TPP 4150 3 credit hours

- **Fourth Year (7 hours)**
  - TPP 4152 4 credit hours
  - TPP 4180 3 credit hours

Design Area
(55 hours minimum with core) - 20 hours as follows:

- **First Year (3 hours)**
  - Complete Theatre Crafts sequence with TPA 2223 or TPA 2232

- **Second Year (3 hours)**
  - TPA 4211 3 credit hours
  - ART 3301 4 credit hours

- **Third Year (6 credit hours)**
  - Choice of 2 depending on choice of design area:
    - TPA 3221 3 credit hours
    - THE 4264 3 credit hours or
    - THE 4266 3 credit hours

- **Fourth Year (8 credit hours)**
  - Choice of 2 depending on design area:
    - TPA 4020 4 credit hours
    - TPA 4040 4 credit hours
    - TPA 4060 4 credit hours

Theatre Arts Area

The Theatre Arts area is intended for the student who, in consultation with the Theatre Advisor, wishes to construct his/her own degree program from a broad spectrum of theatre courses. In addition to courses in performance and design, areas of study available are Puppetry, Playwrighting, Stage Management, Directing, Literature and Criticism.

(55 hours minimum with core) - 20 hours as follows:

Two credit hours from any of the Performance sequence of courses (TPP) plus eighteen hours to be selected from the Theatre Department's course offerings.

Theatre Education Area

The Theatre Education area prepares students for the Florida Drama Teaching Certification exam for Grades 6-12. In addition to Department of Theatre requirements students must meet the College of Education's upper level entrance requirements and complete 37-40 credit hours in Education.

(54 hours minimum with core in Theatre Department) 19 hours as follows:

- **First Year (3 hours)**
  - Complete Theatre Crafts sequence with TPA 2223 or TPA 2232

Second Year (9 hours)

- TPP 3500 or TPP 3790 2 credit hours
- Complete 8 credit hours from the following
  - TPA 2220 1 credit hour
  - TPA 3260 3 credit hours
  - TPA 4211 3 credit hours
  - THE 4264 3 credit hours

Third year (6 hours)

- TPP 4150 3 credit hours
- TPP 4310 3 credit hours

(37-40 hours minimum in College of Education)

- Foundations (9 hours)
  - EDF 3214 3 credit hours
  - EDF 3604 3 credit hours

- General Methods (9 hours)
  - EDG 4320 3 credit hours
  - THE 4723 3 credit hours or
  - THE 4722 3 credit hours

- Special Methods (7-10 hours)
  - RED 4332 3 credit hours
  - EEX 4070 2-3 credit hours
  - EME 4402 2 credit hours

- Practical Experience (12 hours)
  - EDG 4940 10 credit hours
  - EDG 4936 2 credit hours

Freshman Lab and Production Involvement:

TPP 2200, TPP 2232 and TPP 2233 have a weekly 4 hour laboratory (LAB) in addition to weekly lectures (3 hours).

Beginning with the second semester of the sophomore year, the Theatre major is expected to enroll each succeeding semester in either THE 3925 or THE 4927 (1 credit). All theatre majors must satisfy four Pl's before they are approved for graduation. The Pl's are assigned by the faculty and are usually construction or running crews or performance assignments. Each assignment entails a minimum of 55 hours.

Requirement for a Minor in Theatre
(23 hours minimum):

- TPP 2223 3 credit hours
- TPA 2020 2 credit hours
- TPA 2200 3 credit hours
- THE 4927 1 credit hour

The remaining 10 hours are to be selected by the student with the advice of the theatre advisor. At least 9 hours must be upper level courses. The Theatre Advisor will be available to assist the student in developing a course of study that will meet the needs of the individual student. Students desiring admittance into the Scene Study sequence must audition and those entering the upper level Design sequence must have a portfolio review.

All Theatre Minors must complete 2 Pl's (Production involvement) as part of their graduation requirements. Pl's must be taken under: THE 3925 - Performance 1 credit and/or THE 4927 - Advanced Performance 1 credit hour for a total of two (2) hours. Students may register for Pl credit in the second semester of the Sophomore year and are expected to register each consecutive semester until completion of two involvements.

Requirements for the B.F.A. Degree in Design:

The student should submit a letter of application as early as the second semester of the Junior year. This should be accompanied by a transcript and a detailed description of production involvement.

Admission to the B.F.A. program is by audition or portfolio presentation and acceptance by the Design faculty committee.

As soon as the B.F.A. candidate has been accepted into the program, the Chairman of the Theatre Curriculum Committee in conference with the student and with the approval of the department
chairman will select the student's Advisory Committee. The Advisory Committee will be composed of three members of the Theatre faculty.

This committee has the responsibility to develop a curriculum designed to meet the specific needs of the student and will decide if the following requirements have been met and appropriate standards maintained:

Completion of the appropriate Department of Theatre B.A. requirements.

Development and execution of a creative project.

Participation in one summer session.

A minimum of 30 credit hours above the B.A. including 6 credits of non-theatre electives. (Theatre courses taken prior to the appointment of the B.F.A. Advisory Committee and without the advice of the Committee cannot be considered part of the B.F.A. program.)

Design Concentration
7 hours in Creative Project and Execution:
THE 4905 or THE 5909 (Research & Design Creative Project) (4 credit hours) and

TPA 4012 Project Design: Honors (3 credit hours)
Complete third area of design and prerequisite (7 credit hours) 10 credit hours of additional electives of which 6 must be outside the Department of Theatre.
PLUS 6 credit hours.
TPP 4310 Directing I (3 credit hours)
THE 4900 Directed Reading (3 credit hours)

Honors Program
The Honors Program is available to upper level majors who have a 3.0 overall GPA in the major, and who have achieved a comparably high level of artistic and/or scholarly achievement. A 6-8 credit one-year sequence of courses is offered to students accepted into the Honors Program.
THE 45932 credit hours
THE 45943 credit hours
THE 45951-3 credit hours
Students in the College of Natural Sciences are trained in the tools of logical analysis and the modes of experimentation in the continuing attempt to better understand the nature of man and his relationship to the universe. In all its functions the College is dedicated to fostering a spirit of inquiry and intellectual growth.

The College of Natural Sciences offers programs in biology, including botany, microbiology, and zoology; chemistry; geology; marine science; mathematics; medical technology; and physics. These programs are designed for students planning scientific careers in the science fields or for those planning professional careers having a considerable component of science. These students will typically major in one of the sciences or in a combination of sciences as preparation for employment, or admission to professional or graduate schools.

In addition, the college administers advising for the preprofessional sciences non-degree program, the medical technology and clinical chemistry degree program. These programs combine specialized counseling and curriculum planning to assist the student in gaining admission to professional schools or internship programs.

**BACCALAUREATE LEVEL DEGREE PROGRAMS**

**Admission to the College**

To be admitted to the College of Natural Sciences a student must make written application. Upon admission, the student will be assigned a faculty advisor for counseling and program planning. Students preparing for a science or mathematics career must plan their courses carefully because of the sequential nature of the science curricula, and students seeking entrance into a professional school or medical technology internship program require specialized counseling. Because of this, immediate application for admission into the college is strongly recommended.

Information on admission criteria, departments, majors, programs, counseling, and other services of the college may be obtained from the Office of the Dean, College of Natural Sciences, University of South Florida, Tampa, Florida 33620.

**General Requirements for Degrees**

In addition to the University graduation requirements, the requirements for graduation in any undergraduate degree in the college are as follows:

1. Completion of a major program with a grade of “C” or higher in each course. A major program is defined to be courses in a department of concentration plus supporting courses in related departments. All courses in the major program must be taken with letter grade (A, B, C) except those courses which are graded S/U only. For a more detailed description of the major program requirements, consult the appropriate departmental section. Certain courses offered in the college are designed for the non-science major or the non-departmental major. These courses are designated “For non-major,” “No credit for (department) major,” “No credit for science majors,” or some similar phrase. For these courses the following rules apply:
   - “For non-majors” - For majors in the college, the course will count as credit toward graduation only as a free elective.
   - “No credit for (department) major” - the course will not count toward graduation for a science major in the specified department, but will count toward graduation as a free elective for all non-specified departments.
   - “No credit for science majors” - the course will not count toward graduation for any major in the college.

2. Satisfaction of the University General Distribution Requirements, except:
   a. In area III, the minimum requirement of six hours in mathematics may be waived by credit in at least six hours of Mathematics courses required by the major.
   b. In area IV, the minimum of six hours in Natural Sciences may be waived by credit in at least six hours of natural sciences courses required by the major.

3. Completion of the College of Natural Sciences Liberal Arts Electives Requirements. This is 15 hours of courses from the Colleges of Fine Arts, Social and Behavioral Sciences, or Arts and Letters beyond the required University General Distribution Requirements. The student may elect any course from any of these colleges provided:
   a. No more than 9 hours are taken in courses in any one department.
   b. The courses are taken with letter grades (A, B, C, D). Courses taken to satisfy the University General Distribution Requirements may not be used to satisfy this requirement. However, “Gordon Rule” writing courses may be used, if not used in General Distribution Requirements.

4. Subsequent to admission to the college, a student must complete at least 30 credit hours of letter graded courses in the college, of which at least 12 hours must be applicable to a major. Up to 2 credits of elective physical education, and up to 9 credits in military science courses MIS 1000, 3404, 4421 may count as free electives toward graduation. Credits transferred from other schools will not be included in the grade point average computed for graduation. For graduation with honors, see section in Academic Policies and Procedures.

The college or department in the college may have specific requirements in addition to those listed in this catalog. College rules or requirements are on file in the dean’s office, and departmental rules or requirements are on file in each department office. The student is responsible for meeting all graduation requirements.

5. Satisfactory completion of the College Level Academic Skills Test and the writing and computation course requirements of State Rule 6A-10.30.

**Grading Systems**

The College of Natural Sciences will provide some evaluation of performance in all structured undergraduate courses prior to the drop deadline.

Typically, courses in the University receive letter grades (A, B, C, D, F, I). However, the college recognizes that educational competence may be achieved and demonstrated by experiences other than classroom attendance leading to letter grades. The attention of the student is directed to the following:

1. CLEP and other advance placement examinations.
2. Waiver by either documentation or examination.
3. Off-Campus Term programs.
4. Cooperative Education Program.
5. Independent Study

   a. With the exception of courses graded S/J only, all courses required to satisfy the departmental major and all supporting science courses are considered in the student's major program and may not be taken S/J. However, once the requirements of the major program have been satisfied, subsequent courses taken in the major or supporting areas are considered free electives and may be taken S/J. All hours required to complete the Liberal Arts Elective Requirement of 15 hours must be taken by letter grade.

   b. With the exception of ENC 1101 and ENC 1102, all courses in the General Distribution Requirements and all courses in free electives may be taken S/J. There is no restriction regarding the number of hours to be taken S/J except the graduation requirement that the student must earn at least 30 credit hours with letter grades in the College of Natural Sciences subsequent to formal admission to the college.

   c. Students will be permitted to enroll in a course for an S/J on the basis of a written contract signed by the student, and the instructor of the course. This contract must be completed no later than the third week of the semester in which the course is offered.
Programs Leading to the Baccalaureate Degree
The College offers the Bachelor of Arts degree with majors in Chemistry (CHM); Geology (Gly); Mathematics (MTH); Physics (PHY); and Interdisciplinary Natural Sciences (INS) with a concentration in one of the above disciplines or in Biology. The College offers the Bachelor of Science degree with majors in Biology (BOS), Botany (BTS), Microbiology (MIS), and Zoology (ZOS); Chemistry (CHS), Clinical Chemistry (CHC); Geology (GLS); Medical Technology (MET); and Physics (PHZ).

The College has two unique tracks within the Biology degree, Biotechnology and Environmental Science. The College also has a combined B.A./M.A. program in Chemistry and in Mathematics. For specific requirements, consult appropriate departmental sections of this Catalog.

Academic Minor Programs
Academic Minors are offered in the departments of Geography and Mathematics. To complete a minor, a student must satisfy the course requirements found in the departmental sections of this catalog and must satisfy the University requirements. In addition, the student must earn a grade of "C" or higher in each course used to meet a minor requirement of departments of the College of Natural Sciences.

PREPROFESSIONAL SCIENCES
The University of South Florida is an excellent location to prepare for a health profession. The Veterans Administration Hospital, University of South Florida Medical Center, Shriner's Hospital for Crippled Children, H. Lee Moffitt Cancer Center and Research Institute, University of South Florida Mental Health Institute, and University Community Hospital are within walking distance of the campus and offer students excellent opportunities for observation, research, and experience.

The College of Natural Sciences offers programs designed to prepare students for admission to professional schools of medicine, osteopathic medicine, dentistry, optometry, podiatric medicine, and veterinary medicine. Usually these professions require four years of preprofessional preparation followed by four years of training in a professional school. A few well-prepared students with exceptional qualifications may be admitted to some professional schools as early as the completion of the junior year of preprofessional work. The preprofessional programs do not meet requirements for a degree. Students should plan to complete a degree while at USF because professional schools prefer students with a bachelor's degree, although they do not specify the choice of major. Most preprofessional students major in the sciences because of their interests in the health sciences, and because of the considerable overlap between an optimal preprofessional curriculum and the degree requirements for majors in the biology and chemistry departments. The College also offers two-year programs leading to the A.A. degree that prepare students for admission to programs in the health professions of pharmacy and physical therapy. Entrance into all professional schools or programs is competitive, and students should begin establishing a record of excellence with the first semester at USF. Furthermore, it is essential that students pursue courses developing a sense of understanding of cultural and humane values and basic social problems.

The College of Natural Sciences provides academic advising in the Preprofessional Sciences Advising Office. The office maintains a library of current catalogs and books on admission requirements for professional schools and is an important resource center for preprofessional students. Students considering one of the health professions should contact the College of Natural Sciences during the first semester at USF to declare their interest in a preprofessional sciences program. Students are then assigned to the Preprofessional Sciences Advising Office for curriculum planning, and each semester the office provides students with updated academic records. The advisors constitute the Preprofessional Sciences Committee, which evaluates students at the time they apply to professional schools. The Committee's evaluation is based upon academic record and test scores, individual evaluations submitted by five faculty members, and an interview. The evaluation is important in the admission selection process and is sent to every school where students are applying.

Preprofessional Sciences Program
The Preprofessional Sciences Program is designed to prepare students for admission to professional schools of dentistry, medicine, osteopathic medicine, and podiatric medicine. All of these professional schools have in common the following course requirements, which should be completed by the end of the junior year, the usual time of application:

**Biology:**
- BSC 2010C (4)
- ZOO 2010C (4)

**Chemistry:**
- CHM 2045 (3)
- CHM 2045L (1)
- CHM 2046 (3)
- CHM 2048L (1)

**Physics:**
- PHY 2053 (3)
- PHY 2053L (1)
- PHY 2054 (3)
- PHY 2054L (1)

**Mathematics:**
- MAC 2233 (4)
- MAC 2234 (4)

In addition to these requirements it is generally expected that preprofessional students will complete two semesters of English. CLEP credit usually is not acceptable to professional schools.

The following courses are recommended by some professional schools:

**Biology:**
- MCB 3030C (4)
- ZOO 4693 (4)
- PCB 4184C (4)
- PCB 3063 (3)
- PCB 4743C (4)
- ZOO 3713C (4)
- PCB 4023 (4)
- PCB 5235 (3)

**Chemistry:**
- BCH 3033 (3)
- CHM 3401 (3)
- CHM 3120C (4)
- CHM 3400 (3)

**Mathematics:**
- MAC 2233 (4)
- STA 3023 (4)
- or
- STA 3122 (3)

**Physics:**
- PHY 2053 (3)
- PHY 2053L (1)
- PHY 2054 (3)
- PHY 2054L (1)

**Preoptometry Program**
Optometry schools differ somewhat in requirements, but all optometry schools require at least two years of preoptometry studies, and most schools require the following courses:

**Biology:**
- BSC 2010C (4)
- ZOO 2010C (4)
- MCB 3030C (4)

**Chemistry:**
- CHM 2045 (3)
- CHM 2045L (1)
- CHM 3120L (1)
- CHM 2046 (3)
- CHM 2046L (1)

**Mathematics:**
- MAC 2233 (4)
- or
- STA 3122 (3)

**Physics:**
- PHY 2053 (3)
- PHY 2053L (1)
- PHY 2054 (3)
- PHY 2054L (1)

The following additional courses are required by schools that have contracts with the State of Florida: MAC 2234, BCH 3033, PCB 4743C, PSY 2012, PSY 3013, and a social sciences elective. Some schools also recommend or require ZOO 3713C, and one school also requires APB 3190.
Pre-Veterinary Medicine Program
The Pre-Veterinary Medicine program meets admission requirements of the University of Florida College of Veterinary Medicine, the only veterinary school in the state. Admission into veterinary school is highly selective, and to be competitive students should obtain experience working with animals, preferably through employment with a veterinarian. Pre-veterinary students should complete a degree in the major of their choice while including the following entrance requirements:

**Biology:**
- BSC 2010C (4)
- PCB 3063 (3)

**Chemistry:**
- CHM 2045 (3)
- CHM 2046L (3)
- CHM 3211L (1)
- BCH 3033 (3)

**Mathematics:**
- MAC 2233 (4) or MAC 3311 (4)

**Physics:**
- PHY 2053 (3)
- PHY 2053L (1)
- PHY 2054 (3)
- PHY 2054L (1)
- PHY 2054 (3)
- PHY 2054L (1)
- PHY 2054 (3)
- PHY 2054L (1)

It is required that students have a minimum of 80 hours including 6 hours of English with one course in composition, 6 hours of social science, 8 hours of humanities, and 7 hours of animal science courses which should be completed at the University of Florida no later than the summer prior to application. Recommended courses are ZOO 3713C, APB 3190, STA 3023, AMH 2010 or AMH 2020, PSY 2012, DEP 3103, SYG 2000, and a health or physical education elective.

**Pre-pharmacy Program**
The College offers a two-year program to prepare students for transfer to regional colleges of pharmacy. Pre-pharmacy students must complete general education requirements and include the following science requirements:

**Biology:**
- BSC 2010C (4)
- ZOO 2010C (4)

**Chemistry:**
- CHM 2045 (3)
- CHM 2046L (3)
- CHM 3211L (1)

**Mathematics:**
- MAC 2102 (3)
- MAC 2132 (4)
- MAC 2233 (4) or MAC 3311 (4)

**Physics:**
- PHY 2053 (3)
- PHY 2054 (3)
- PHY 2054L (1)

In addition, certain regional schools require 3 or more hours of economics, statistics, and additional hours of electives in speech or communication and social and behavioral sciences. Prepharmacy students should take the Pharmacy College Admission Test (PCAT) in the fall of the sophomore year and apply to pharmacy schools at that time.

Pre-Physical Therapy Program
This two-year program prepares students for entrance into upper level physical therapy programs at Florida institutions. Pre-physical therapy students must complete general education requirements and include the following science requirements:

**Biology:**
- BSC 2010C (4)
- ZOO 2010C (4)

**Chemistry:**
- CHM 2045 (3)
- CHM 2046L (3)
- CHM 2045L (1)
- CHM 2046L (1)

**Physics:**
- PHY 2053 (3)
- PHY 2053L (1)
- PHY 2054L (1)

It is required that students have a minimum of 80 hours including 6 hours of English with one course in composition, 6 hours of social science, 8 hours of humanities, and 7 hours of animal science courses which should be completed at the University of Florida no later than the summer prior to application. Recommended courses are ZOO 3713C, APB 3190, STA 3023, AMH 2010 or AMH 2020, PSY 2012, DEP 3103, SYG 2000, and a health or physical education elective.

B.A. Degree for Medical and Dental Students
Students who are admitted to an approved U.S. medical or dental school after completing their junior year at the University of South Florida may be awarded the B.A. degree in Interdisciplinary Natural Sciences from the College of Natural Sciences subject to the following conditions:

1. Transfer of a minimum of 30 semester hours in science courses from an approved medical or dental school.
2. Fulfillment of the following minimum requirements in attendance at the University of South Florida:
   a. 90 hours with at least a "C" average (2.000).
   b. Completion of a minimum of 24 hours in the department of major concentration and a minimum of 16 hours in supporting courses in the College of Natural Sciences outside the department of major concentration. The 24 hours in the department of major concentration must be in courses applicable to a major in that department. The 16 hours in supporting courses must also be taken in courses applicable to a major in that department and must include a minimum of two courses at the 3000 level or above. At least a "C" must be earned in each course in both major concentration and supporting courses.

3. Credit in the following courses:

   **Biology:**
   - BSC 2010C (4)
   - ZOO 2010C (4)

   **Chemistry:**
   - CHM 2045 (3)
   - CHM 3210 (4)
   - CHM 2046L (1)
   - CHM 3211L (1)

   **Mathematics:**
   - MAC 2102 (3)
   - MAC 2132 (4)
   - MAC 2233 (4) or MAC 3311 (4)

   **Physics:**
   - PHY 2053 (3)
   - PHY 2054 (3)
   - PHY 2054L (1)
   - PHY 2054 (3)
   - PHY 2054L (1)
   - PHY 2054 (3)
   - PHY 2054L (1)

   4. A minimum of 20 credits from the following courses:

      **Biology:**
      - PCB 3063 (3)
      - ZOO 4693 (4)
      - MCB 3030C (4)

      **Chemistry:**
      - CHM 2045 (3)
      - CHM 3210L (1)
      - CHM 2046L (1)

      **Mathematics:**
      - MAC 2132 (4)
      - MAC 2233 (4)
      - MAC 3311 (4)

      **Physics:**
      - PHY 2053 (3)
      - PHY 2054L (1)
      - PHY 2054 (3)
      - PHY 2054L (1)

5. Completion of the General Distribution requirements of the College of Natural Sciences.

6. At least 30 credit hours with letter grades earned in the College of Natural Sciences.

7. The last 30 credit hours prior to transfer to a medical or dental school in residence at the University of South Florida. Application for the baccalaureate degree must be received no later than two years from the date of entrance into the professional school.
TEACHER EDUCATION PROGRAMS

The College of Natural Sciences offers B.A. and M.A. degree programs for secondary school teachers and the M.A. degree for junior college teachers.

The B.A. Degree Program for Secondary School Teachers:

The College of Natural Sciences in cooperation with the College of Education offers degree programs in Mathematics (MAE), in Biology (BOE), in Chemistry (CHE), in Physics (PHE) and in Science (SCM). Because requirements exist in both colleges, a student will have an advisor in each college. At the outset, the planned courses in mathematics and science must be approved by the student's advisor in the College of Natural Sciences.

There are two options available to the student to satisfy the science portion of the program:

1. The student may complete the requirements of the departmental major. Departmental majors in Botany and Zoology may be found in this section of the catalog under the heading Biology. The departmental requirements of Chemistry, Mathematics, and Physics are found in this section of this catalog under the respective headings in Chemistry, Mathematics, and Physics.

2. The student may complete requirements of the Interdisciplinary Natural Sciences major with concentration in Biology, Chemistry, Physics, and Mathematics. A complete description of this major is found in the College of Education Section. This major is particularly appropriate for Science Education majors (SCM).

Prospective students should consult the College of Education portions of this catalog under the heading "Science Education (SCE)" for the required education courses and sample programs.

CURRICULA

BIOLOGY (BIO/BOT/MIC/ZOO)

In addition to a set of basic courses in biology, students must have a thorough preparation in other areas of natural sciences in order to be competitive for jobs or for further study beyond the baccalaureate. A modern biology curriculum is built on a foundation of mathematics, chemistry and physics. Four specific Bachelor of Science degrees (Biology, Botany, Microbiology, and Zoology) are available for students interested in the biological sciences. They are all preparatory for careers in teaching, agriculture, medicine, dentistry, marine biology, biotechnology, or for post-graduate study in any of the various life sciences.

The Department attempts to schedule sequences of 5000 level courses which allow seniors in the Biology program to concentrate in such areas as: Ecology, Cell & Molecular Biology, Physiology, and Marine Biology. Students should study the requirements listed below and then make maximum use of the vigorous advising program maintained by the Department in structuring their total program. A reading knowledge of a modern foreign language (German, French, or Russian) is strongly recommended for those who intend to enter graduate school.

Requirements for the B.S. Degree

1. Department of Biology Courses

   a. Biology Core Courses (Required for all B.S. degrees, 19 cr. hrs.)

      BSC 2010C (4)
      Two of the following:
      BOT 2010C (4) ZOO 2010C (4)
      MCB 3030C (4)
      PCB 3063 (3) and PCB 4023C (4)

   b. Individual Degree Requirements

      BIOLOGY MAJOR (BIO) (21 cr. hrs.)

      One of the following:
      PCB 4743C (4) MCB 4404 (4)
      plus one of the following:
      PCB 4184C (4) ZOO 4693C (4)
      ZOO 3713 (4)

      The remaining credits may be taken from electives in the department, structured and applicable to the major to meet the minimum requirement (at least 8 hours must be at the 4000 level or higher). BSC 3033 may apply toward the Biology electives as well as 4 hrs. of BSC 4910.

      BOTANY MAJOR (BOT) (21 cr. hrs.)

      BOT 2010C (0) ZOO 2010C (0) or MCB 3030C (0)
      BOT 4503 (4)
      PCB 4043C (3) or equivalent

      Of the remaining credits, not less than 9 must be selected from structured Botany (BOT) courses at the 4000 level or above.

      Additional credits to meet the minimum may be taken from courses (BOT, BSC, PCB) applicable to the major. A maximum of four (4) hours of BSC 4910 may apply towards the Botany electives (no more than two (2) hours per semester).

      MICROBIOLOGY MAJOR (MIC) (24-27 cr. hrs.)

      BOT 2010C (0) or ZOO 2010C (0)
      MCB 3030C (0)
      MCB 4115 (5)
      APB 4053C (5)
      or PCB 5235C (3)
      MCB 4404 (4)
      MCB 4505C (3)
      plus
      BCH 3033 (3) and BCH 3033L (2)
      BCH 5065 (3) and BCH 3033L (2)
      Plus one of the following:
      APB 5575C (4) or BOT 4434C (3)
      ZOO 5235C (4)

      ZOOLOGY MAJOR (ZOO) (19-22 cr. hrs.)

      ZOO 2010C (0)
      BOT 2010C (0) or MCB 3030C (0)
      PCB 4043C (3) or PCB 4743C (4)
      PCB 4674 (3)

      Three (3) additional structured courses from the Zoology section of the catalog (ZOO, PCB, ENY) or BSC 3283, PCB 4253, PCB 5415, or PCB 5835C (which are listed in the Biology section of the catalog).

2. Supporting Courses in the Natural Sciences (required for all B.S. degrees, 27-38 cr. hrs.)

   Chemistry

   CHM 2045 (3) CHM 2046 (3)
   CHM 2045L (1) CHM 2046L (1)
   or the following four courses:
   CHM 3210 (4) CHM 3211 (4)
   CHM 3210L (1) CHM 3211L (1)
   or the following four courses:
   CHM 3210 (4) CHM 3211 (4)
   CHM 3210L (1) CHM 3211L (1)
   NOTE: CHM 3210, 3210L, 3211, 3211L are especially recommended for biology majors considering graduate or professional schools.

   Mathematics

   MAC 2233 (4) MAC 2234 (4)
   or the following two courses:
   MAC 3311 (4) MAC 3312 (4)
   or the following two courses:
   MAC 3281 (3) MAC 3282 (3)

   Physics

   PHY 2053 (3) PHY 2054 (3)
   PHY 2053L (1) PHY 2054L (1)
or the following four courses
PHY 3048 (3)       PHY 3049 (3)
PHY 3048L (1)      PHY 3049L (1)

3. General Distribution requirements (required for all B.S. degrees, 18 cr., assuming waivers of Areas 3 and 4). Each student is required to satisfy the General Distribution requirements of the College of Natural Sciences. The selection of courses within the requirements is to be done in conference with Biology Department advisors.

4. Liberal Education Electives
The student must satisfy 15 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences.

5. Free Electives (including General Distribution Waivers) can be taken over and above major requirements and major electives to complete a 120-hour program.

TECHNICAL DEGREES WITHIN THE DEPARTMENT OF BIOLOGY
The Department of Biology offers specialized technical degrees (tracks) within the General Biology B.S. degree, emphasizing Environmental Science and Biotechnology.

The Environmental Science Tracks are designed to provide both a strong Liberal Arts education in Biology and the technical skills for active participation in resource management and conservation. These tracks are more structured than traditional degree programs and will require some additional course work (beyond 120 hrs). However, completion of the tracks will better prepare students for graduate school in any of the environmental disciplines, or for applied Biology vocations.

ENVIRONMENTAL SCIENCE TRACK: B.S. IN BOTANY

I. Department of Biology
Major requirements (min. 40-41 hrs.)
BSC 2010C (4)   ZOO 2010C (4)   BOT 2010C (4)
PCB 3063(3)    PCB 4023C (4)   PCB 4043C (3)
BSC 4933C Sel. Topics in Ecology* or PCB 5306C (4)
BOT 4503 (4)
BSC 4933C Sel. Topics in Ecology* or BOT 5605C (3)
BOT 4713C (4)
BOT 5185C (3) or BOT 4434C (3) or Approved Sel. Top.*
*(by approval of biology advising committee)

ENVIRONMENTAL SCIENCE TRACK: B.S. IN ZOOLOGY

I. Department of Biology
Major requirements (min. 40-41 hrs.)
BSC 2010C (4)   ZOO 2010C (4)   BOT 2010C (4)
PCB 3063(3)    PCB 4023C (4)   PCB 4043C (3)
BSC 4933C Sel. Topics in Ecology* or PCB 5306C (4)
ZOO 3203C (4)  PCB 4743C (4)   PCB 4647 (3)
BSC 4933C Sel. Topics in Ecology* or PCB 5235C (3) or ZOO 5555 (4)
*(by approval of biology advising committee)

II. Supporting Courses for both Environmental Science Tracks
(min. 34**-38 hrs.)
CHM 2045 (3)   CHM 2045L (1)   CHM 2046 (3)
CHM 2046L (1)  CHM 3200 (4)   CHM 3210L (1)
or CHM 3210 (4)  CHM 3210L (1)
CHM 3211 (4)   CHM 3211L (1)
STA 3023 (4)   MAC 2233 (4)   MAC 2234 (4)
or MAC 3111 (4)  MAC 3312 (4)
PHY 2053 (3)   PHY 2053L (1)   PHY 2054 (3)
PHY 2054L (1)
*(by approval of biology advising committee)

III., IV., and V. General university requirements.
To ensure a multidisciplinary approach, the environmental science tracks require specific courses to meet the general distribution, liberal arts, and free elective requirements. These requirements are available from advisers in the Department of Biology.

BIOTECHNOLOGY TRACK: B.S.
The Biotechnology Track in Biology is designed for students planning to pursue careers in Biotechnology either upon completion of the baccalaureate or after further training at the graduate level. The curriculum provides broad emphasis in Cell Biology, Molecular Biology, and Microbiology.

I. Department of Biology
Major Requirements min. 38 hrs.
BSC 2010C (4)
One of the following courses:
ZOO 2010C (4) or BOT 2010C (4)

plus
PCB 3063 (3) MCB 3030C (4) PCB 4023C (4)
PCB 4064 (3)

One of the following three courses:
PCB 4743C (4) BOT 4503 (4) MCB 4404 (4)

Plus three from the following courses plus electives in the department, structured and applicable to the major at the 4000 level or higher to meet minimum requirement:
APB 4553C, PCB 5235C, CHE 4100C or ETE 5100,
MCB 4505, PCB 5515C

II. Supporting Courses (min. 43-48 hrs.)
CHM 2045 (3) CHM 2045L (1) CHM 2046 (3)
CHM 2046L (1) CHM 3210 (4) CHM 3211L (1)
CHM 3211 (4) CHM 3211L (1) BSC 3033 (3)
BCH 3033L (2)
MAC 3281 (3)
MAC 3282 (3)
MAC 3283 (3)
MAC 3311 (4)
MAC 3312 (4)
MAC 3313 (4)

or

PHY 3048-3049L (8) or PHY 2053-2054L (8)
plus
PHS 3101 (2)
COP 3170 (3)

III. General Distribution Requirements (Required for all B.S. Degrees, 18 cr., assuming waivers of Areas III & IV). Each student is required to satisfy the General Distribution requirements of the College of Natural Sciences. The selection of courses within the requirements is to be done in conference with Biology Department advisers.

IV. Liberal Education Electives
The student must satisfy 15 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences.

V. Free Electives (Including General Distribution waivers) must be taken over and above university requirements to complete a 120 hour program.

Teacher Education Programs:
For information concerning the degree programs for secondary school teachers and junior college teachers, see the College of Education in this catalog and the USF Graduate Catalog.

Marine Biology:
The field of marine biology is especially important in Florida, and there is a good demand for trained personnel. Several faculty members in the department teach courses and conduct research in this area. Undergraduates interested in specializing in marine biology may do so by taking marine-oriented courses offered within the department. Appropriate courses include:
BSC 3263 (Marine Biology)
BOT 5155C (Marine Botany)
ZOO 3203 (Introductory Invertebrate Zoology)
ZOO 5555C (Marine Animal Ecology)
ZOO 5335C (Biogeography)
The Biology Department offers M.S. degrees and the Ph.D. degree which allow specialization in marine biology.

CHEMISTRY (CHS/CHM/CHC)

The Department of Chemistry offers three degrees at the baccalaureate level, Bachelor of Arts degree in Chemistry, Bachelor of Science degree in Chemistry, and Bachelor of Science degree in Clinical Chemistry, and two degrees at the graduate level, Master of Science and Doctor of Philosophy, each with specialization in the areas of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. In addition, a Master of Arts degree in Chemistry is offered as part of a carefully integrated accelerated B.A.-M.A. program. The chemistry faculty is comprised of 28 full-time faculty members, all of whom hold the Ph.D. degree. A comparable number of teaching assistants, generally graduate students enrolled in the Ph.D. program, serve as instructors in the laboratories. The combination of a large and strong faculty with a wide variety of courses and electives provides students with programs of study which can be tailored to fit individual needs while maintaining a sound background in all general aspects of chemistry.

The Bachelor of Science degree in Chemistry (CHS) is a rigorous program which supplies the foundation in chemistry required for both the student who begins a chemical vocation immediately upon graduation as well as the one who pursues advanced study in chemistry or related areas. In accord with this goal the curriculum for the B.S. degree meets the requirements for degree certification by the American Chemical Society.

The Bachelor of Science degree in Clinical Chemistry (CHC) offered by the Department of Chemistry, one of only a few such programs in the country, is specifically designed to train personnel for this new and growing field of the medical profession; however, the strong scientific background and specific technical expertise provided by this program also afford the student an excellent preparation for graduate study in clinical chemistry. The Bachelor of Science degree in Clinical Chemistry (CHC) meets the requirements for degree certification by the American Chemical Society. Interested students should see the Coordinator of the Clinical Chemistry Program in the Department of Chemistry for further information.

The Bachelor of Arts degree (CHM) provides a course of study designed for the student who does not intend to become a professional chemist but whose career goals require a thorough understanding of chemistry. Inherent in this program is a high degree of flexibility which permits tailoring a course of study to the student's own educational objectives. As such it offers considerable advantages to pre-professional students planning careers in medicine and the other health-related fields and an excellent preparation for primary and secondary school teachers of chemistry or physical science. The B.A. student whose goals change in the direction of graduate work in chemistry should supplement this curriculum by addition and/or substitution of a selection of advanced courses from the B.S. program.

The combined Bachelor of Arts-Master of Arts program is a carefully integrated, accelerated course of study and research in which an exceptionally able student can earn both degrees within five years from entry as a freshman or three from entry as a junior college transfer. The B.A. coursework is augmented, and research is undertaken continuously from the junior year onwards, so that the student who elects to exit from the program at the bachelor's level, to enter medical school, for example, can depart with a degree which meets requirements for American Chemical Society certification and with an unusually strong research background. For the student who continues into the graduate year, the M.A. program allows considerable freedom of choice among the available chemistry courses, so that the student's own preference within chemistry may be cultivated with unusual intensity. Research and coursework proceed without interruption, there being no additional admission requirements or diagnostic examinations, and the graduate degree is earned by the end of the summer of the graduate year. Upon completion of the program, the student is exceptionally well placed to continue to professional school or to further graduate work leading to the doctorate degree.

Requirements for the Baccalaureate Degrees

1. Chemistry Courses*

<table>
<thead>
<tr>
<th>B.A. CHEMISTRY (CHM)</th>
<th>39 cr. hrs.</th>
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<tbody>
<tr>
<td>CHM 2045 (3)</td>
<td>CHM 3210 (4)</td>
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<tr>
<td>CHM 2046 (3)</td>
<td>CHM 3211 (4)</td>
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<tr>
<td>CHM 2046L (1)</td>
<td>CHM 3211L (1)</td>
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<tr>
<td>CHM 2046 (3)</td>
<td>CHM 3400 (3)</td>
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<tr>
<td>CHM 2046L (1)</td>
<td>CHM 3402C (1)</td>
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<tr>
<td>CHM 3610C (4)</td>
<td>CHM 3210C (4)</td>
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</tbody>
</table>

Chemistry electives (3000 level or above; may include not more than one hour of CHM 4970 (6))

B.S. CHEMISTRY (CHS) (50 cr. hrs.)

| CHM 2046 (3)         | CHM 3211 (4) |
| CHM 2046L (1)        | CHM 3211L (1) |
| CHM 3210 (4)         | CHM 3210C (4) |
| CHM 3210L (1)        | CHM 4060 (1) |
| CHM 4131C (4)        | CHM 4410 (3) |
| CHM 4610 (3)         | CHM 4411 (3) |
| MAC 3314 (3)         | BCH 3033 (3) |

B.S. CLINICAL CHEMISTRY (CHC) (49 cr. hrs.)

| BCH 3033 (3)         | CHM 3211 (4) |
| CHM 3211L (1)        | CHM 2045 (3) |
| CHM 2045L (1)        | CHM 4410 (3) |
| CHS 4100C (3)        | CHM 4412 (3) |
| CHM 4131C (4)        | CHM 4413 (3) |
| CHM 4302 (4)         | CHM 4410L (1) |
| MAC 3314 (3)         | CHM 4411L (3) |

Electives (must be acceptable for credit towards a Natural Science College discipline major) (8)

B.S. CLINICAL CHEMISTRY (CHC) (37-40 cr. hrs.)

| BSC 2010C (4)        | MCB 3010C (4) |
| PHY 4744C (3)        | COC 3300 (3) |

| MAC 3281 (3)         | MAC 3311 (4) |
| MAC 3282 (3)         | MAC 3312 (4) |
| MAC 3283 (3)         | or          |
| APB 3190 (5)         | PCB 4743C (4) |
| PHY 2053 (3)         | PHY 3048 (3) |
| PHY 2053L (1)        | PHY 3048L (1) |
| PHY 2054 (3)         | PHY 3049 (3) |
| PHY 2054L (1)        | PHY 3049L (1) |

B.S. CHEMISTRY (CHS) (20-23 cr. hrs.)

| MAC 3281 (3)         | MAC 3411 (4) |
| MAC 3282 (3)         | MAC 3412 (4) |
| MAC 3283 (3)         | MAC 3413 (4) |
| PHY 3048 (3)         | PHY 3049 (3) |
| PHY 3048L (1)        | PHY 3049L (1) |

Natural Science or Engineering Elective (3000-4000 level except PHY 3020) (3)

The required sequence of Chemistry courses should be started immediately in the freshman year and the mathematics and physics requirements should be completed before the junior year so that CHM 3400 (B.A. degree) or CHM 4410 (B.S. degree) can be commenced at that time. CHM 4410 is a prerequisite also to other advanced courses required for the B.S. degree in chemistry. CHM 4060 also is a prerequisite to several BS degree courses.

2. Supporting Courses in the Natural Sciences

B.A. CHEMISTRY (CHM) (24 cr. hrs.)

| MAC 3281 (3)         | MAC 3311 (4) |
| MAC 3282 (3)         | MAC 3312 (4) |
| MAC 3283 (3)         | or          |
| APB 3190 (5)         | PCB 4743C (4) |
| PHY 2053 (3)         | PHY 3048 (3) |
| PHY 2053L (1)        | PHY 3048L (1) |
| PHY 2054 (3)         | PHY 3049 (3) |
| PHY 2054L (1)        | PHY 3049L (1) |

B.S. CHEMISTRY (CHS) (20-23 cr. hrs.)

| MAC 3281 (3)         | MAC 3411 (4) |
| MAC 3282 (3)         | MAC 3412 (4) |
| MAC 3283 (3)         | MAC 3413 (4) |
| PHY 3048 (3)         | PHY 3049 (3) |
| PHY 3048L (1)        | PHY 3049L (1) |

The student must satisfy 15 hours of liberal education electives as
described in item 3 of the graduation requirements of the College of Natural Sciences.

5. Free Electives (including General Distribution waivers)
   B.A. CHEMISTRY (CHM); 24 cr. hrs.
   B.S. CHEMISTRY (CHS); 20-23 cr. hrs.
   B.S. CLINICAL CHEMISTRY (CHC); 0-3 hrs.

In choosing elective courses students are urged to consider additional advanced courses in physics and mathematics as well as courses in the closely allied sciences such as biology and geology. Additional courses in computer programming, economics, management, engineering statistics, writing, and other applied disciplines are strongly recommended to strengthen the degree for subsequent professional employment.

Transfer Credit
It is strongly recommended that students transferring from community/junior colleges to the University of South Florida complete whole sequences of chemistry courses, such as general and organic chemistry, before the transfer. Even though courses may carry the same common course number, topics may vary sufficiently from school to school to leave the transfer student ill-prepared to proceed within a sequence.

Teacher Education Programs:
For information concerning the degree programs for secondary school teachers, see College of Education section this Catalog and Junior college teachers, see USF Graduate Catalog.

Requirements for the Combined BA-MA Program:

Admission
Regular admission to the program will normally occur towards the end of the sophomore year or early in the junior year, or at transfer from junior college. Students who have completed not less than ten semester credit hours of chemistry courses, and have maintained a "B" average in chemistry courses and overall, may apply. Applications will be considered individually and applicants may be called for interview. Provisional admission may be granted to incoming freshmen whose academic background and performance indicate the likelihood of their meeting the regular requirements in due course. It should be noted that, in view of the heavy research component and orientation of the program, and the limitations of facilities and individual faculty time available for research direction, admission to the program is by no means automatic upon meeting minimum requirements.

Course Requirements
Undergraduate: The B.A. coursework curriculum (q.v.) is augmented as follows:
1. CHM 4410, 4412, and 4130C (or CHS 4310C) replace CHM 3400, 3401 and 3402C.
2. Chemistry coursework hours (excluding research) total 40 rather than 39.
   Graduate: Not less than 20 credit hours of formal, regularly scheduled chemistry graduate courses, including not less than two of the five core courses (BCH 5065, CHM 5225, CHM 5425, CHM 5621, CHM 6150). At least 10 of the credit hours must be at the 6000 level. The core course requirement may be waived in part or entirely by recommendation of the supervisory committee on the basis of past work, performance on a test, or substitution of more comprehensive and advanced courses.

Research and Thesis
CHM 4970 (12) CHM 6973 and CHM 6971 (10)
To satisfy the research credit hour requirements and to produce results suitable for publication in a refereed scientific journal, it will be necessary for the student to be enrolled during the summers of his junior, senior and graduate years. Completion of the program will require the presentation and formal defense of a research thesis for the master's degree.

Supervision and Promotion
A supervisory committee consisting of two faculty members will be appointed for each student admitted to the program. A carefully planned individual timetable will be worked out and progress will be monitored each semester. Continuation from the senior year into the graduate year will be contingent upon the maintenance of the "B" average in chemistry and overall, and upon satisfactory recommendation by the student's research director. Diagnostic and qualifying examinations will not be required of students in this program. The supervisory committee during the graduate year will consist of three faculty members, including the research director.

GEOLOGY (GLY)
The Department of Geology offers programs leading to the Bachelor of Arts or Bachelor of Science degree, and to a Master of Science degree. Geology is one of the broadest of all sciences because of its dependence on fundamentals of biology, chemistry, mathematics, and physics as applied to the study of the earth. As a result, undergraduate students are expected to obtain a broad background in the other sciences as well, as a concentration in geology.

The Bachelor of Science degree program is designed to provide the geology major with a broad foundation that will prepare the student for employment in industry or with various governmental agencies, as well as the necessary training to continue study in graduate school. The Bachelor of Arts program is designed primarily for the liberal arts student who has interest in the subject but is not preparing for a career in the field or for the pre-professional school student. A student who elects the B.A. program and decides to pursue the geology profession or attend graduate school will need at least physics and field geology in his/her program.

The graduate program in geology allows the student to specialize in nearly all of the major areas of concentration. Because of the geographic and geologic location of the University in a rapidly expanding urban center of coastal Florida, there is a number of areas of specialization which are being emphasized. These include coastal geology, hydrogeology, low temperature and pollution geochemistry, applied geophysics, geology of sedimentary rocks, structural geology, volcanology, paleontology, and phosphate deposits. All of these are closely related to local problems of the environment.

Requirements for the B.A. Degree:
1. Geology Courses (30 sem. hrs.)
   GGY 2010 (4) GYY 3610 (4) GLY 4550 (3)
   GGY 2100 (4) GYY 4200 (4) GLY 4930 (1)
   A minimum of 2 sem. hrs. from GLY 4920 (1)
2. Supporting Courses (22-28 sem. hrs.)
   a. CHM 2045 (3) CHM 2046 (3)
   b. CHM 2045L (1) CHM 2046L (1)
   c. One year of calculus (MAC 2233, 2234 or 3311, 3212, or 3281, 3282). STA 3023 may be substituted for one semester of calculus.
   d. STA 3023 (3)
   e. Two courses in biology or physics selected from:
      BSC 2010C (4) BOT 2010C (4) ZOO 2010C (4)
      PHY 2053-2053L (4) PHY 2054-2054L (4)
      or PHY 3048-3048L (4) PHY 3049-3049L (4)
3. General Distribution Courses (40 sem. hrs. excluding waivers.) The student is required to satisfy the General Distribution requirements of the College of Natural Sciences.
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4. Liberal Education Electives
The student must satisfy 15 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences.

5. Free Electives (including Distribution waivers) (29-35 sem. hrs.)

Requirements for the B.S. Degree:

1. Geology (40-42 sem. hrs.)
   - GLY 2010 (4)
   - GLY 3610 (4)
   - GLY 4220 (5)
   - GLY 2100 (4)
   - GLY 4200 (4)
   - GLY 4550 (3)
   - GLY 3400 (4)
   - GLY 4930 (1)
   - GLY-prefixed, structured electives (6)
   - A minimum of 2 sem. hrs. from:
     - GLY 4920 (1)
   - Field Geology requirement: GLY 4791 (3) and GLY 4792 (3).

2. Supporting Courses (22-26 sem. hrs.)
   - CHM 2045 (3)
   - CHM 2046 (3)
   - CHM 2045L (1)
   - CHM 2046L (1)
   - MAC 3281 (3)
   - MAC 3282 (3)
   - PHY 3048 (3)
   - PHY 3049 (3)
   - PHY 3048L (1)
   - PHY 3049L (1)

3. General Distribution Courses (40 sem. hrs. excluding waivers).
   - The student is required to satisfy the General Distribution requirements of the College of Natural Sciences.

4. Liberal Education Electives
   - The student is required to complete the liberal education electives of the College of Natural Sciences.

5. Free Electives (including Distribution Waivers) 19-25 sem. hrs.
   - The student will choose, in consultation with his/her Geology advisor, such courses in the College of Natural Sciences that support his/her major interest in the field of Geology. Courses in computer programming and additional Mathematics are of particular value. Those students who anticipate continuing for a doctorate in graduate school are encouraged to take a foreign language, preferably French, German, or Russian. All geology majors are strongly urged to take a course in technical writing.
   - All entering students anticipating a major in Geology are advised to enroll in:
     - GLY 2010
     - CHM 2045
     - CHM 2046
     - GLY 2100
     - CHM 2045L
     - CHM 2046L
   - in the freshman year and to seek curriculum counseling with a Geology advisor.

Minor in Geology
A minor in geology consists of 16 credit hours and must include GLY 2010 and 2100. Additional courses, approved by the geology advisor, are designed to complement the student's major program. Only those courses which are acceptable toward the major in geology may be used toward the minor.

Teacher Education Programs:
Prospective elementary and secondary school teachers desiring to teach science should include basic courses in Geology and related sciences as part of their curriculum.

INTERDISCIPLINARY NATURAL SCIENCES (INS)
The Bachelor of Arts in the Interdisciplinary Natural Sciences major is designed for majors seeking a broad program in the College and for majors in Science Education and Mathematics Education. For information on teacher certification in science or mathematics, prospective teachers should consult the section entitled Teacher Education Programs, and also consult the College of Education section of the catalog.

The requirements for graduation for this degree are the same as those contained in College of Natural Science General Requirements for Degree except that item 1 of the requirements is altered as follows:

1a. For Science Education and Mathematics Education Majors only completion of a major consisting of a minimum of 45 hours in College of Natural Sciences courses applicable to a major in the College. In these hours there must be a minimum of 24 credit hours in a discipline of major concentration and a minimum of 16 credit hours in supporting courses outside the discipline of major concentration. At least two of the supporting courses must be at the 3000 level or above. The student must earn a grade of “C” or better in each course in the major concentration and in each supporting course.

1b. For College of Natural Sciences Majors only completion of a minimum of 45 credit hours in College of Natural Sciences courses applicable to a major in the College. In these hours there must be a minimum of 24 credit hours in a discipline of major concentration and a minimum core of supporting courses comprising a calculus sequence and the introductory science sequence from each department in the College outside the discipline of major concentration. Courses in the supporting core must be taken from the following:

   - BSC 2010C (4) and one of the following:
     - BOT 2010C (4)
     - ZOO 2010C (4)
     - MCB 3010C (4)
   - CHM 2045 (3)
   - CHM 2046 (3)
   - CHM 2045L (1)
   - CHM 2046L (1)
   - MAC 2233 (4)
   - MAC 2234 (4)
   - MAC 3311 (4)
   - MAC 3312 (4)
   - MAC 3313 (4)
   - MAC 3281 (3)
   - MAC 3282 (3)
   - MAC 3283 (3)
   - PHY 2053
   - PHY 2053L
   - PHY 2054
   - PHY 2054L
   - PHY 2054L

   - The student must earn a grade of “C” or better in the major concentration and in each supporting course.

MATHMATICS (MTH)
The Department of Mathematics offers a diversity of courses designed not only to enable the student to pursue a profession in mathematics itself, but also to enhance his competence in the fields of engineering, the physical sciences, the life sciences, and the social sciences. The department offers programs leading to the B.A., M.A., and Ph.D. degrees. The undergraduate program emphasizes the broad nature of modern mathematics and its close associations with the real world. The program is designed to prepare students for entry into graduate school or careers in industry or secondary education.

The department has a flexible Ph.D. program which is designed to encourage students to take an active role in the shaping of their own curricula. This flexibility is coupled with a desire to promote interdisciplinary research. In cooperation with the Departments of Marine Science and Physics, and the Colleges of Engineering and Medicine, the department offers special Ph.D. programs in the applications of mathematics. While programs in the more traditional areas of pure mathematics are offered, the department is committed to emphasizing applied mathematics at both the graduate and undergraduate levels. For both undergraduate and graduate work, students and faculty have access to the University's computers, an IBM 3033 and 3081, and to the college's Harris minicomputers.

The Department of Mathematics consists of 32 full-time faculty members, whose areas of interest include algebra, applied mathematics, applied statistics, approximation theory, celestial mechanics, complex analysis, functional analysis, graph theory, harmonic analysis on Lie groups, logic, mathematical physics, nonlinear functional analysis, number theory, ordinary differential equations, partial differential equations, probability theory, real analysis, statistics, theoretical computer science, and topology.
Requirements for the B.A. Degree

The courses taken to satisfy the requirements below will constitute the major program referred to in the general graduation requirements of the College of Natural Sciences.

1. Mathematics Requirement (Min. 46 cr. hrs.)

Majors must complete the following core courses:

- CGS 3422 Computer Applications of Mathematics -6A (3)
- MAA 4211 Advanced Calculus I -6A (4)
- MAA 4212 Advanced Calculus II -6A (4)
- MAC 3311 (formerly MAC 3411) Calculus I -6A (4)
- MAC 3312 (formerly MAC 3412) Calculus II -6A (4)
- MAC 3313 (formerly MAC 3413) Calculus III -6A (4)
- MAT 4302 Differential Equations -6A (3)
- MAS 3103 Linear Algebra -6A (5)
- MAS 4301 Elementary Abstract Algebra -6A (3)
- MAT 4937 Mathematics Majors Seminar -6A (2)
- STA 4442 Introduction to Probability -6A (3)

In addition, majors must complete four (4) courses (including one sequence) from the following electives:

- COP 4210 (3) MAA 5306-5307 (6)
- MAD 5101 (3) MAA 5405-5406 (6)
- MAA 5305 (3) MAA 4124-4401 (6)
- MAP 5205 (3) MAP 5316-5317 (6)
- MAS 5107 (3) MAP 5407-5406 (6)
- MAS 5215 (3) MAA 5311-5312 (6)
- MAA 5405 (3) MAA 5315-5317 (6)
- MTG 4212 (4) STA 4442-4321 (6)
- STA 5206 (4) STA 5166-5167 (6)

Majors in mathematics for teaching should consult the section Mathematics (MAE) on mathematics requirements.

The following is a suggested course program for the first two academic years:

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Year</td>
<td>Sophomore Year</td>
</tr>
<tr>
<td>MAC 2132</td>
<td>MAC 3311</td>
</tr>
<tr>
<td>MAC 3312</td>
<td>MAC 3313</td>
</tr>
<tr>
<td>MAS 3103</td>
<td>MAS 4301</td>
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</tbody>
</table>

Students with a strong background in high school mathematics may omit MAC 2132. Students with a strong background in algebra, but who are deficient in trigonometry, should take MAC 2114 instead of MAC 2132.

2. Mathematics-related Courses (6-8 cr. hrs.)

Majors, except for majors in mathematics for teaching, must take two courses with laboratories in the College of Natural Sciences, outside the Department of Mathematics, that are required courses for some major within the college.

Majors will not receive credit toward graduation for the following courses:

- AST 3033
- GEB 3121
- STA 3122
- ECO 4402
- PHY 3020
- GEB 2111
- STA 3023

Majors wishing to take a course in statistics should take STA 4321.

Teacher Education Programs:

For information concerning the degree programs for secondary school teachers, see the junior college teachers section in the USF Graduate Catalog.

Mathematics Minor

Although open to all students, the minor in mathematics is designed particularly for students in science and engineering who wish to enhance their mathematical capabilities to benefit their major. A student wishing to receive a minor in mathematics must take the following courses:

- Total credit hours required: 29 (minimum)
- CGS 3422 Computer Applications of Mathematics -6A (3)
- MAA 4211 Advanced Calculus I -6A (4)
- MAA 4212 Advanced Calculus II -6A (4)
- MAC 3311 (formerly MAC 3411) Calculus I -6A (4)
- MAC 3312 (formerly MAC 3412) Calculus II -6A (4)
- MAC 3313 (formerly MAC 3413) Calculus III -6A (4)
- MAS 3103 Linear Algebra -6A (3)
- MAS 4301 Elementary Abstract Algebra -6A (3)

In addition, students wishing to receive a minor must take two courses with laboratories in the College of Natural Sciences, outside the Department of Mathematics, that are required courses for some majors within the college.

Accelerated BA/MA Program

This program is designed for superior students having a solid background in high school mathematics and the ability to handle a fast-paced, challenging program leading to a BA and MA degree in mathematics in four to five years. The program meets all the requirements for the BA degree, but requires the students to take those 5000 and 6000 level courses required for the MA degree during his last two years in the program. By awarding up to 20 hours of dual credit (undergraduate and graduate), the student also uses these courses to satisfy the requirements for the MA in mathematics. Further information is available on request from the Mathematics Department (974-2643).

Honors Program in Mathematics

The program is designed for students who wish to obtain a B.A. degree that will indicate unusual strength in the field of mathematics. Successful completion of the program will be prominently displayed on the student's diploma and will be recorded on the official U.S.F. transcript of the student's work.

Students are eligible for admission to the program when they (a) have completed MAS 3103 (Linear Algebra), MAA 4301 (Elementary Abstract Algebra) and one of the calculus sequences MAC 3281-3283 or MAC 3311-3313, (b) have at least a 3.0 average in their college courses, and (c) have at least a 3.5 average in their college mathematics courses. Applications are submitted to the undergraduate committee of the mathematics department.

The requirements for a B.A. Degree in Mathematics with Honors are as follows:

1. Successful completion of the requirements for a B.A. Degree in Mathematics.
2. Six credits of those graduate level mathematics courses at U.S.F. that are prerequisites for qualifying examinations required by mathematics graduate degree programs.
3. At least two credits in MAT 4939, Mathematics Honors Seminar.
4. Successful completion of MAT 4970, Mathematics Senior thesis.
5. An overall 3.0 G.P.A., with at least a 3.5 G.P.A. in all mathematics courses.

MEDICAL TECHNOLOGY (MET)

Medical Technology is one of the growing professions associated with the advances in modern medical science. Working in the clinical laboratory, the medical technologist performs chemical, microscopic, bacteriologic, and other scientific tests to help track the cause and treatment of disease. This talent requires specialized training and a baccalaureate degree is essential preparation for certification as a medical technologist.

The University of South Florida offers a four-year program leading to the Bachelor of Science degree in Medical Technology. A student electing to major in Medical Technology will spend the first three years of the program on the campus of the University of South Florida; the fourth year (12 months) will be spent in one of the affiliated hospitals or clinical laboratories. Admission to the fourth year is limited by the number of openings in the affiliated hospitals. Selection of interns is made by the hospitals.

During the first three years, the medical technology student will complete the liberal arts and basic science requirements for entrance into the fourth year of the program for clinical training. To remain in good
standing as a Medical Technology major during this period, a reasonable grade point average, determined by the College of Natural Sciences, must be maintained. To be eligible for entrance into the program’s fourth year, the student must have completed not less than 90 credit hours of work (excluding physical education courses). Of these hours, at least 20 credit hours must be from the College of Natural Sciences at the University of South Florida (in courses approved by the Director of the Medical Technology Program). The following courses must be included in the three years of work which precedes the fourth year of clinical training.

1. Biological Sciences
   A minimum of 16 hours is required with at least one course in microbiology and one course in immunology. Physiology APB 3190 or PCB 4743C) and Determinative Bacteriology (MCB 4115) are strongly recommended.

2. Chemistry
   A minimum of 18 hours is required including one semester of Elementary Organic Chemistry (CHM 3200, CHM 3210L; CHM 3210 and 3211 may be substituted for CHM 3200) and one semester of Elementary Analytical Chemistry (CHM 3120C). Biochemistry (BCH 3033) and Clinical Chemistry (CHS 4300) are strongly recommended.

3. Physics
   A minimum of 8 hours (one full-year majors-type course) is required.

4. Mathematics
   A minimum of 6 hours including at least one course at the level of College Algebra (MAC 2233) or Elementary Calculus I (MAC 2233) is required. Statistics (STA 3122 or STA 3023) is required.

5. General Distribution Requirements
   Courses satisfying the general distribution requirements of the College of Natural Sciences.

6. Courses in non-science fields to insure a broad background.
   Upon successful completion of this curriculum, recommendation by the College, and acceptance by one of the affiliated hospitals or clinical laboratories, the student will complete 12 continuous months of training at that hospital or laboratory.

   This training period usually begins in late July or early August of each year, but a few begin in January or February. During this period, one will continue to be registered as a full-time student of the University and will receive a total of 30 credit hours of work in:
   - MLS 3031
   - MLS 4801
   - MLS 4860
   - MLS 4863

   These courses will be taught at the hospital or clinical laboratory. Students successfully completing this program will be granted a Bachelor of Science degree in Medical Technology.

**PHYSICS (PHY/PHS)**

The Department of Physics offers programs leading to a Bachelor of Arts or a Bachelor of Science degree, and to a Master of Science degree. Both thesis and non-thesis programs are available for the M.S. degree.

Qualified graduate students with appropriate backgrounds may obtain a Ph.D. in Applied Mathematics or Engineering Science. An interdisciplinary arrangement with the Department of Mathematics and with the College of Engineering provides for such an opportunity. Students should consult with the Physics Graduate Adviser for details.

At the graduate level, thesis research areas include solid state physics, semiconductor physics, applied physics, atomic-molecular physics, quantum electronics and laser physics, theoretical physics, and medical applications of physics. Supporting facilities include computers, from Departmental PCs to the University’s main-frame, as well as machine, electronics, and glass-blowing shops.

**Requirements for the Baccalaureate Degrees:**

1. **Physics Courses**
   - B.A. PHYSICS (PHY) (34 cr. hrs.)
     - PHY 3048 (3)
     - PHY 3232L (2)
     - PHY 4324C (4)
   - B.S. PHYSICS (PHS) (44 cr. hrs.)
     - PHY 3048 (3)
     - PHY 3323C (4)
     - PHY 4604 (3)

2. **Physics Electives** (6)
   - PHY 3049 (3)
   - PHY 4222 (3)
   - PHY 4910 (1)
   - PHY 4930 (1)

3. **Supporting Courses in the Natural Sciences**
   - B.A. and B.S. PHYSICS (20 cr. hrs.)
     - PHY 3101 (3)
     - PHY 3102 (1)
     - PHY 4861 (2)
     - PHY 4862 (2)
     - PHY 4863 (2)

**Notes:**

1. The sequence PHY 3101 (3), PHY 3102 (1), PHY 4861 (2), PHY 4862 (2), and PHY 4863 (2) may be substituted for the sequence indicated.

2. Substitutions permitted subject to approval of adviser.

3. General Distribution Requirements
   (40 cr. hrs. excluding waivers)
   The student is required to complete the general distribution requirements of the College of Natural Sciences. Selection of a foreign language, preferably French, German, or Russian is also strongly recommended.

4. Liberal Education Elective
   The student must satisfy 16 hours of liberal education electives as described in Item 3 of the graduation requirements of the College of Natural Sciences.

5. **Free Electives**
   (Including general distribution waivers) to complete a 120 hour program.

**Teacher Education Programs:**
For information concerning the degree programs for secondary school teachers, see Teacher Education Programs this college; for junior college teachers, see USF Graduate Catalog.
New College of the University of South Florida, located on USF's Sarasota campus, is a distinguished residential college that serves as the honors college of the State University System. It offers a nationally recognized liberal arts education at regular state tuition rates.

The New College student/faculty ratio is approximately 10:1; ninety-four percent of the faculty hold earned doctorates. Students work closely with faculty members in small classes, tutorials, and on individual projects. Study at New College culminates in a senior thesis.

Admission criteria are highly selective. New College looks for students who have demonstrated above average ability, academic motivation and self-discipline. About half the students are from Florida. The College offers students a level of faculty support and facilities for study generally found only at very expensive private colleges. This is possible because the gap between public funding and the actual cost of a New College education is closed by annual grants to the University from the New College Foundation. The Foundation also raises substantial scholarship funds for meritorious students.

Educational Program

The New College degree is awarded for intensive, individualized study in the liberal arts and sciences. Classes, tutorials and independent study projects are tools the student, with faculty guidance, uses to discover and pursue intellectual and career interests. Study at New College culminates in a senior thesis and baccalaureate examination in the student's chosen area of concentration.

New College offers excellent academic facilities. A $6.1 million library opened on the campus in 1986, housing a collection presently numbered at over 200,000 volumes. The library is linked through an interlibrary loan to the USF system of over one million volumes, and to a network of thousands of other libraries. It also subscribes to computerized data bases that extend its reach beyond the region. The New College Natural Sciences laboratories, open to students around the clock, feature many research-grade instruments, including a scanning electron microscope. The college has special access to significant biological field research sites in the Sarasota area. Computer facilities available to students range from "user friendly" Macintoshes to an IBM main frame.

Campus-based studies can be supplemented by off-campus field research and internships, and by study abroad. New College participates in the Florida State University Study Centers in London and Florence, as well as in other programs, and has exchange programs with the University of Glasgow, University College Dublin, and the University of Waterloo (Canada).

Areas of Study

All programs at New College lead to the Bachelor of Arts. Students may concentrate in a specific discipline or they may design, with faculty approval, an interdisciplinary concentration. The faculty offers the following areas of study:

- Anthropology
- Art History
- Biology
- Chemistry
- Child Development
- Classics
- Cognitive Psychology
- Computer Science
- Economics
- Environmental Studies
- Fine Arts
- History
- Languages
- Latin American Studies
- Literature
- Mathematics
- Medieval & Renaissance Studies
- Music
- Philosophy
- Physics
- Political Science
- Psychology
- Public Policy
- Religion
- Sociology
- Urban Studies

Study at New College leads to a wide range of careers. Graduates from New College go to medical, dental and law school. A large number do graduate work in the arts and sciences, leading to teaching, research and careers in government and industry. Others obtain advanced degrees in business, education, religion and architecture. Those not going on for advanced degrees have launched successful careers in journalism, fine arts, retailing, management, finances, environmental planning and a host of other fields. Quite a few have become entrepreneurs, founding businesses of their own based on skills acquired while students.

The Academic Calendar and Residence Requirements

The New College calendar consists of two 15-week semesters and a four-week independent study period in January. Fall semester begins in late August and ends just before Christmas. Spring semester begins the first week in February and ends in late May. Enrollment at New College is full-time.

Students may complete the degree in seven semesters (three and one-half years) as a result of New College's longer academic year and the advanced nature of the program. Three Independent Study Projects are carried out during January and/or the summer recess. Students may register for up to two additional semesters if their academic programs require it; they may also take up to two semesters of academic leave during their tenure at New College without loss of scholarship support. By special petition and with summer study, exceptionally qualified students may complete the degree requirements in three years. All students must complete a senior thesis and pass a baccalaureate examination based upon the senior thesis.

Transfer students may have the number of semesters required for graduation reduced through the awarding of transfer credit for college-level work done elsewhere. The maximum allowable transfer credit is equivalent to three semesters and one independent study project.

Admissions Requirements

New College actively seeks those students who will benefit most from the demanding academic program and flexible curriculum. The college looks for evidence of intellectual potential, strong academic preparation, self-motivation and initiative, tenacity, curiosity and concern for others.

Applicants must submit a State University System application, New College supplementary application, official high school transcript, SAT or ACT scores, a graded research paper from an English or history class, teacher's recommendation, and school report. An interview is required for all applicants within a 100-mile radius of Sarasota and encouraged for all candidates. Transfer applicants must also submit transcripts from all colleges or universities they have attended.

New College welcomes transfer applicants. A growing number of students come to New College from Florida's two-year community colleges.

New College tuition is the same as for other institutions within the State University System. During the first two semesters of study, students are considered lower level for fee purposes; for the remaining semesters, they are considered upper level.

Both need-based financial aid and achievement-based scholarships are available to New College students, and about 75% of the students receive some type of direct financial assistance. Students must apply for need-based aid and for USF scholarships. Achievement scholarships from the New College Foundation are awarded by the New College Admissions Office to those students the college believes will make an outstanding contribution to the New College community.

The New College Admissions Office processes applications on a rolling basis, with decisions beginning about December 1. Students applying for need-based financial aid and USF scholarships must apply by February for the fall semester.

Application forms and literature can be obtained from the New College Admissions Office, 5700 N. Tamiami Trail, Sarasota, Florida 34243. Phone (813) 355-2963.
Student Life

New College is a residential college, with the majority of its students living on campus or in adjacent neighborhoods. All students attend full-time. Students are challenged to accept major responsibilities for the direction of their own affairs, including their social and extra-curricular activities. The Student Affairs Office, through its professional staff, is responsible for personal counseling, housing, health services, and other support services.

All first-year students live on campus and participate in the community dining plan. Upper-class students may choose college or non-college housing.

A medical plan gives students access to a physician.
The College of Nursing is committed to the improvement of nursing and health care services through its educational programs, community service, and related research activities. In order to carry out its commitment in nursing education, the college offers an upper division competency-based program that leads to a Bachelor of Science degree with a major in nursing.

There are two sequences in the undergraduate program, one for qualified students with no previous preparation in nursing (generic students), and one for registered nurses, who are graduates of diploma or associate degree nursing programs. The generic sequence is designed so that students with appropriate preparation equivalent to two years of college can enroll in the nursing major and complete requirements for the degree in four semesters and a summer session of full-time study on the Tampa campus. The registered nurse sequence is designed so that registered nurses with appropriate prerequisites, can enroll in the nursing major on a full-time and/or part-time basis on the Tampa campus, or on a part-time basis on the University campuses at Fort Myers, Sarasota, and St. Petersburg. Registered nurses who enroll as full-time students may complete requirements for the bachelor's degree in three semesters. If they enroll as part-time students, the degree requirements can be completed in five semesters.

The program is accredited by the National League for Nursing and approved by the Florida State Board of Nursing. Graduates of the generic sequence are eligible to write the qualifying examination for licensure as a registered nurse by the State of Florida Board of Nursing. Graduates also may apply for licensure in other states. Graduates of the undergraduate program sequence have the educational background necessary for graduate study in nursing.

The College of Nursing encourages applications from qualified applicants of both sexes, and from all cultural, racial, religious, ethnic, and age groups. The College of Nursing uses selective criteria for the admission of students. Limitations on enrollments are determined on the basis of availability of sufficient qualified faculty, laboratory and classroom facilities, and clinical teaching resources. Florida residents are given priority.

Professional Nursing

Philosophy

Nursing is a profession and a discipline sanctioned by society. Its essential goal is health which is expressed within the context of personal, interpersonal and social systems. The focus for professional nursing is human beings interacting in a variety of environments for the purpose of pursuing health or a dignified death. Nursing is a transactional process which establishes mutually set goals with individuals, groups, families and communities for the purpose of providing health activities and care of the sick, injured, and dying. The complex intellectual processes used by nurses are perceiving, thinking, relating, judging, acting and interacting. These processes require the use of a scientific body of knowledge to access, plan, implement, and evaluate nursing care.

Concepts which are the central focus for the practice of professional nursing are human beings, society, environment and health.

Human beings are unique and holistic, and are characterized by open systems of transaction with their environment. They are perceptual; purposeful; action, time and goal oriented. Human beings communicate through their use of language and other symbols that reflect individual, group, and societal differences.

Society encompasses individual, group, family and community values, norms and expectations. The United States is a pluralistic, democratic, dynamic society in continuous change as exemplified by increased technological advances. However, the freedom of individuals and groups is protected by the laws and the behavioral norms of this social system.

Environment is comprised of ecosystems which support the interactive processes of the personal, interpersonal, and social systems. Nursing systems strive to promote, provide, and support healthy environments as an integral aspect of professional nursing practice.

Health is viewed within the context of dynamic life experiences of individuals, groups, families, and communities. Health implies continuous adjustment to stressors and challenges in the internal and external environment through use of resources in order to achieve maximum potential for optimum functioning. Health is influenced by cultural, social, economic, genetic, political factors as well as value systems and religious beliefs. Human beings have the right to quality health care, the obligation to engage in health practices and the freedom to make informed decisions about their health, health practices, and health care.

Nursing care is an integral component of health care delivery. Professional nurses assume various roles which involve independent, collaborative, interdependent, and dependent functions. Professional nurses provide health services in a variety of complex systems and are accountable for these professional services based on (1) a body of knowledge which is continuously being refined and expanded through nursing research; (2) a Code of Ethics; (3) standards of practice as determined by the profession; and (4) the Nurse Practice Act. Professional nurses provide leadership through participation in professional and community organizations. As responsible citizens, nurses contribute to the promotion of quality health care by participation as knowledgeable members of society in activities that influence the health of individuals, families, groups and communities.

The discipline of nursing is an integral part of the system of higher education and is responsible for the development and dissemination of knowledge. The discipline is also responsible for promoting and preserving the historical and philosophical foundation of the profession. Knowledge is developed through identification of models for systematic thought; constructing and testing theories for nursing; and conducting research. The discipline disseminates knowledge for nursing through scholarly publications and presentations; and through curriculums that prepare for entry into professional practice and for entry into areas of specialized practice and research. In these curriculums the teaching-learning process is a cooperative enterprise in which learners have the freedom to learn and teachers have the freedom to teach. Learning is viewed as a lifelong process of social, psychological, and intellectual growth essential for performing the functions of professional nursing.

TERMINAL COMPETENCIES OF THE UNDERGRADUATE CURRICULUM

UPON GRADUATION, GRADUATES WILL:

1. Use the nursing process as the basis for nursing practice in primary, secondary or tertiary care settings to assist individual clients, families or groups of clients, to cope with actual or perceived threats to health.
2. Participate in assessing the health needs of a given community and to work cooperatively with community leaders and other health care professionals in planning and providing essential services.
3. Practice within the legal/ethical parameters of professional nursing.
4. Incorporate appropriate knowledge from the physical and biological sciences, medicine, nutrition, the behavioral and social sciences and economics in nursing practice.
5. Participate in developing and managing services to clients, families or groups of clients within settings which provide nursing services.
6. Contribute to the development of professional nursing practice by using the nursing process as a means of gathering data for refining and expanding the knowledge base for nursing and by applying the findings of nursing and related research in working with clients.

Undergraduate Education in Nursing

Qualified students with no previous preparation in nursing, and registered nurses who are graduates of associate degree or hospital programs are eligible for admission. The baccalaureate program in
nursing is an upper division major at the University of South Florida. Therefore, students must complete all lower division requirements for admission prior to enrollment in the College of Nursing. The University’s general education distribution requirements and College of Nursing prerequisites can be completed on the Tampa campus or at any local community college, university or college that offers the general education distribution. These can be completed prior to transfer to USF for the nursing major.

Students who enroll at USF in the lower division are admitted to Undergraduate Studies. They must meet the requirements for admission to the University, and should follow the procedures for admission to the University in this Catalog.

Applications for admission to the University may be obtained by contacting the Office of Admissions, University of South Florida, Tampa, Florida 33620. College graduates and transfer students from other baccalaureate nursing programs are also eligible for admission to the major on a space available basis. Transfer students may not be admitted to the College of Nursing unless they are eligible for admission to the University. Official transcripts certifying completion of all requirements for admission must be available to the College of Nursing before admission is confirmed and enrollment permitted.

Generic students are admitted in the fall semester of each year. The deadline for University application is January 4 of the year in which the student plans to enroll. Applications are available from: Office of Admissions, University of South Florida, Tampa, Florida 33620. In addition, a separate application must be submitted directly to the College of Nursing by February 1, prior to the fall semester. College applications are available from: College of Nursing Undergraduate Admissions, University of South Florida, Tampa, Florida 33612.

Registered nurse students are admitted to the College on a more flexible basis contingent upon completion of admission prerequisites and requirements, and the availability of the appropriate sequence of nursing courses on the campus to which they are seeking to pursue coursework. The deadline for receipt of an application from registered nurse students is at least one (1) semester in advance of the semester in which they intend to enroll. For more specific information, contact the College of Nursing Undergraduate Admission Office.

HONORS PROGRAM
An Honors Program in Nursing is available for highly qualified students. Emphasis is on individual research and creative scholarship and each student is required to complete and defend orally an undergraduate thesis.

OVERALL REQUIREMENTS
1. Completion of 60 semester hours of college-level work with a cumulative grade-point average of 2.5. Credit received on the basis of CLEP or Advanced Placement examinations or other appropriate procedures may be included to meet some of these requirements.
2. Completion of the University of South Florida general education distribution requirements as part of the above. These requirements may be satisfied by the completion of 40 semester hours in the following areas with not less than 6 semester hours in each area:
   a. English Composition
   b. Humanities/Fine Arts
   c. Mathematics/Quantitative Methods*
   d. Natural Sciences*
   e. Social Sciences*
3. Students with an A.A. degree (other than in nursing) will be considered to have met all of the USF General Education Distribution requirements but also must meet specific college requirements in the areas marked **.
4. Students are required to meet the University requirement for foreign language.

Admission Requirements
In order to be considered for admission to the college, the applicant must:

1. Submit an application to USF by the appropriate deadline.
2. Submit an application and all supporting materials, including transcripts, to the College of Nursing by the appropriate deadline.
3. Maintain a minimum grade point ratio of 2.5 with a grade of "C" or better in each prerequisite course.
4. Complete prior to enrollment in the major all those general education and specific prerequisites required for admission to the major.
5. Complete all prerequisites with not more than two (2) repeated courses and not more than one (1) repeat of any given prerequisite course.
6. Complete the College Level Academic Skills Test (CLAST) and the writing and computation course requirements of 6A-10.30.
7. Complete an approved cardiopulmonary resuscitation (BCLS) course prior to enrollment.
8. Provide evidence of computer literacy.
9. Maintain current licensure in Florida if enrolling in the program as a registered nurse.
10. Provide evidence of recent work in nursing if enrolling in the program as a registered nurse.

In addition to the minimum requirements listed above, applicants will be evaluated on factors which are relevant to program completion and professional nursing practice: cumulative grade point average, performance in specific courses, and ability to communicate verbally and in writing. All applicants who appear to be eligible for admission may be interviewed.

Those applicants with the highest total rankings are accepted in order until the quota is filled. As vacancies occur prior to the enrollment date, those next on the list are accepted to fill them. Enrollment of all students is contingent upon verification through official transcripts of satisfactory completion of all requirements for admissions.

Specific Course Prerequisites
The College of Nursing requires certain courses within the general education distribution for the natural, social and behavioral sciences, and mathematics. These requirements are outlined below. Suggested courses are also included. The student must: 1) earn a grade of "C" or better in each course, 2) repeat no course more than once, 3) repeat no more than two (2) courses. Courses taken at another institution will be evaluated individually on the basis of content. Students in Florida community colleges can obtain information about equivalent courses from their counselors or by contacting the College of Nursing Undergraduate Admissions office (813-974-2191).

1. Mathematics/Quantitative Methods: completion of at least one course in mathematics that meets the Gordon Rule requirement and one course in statistics.
   a. Mathematics - one course in college level algebra must be completed with a grade of "C" or better. CLEP subject exams are acceptable.
   b. Statistics - one course in statistics must be completed with a grade of "C" or better. STA 3122

2. Natural Sciences: minimum of 14 semester credits (excluding anatomy, microbiology, and physiology). Each course taken toward meeting this requirement must have been completed with a grade of "C" or better. At least one course must include a laboratory or have a corequisite laboratory course. At least 6 semester credits must have been completed by the admissions application deadline.
   a. Biology - minimum of 6 semester credits. Courses should include content in 1) cell theory, 2) biological transport, 3) genetics, 4) evolution, 5) phylogenetic survey of plant and animal kingdoms, 6) ecology, etc. CLEP is acceptable. BSC 2010C, BOT 2010C, ZOO 2010C
   b. Chemistry - A minimum of 6 semester credits. Courses should include content in 1) principles of chemistry, 2) structure of matter, 3) atomic and molecular structure, 4) states of matter, 5) chemical formulas and nomenclature, 6) solutions, 7) chemical kinetics and equilibrium, 8) theory and practice of quantitative analysis, 9) organic chemistry.
Can be partially met with CLEP, CHM 2045, 2046 or *CHM 2530, 2031
*Chemistry sequence for non-science majors.

c. Other - the remaining credits can be earned by completing ad-
ditional courses in biology and chemistry, or in genetics, phys-
ics, physical science, etc. (A course in non-quantitative physics
is recommended but not required.)

3. Social Sciences: completion of each of the following with a grade of
"C" or better in each course.

a. American government - one course in modern American govern-
ment or state and local government. CLEP is acceptable. POS
2041, POS 2112, PAD 3003, POT 4204, POS 4424

b. Individual and Social Community Behavior: completion of at
least three courses with at least one course in psychology and
one course in sociology and one additional course in psychol-
ogy, sociology, anthropology, gerontology or human sexual
behavior. CLEP is acceptable.

4. Supporting Sciences: All courses must be completed prior to
enrollment in the nursing major with a grade of "C" or better in each
course.

a. Microbiology - one course. CLEP is not acceptable. APB 3110 or
MCB 3010C. The ACT/PEP examination in microbiology is ac-
ceptable.

b. Anatomy and Physiology - one course. A combined course in
anatomy and physiology which is equivalent to APB 3110 is ac-
ceptable or individual courses. The ACT/PEP examination in
anatomy and physiology is acceptable.

c. Nutrition - one course. College of Nursing Challenge Examina-
tion or University of Florida correspondence course are accept-
able. HUN 3201

d. Human Growth and Development (Life Span) - Must include
birth through aging process to death. CLEP is not acceptable.
HUS 4020 or DEP 3103 and GEY 3000 or DEP 4005 and GEY
3000, N.B. Each of the above supporting science courses is not
offered every semester, therefore, the student should plan his or
her enrollment schedule with care.

CLEP Examinations

In accordance with University policies, College Level Examination
Program (CLEP) general and subject examinations may be taken in
several areas. CLEP examinations must be taken according to the
University or community college policies related to CLEP. The CLEP
general examinations apply toward the distribution requirements at
USF, and successful performance results in credit for any one or all five
of the required areas. In addition, credit may be earned for a number of
College of Nursing prerequisite courses, including: American Govern-
ment POS 2041; English Composition ENC 1101, 1102; Biology BSC
2010C, BOT 2010C, ZOO 2010C; General Chemistry CHM 2045; and
Statistics STA 3122. Additional information may be obtained from the
Office of Evaluation and Testing, University of South Florida.

ACT/PEP and College of
Nursing Examinations

Successful completion of the following examination(s) can be used to
fulfill course requirements as designated below:

1. College of Nursing - Nutrition Challenge Examinations: a total of 3
semester credits can be earned by any undergraduate student to
meet the course requirement in nutrition. Information about the
College examination in nutrition may be obtained by contacting the
College of Nursing Undergraduate Admission, University of South
Florida.

2. Registered nurses who are graduates of diploma programs may
receive 20 semester general elective lower level credits through
successful completion of the ACT/PEP examinations in nursing.
These credits do not apply toward meeting the University require-
ment of 40 upper level credits, or toward meeting the requirements of
the upper level nursing major. The credits earned by passing the
ACT/PEP examinations in nursing apply only to the B.S. degree with
a major in nursing program offered by the College of Nursing.
Additional information about the ACT/PEP examinations may be
obtained from the Office of Evaluation and Testing, University of
South Florida.

3. Registered nurses who are graduates of associate degree pro-
grams may receive up to 20 semester general elective lower level
credits for their previous nursing education.

4. Both generic and registered nurse students may earn up to 6
semester credits and fulfill the college's prerequisite requirement
in anatomy and physiology through successful completion of the
ACT/PEP examination in anatomy and physiology, and up to 4
credits in microbiology through successful completion of the ACT/
PEP examination in microbiology.

Degree Requirements

Students will be certified for the Bachelor of Science degree with a
major in nursing upon completion of a minimum of 126 semester hours
comprised of general education requirements, science prerequisites
(physical, biological, social and political), upper level and nursing
electives, and required nursing courses.

A minimum grade of "C" or better must be attained in each course
in the major and cumulative grade point ratio of 2.0 or better must be
maintained throughout the program. At least 40 semester hours must
be upper level work (courses numbered 3000 or above). At least 60
semester hours must be earned from a baccalaureate-degree-granting
institution regardless of credit hours transferred from a Community/
Junior College unless prior written approval has been received from
the college of the student's intended major.

Nursing Courses - Generic Sequence

Junior Year (3 semesters)

NUR 3117 Introduction to Professional Nursing (3)
NUR 3615 Nursing Process 1 (3)
NUR 3615L Nursing Intervention I (2)
NUR 3066C Client Assessment I (2)
NUR 3829 Ethical-Legal Aspects in Nursing and Health Care (2)
NUR 3456 Nursing Process II (2)
NUR 3456L Nursing Intervention II (3)
NUR 3536 Nursing Process III (2)
NUR 3536L Nursing Intervention III (2)
NUR 3067C Client Assessment II (2)
NUR 3835 Leadership-Management Aspects in Nursing and
Health Care (2)
NUR 4285 Nursing Process IV (1)
NUR 4256 Nursing Process V (2)
NUR 4256L Nursing Intervention IV (4)

Senior Year (2 semesters)

NUR 4165 Introduction to Research (2)
NUR 4257 Nursing Process VI (2)
NUR 4257L Nursing Intervention V (6)
NUR 4258 Nursing Process VII (2)
NUR 4265 Nursing Process VIII (2)
NUR 4837 Nursing Core V (3)
NUR 4946L Preceptorship (6)

In addition to the requirements listed above, a minimum of 10
credits in upper level electives will be required for graduation: at least
six (6) credits in upper level courses in general education (courses in
arts, humanities, natural or behavioral sciences, economics, business
or management, education, etc., are acceptable) and at least four (4)
credits in nursing electives (NUR 4935, Selected Topics in Nursing,
and/or NUR 4905C, Independent Study in Nursing, are currently used
for this purpose).

Nursing Courses - Registered Nurse Students

(3 semesters)

NUR 3007 Nursing Process (2)
NUR 3829 Ethical-Legal Aspects of Nursing and Health Care (2)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 3117</td>
<td>Introduction to Professional Nursing</td>
<td>(3)</td>
</tr>
<tr>
<td>NUR 3066C</td>
<td>Client Assessment I</td>
<td>(2)</td>
</tr>
<tr>
<td>NUR 3654</td>
<td>Nursing Concepts in Secondary Care</td>
<td>(4)</td>
</tr>
<tr>
<td>NUR 3654L</td>
<td>Nursing Practicum I</td>
<td>(2)</td>
</tr>
<tr>
<td>NUR 4165</td>
<td>Introduction to Research</td>
<td>(2)</td>
</tr>
<tr>
<td>NUR 4641</td>
<td>Nursing Concepts in Primary Care</td>
<td>(4)</td>
</tr>
<tr>
<td>NUR 4641L</td>
<td>Nursing Practicum II</td>
<td>(3)</td>
</tr>
<tr>
<td>NUR 4827C</td>
<td>Leadership/Management Concepts for Nursing</td>
<td></td>
</tr>
<tr>
<td>NUR 4943L</td>
<td>Nursing Practicum III</td>
<td>(4)</td>
</tr>
</tbody>
</table>

In addition to the requirements listed, a minimum of 10 credits in upper level electives is required for graduation: at least six (6) credits in upper level courses in general education (courses in arts, humanities, natural or behavior sciences, economics, business or management, education, etc., are acceptable) and at least four (4) credits in nursing electives (NUR 4935, Selected Topics in Nursing and/or NUR 4905C, Independent Study in Nursing are currently used for this purpose).
The Department of Community and Family Health offers a five-year master's program to qualified undergraduates that culminates in the awarding of the M.P.H. Degree. Students admitted to the five-year program (PHC) must have completed 90 semester hours of work and all General Distribution requirements. Minimum admission requirements include a total Verbal-Quantitative score of at least 900 on the GRE and a GPA of 3.0 in all work beyond 60 semester hours. A detailed description of the M.P.H. program in Public and Community Health Education may be found in the Graduate Catalog.

Undergraduates in their sophomore year who are interested in the five-year program (PHC) should contact the Office of Academics in the College of Public Health, 13301 Bruce B. Downs Boulevard, Tampa, Florida 33612-3899, Telephone: 974-3623.
The social and behavioral sciences are primarily concerned with human beings: their history, their individual behavior, their social and political institutions, and their problems. The study of man by broadly-conceived methods of scientific inquiry leads to an understanding of the individual in a social context. Such insight provides an essential component of a liberal education by instilling a more enlightened world view and by helping the student to become a better informed citizen realistically prepared for a fulfilling role in contemporary society.

The social and behavioral sciences deal not only with the human but also with the humane. While the basic disciplines are dedicated to the search for truth about the human condition, the applied social sciences seek to use the knowledge gained to alleviate significant social and personal problems. The setting of the University in the rapidly expanding Tampa Bay metropolitan area provides exceptional opportunities for the development of urban related applied social science activities.

The Human Resources Institute of the College of Social and Behavioral Sciences was established to address critical issues in the human resources sector through a comprehensive program of research and service. By authorization of the Board of Regents, a Program of Emphasis in Human Services was established at the University of South Florida for the enhancement of selected programs including several in the College of Social and Behavioral Sciences. Because of its balance of basic and applied programs, the College is uniquely structured to allow students to gain experience and background for future applications in human service fields, in government, in business, and in other fields of endeavor, or to pursue graduate study in several disciplines.

**BACCALAUREATE LEVEL DEGREE PROGRAMS**

**Admission to the College**

Admission to the College of Social and Behavioral Sciences is open to students who have been accepted to the University of South Florida and who declare a major in a particular field within the college. The Bachelor of Social Work, however, is a limited access degree program and does require satisfaction of additional criteria prior to admission.

Undergraduate students must submit a formal application for admission to the college. This usually occurs during Orientation and Advising for New Students. This application is also available in the College Office of Academic Programs and Student Records for continuing students. Following admission to the College, students will then be counseled by an academic adviser in his/her major field. Information about majors, departments, programs, advising, and other services of the college may be obtained from the Coordinator of Undergraduate Student Affairs, College of Social and Behavioral Sciences, University of South Florida, Tampa, Florida 33620. Any student in the University may take courses in the College of Social and Behavioral Sciences. Students in other colleges or adults in the community may select social and behavioral science courses of particular interest.

**Honors Programs**

Faculty and selected students in the college participate in the University Honors Program. In addition, the College of Social and Behavioral Sciences offers undergraduate honors programs in four fields: Anthropology, History, Political Science, and Psychology. Students interested in one of these honors programs should consult the appropriate department for further information.

**General Requirements for Degrees**

The College of Social and Behavioral Sciences currently offers three undergraduate degrees: Bachelor of Arts, Bachelor of Science and Bachelor of Social Work. Requirements for graduation are summarized as follows:

1. 120 credits with at least a "C" average (2.0) in courses taken at the University of South Florida. At least 60 of these credits must be from baccalaureate degree granting institutions. At least 40 of these 120 credits must be in courses numbered 3000 or above. (A maximum of 2 credits of physical education courses may be counted toward graduation requirements; no credits in physical education are required.) No more than 9 credits from R.O. T. C. (aerospace studies, military science), may count towards graduation.

2. 40 credits of general distribution courses are required by the University in the areas of English Composition, Fine Arts and Humanities, Mathematics and Quantitative Methods, Natural Sciences, and Social and Behavioral Sciences. (See General Distribution Requirements.) Transfer students with standard AA degrees will be considered to have met the University's General Education Requirements; however, such students who have not gained exposure to each of the five areas are strongly encouraged to make up deficiencies early in their USF careers.

3. 12 credits of courses requiring written assignments of 6000 words; 6 credits of college level math. (Transfer students with AA degrees from Florida public institutions will be considered to have met this requirement.) These courses may be used to satisfy General Distribution Requirements.

4. Completion of a major in a subject or an integrated major, with at least a "C" average (2.0), or 2.75 in the case of Social Work majors. (See following pages for requirements in specific majors offered in the college.)

5. Students graduating with a Bachelor of Arts degree must demonstrate competency in a foreign language.

6. 80 credits outside the major.

7. Credits transferred from other institutions will not be included in the computation of the grade point average for graduation. To be eligible for graduation with honors requires at least 3.5 average in all USF work and all previous college work.

8. A student must complete at least 30 of the last 60 credits in academic residence at USF. The approval of the Dean of the college granting the degree must be secured for any transfer credits offered for any part of these last 60 hours.

9. Satisfactory completion of the College Level Academic Skills Test, and the writing and computation course requirements of 6A-10.30.

10. A maximum of 20 hours of optional S/U credits may be counted towards the 120 hours needed for the degree. None of the 20 credits may be taken in the student's major.

Students are encouraged to consult regularly with an academic adviser in his/her major. It must be noted, however, that the student assumes full responsibility for satisfying all University, College, and departmental requirements for graduation. Students must apply for graduation by the deadline at the beginning of their last term of residence at USF. Students who receive permission to complete requirements for the B.A., B.S. or B.S.W. as transient students should apply for graduation the term after all coursework has been completed.

**Advice to Freshmen and Lower Level Transfers**

Work with an adviser, plan a schedule each semester of 12 to 18 credits. Each term until you reach 60 hours take:

1. At least one course with writing assignments of 6000 or more words until you have completed 12 credits of such courses. Start with ENC 1101 and 1102 unless you have received CLEP credit for Freshman English.

2. A college level math course (if you are eligible following math testing) until you have completed 6 credits, or a natural science course (suggestions: CHM 2051, PHY 2058, GLY 2580, GLY 3006, OCE 3001, any AST) until you have completed 6 credits. Six credits in each area are required for graduation.

3. One course in the Social Sciences designed for freshmen and sophomores. These courses have prefixes of AFA, AMH, EHU, GEA, SYG, POS, SSI, and WST, and are at the 1000 or 2000 levels.

4. One course in the Behavioral Sciences from among ANT 2000, PSY 2012, SYG 2000. As sophomores, you may also choose from ANT 3005, CCJ 3003, DEP 3103, GEY 3000, HUS 3001, SPA 4004, SSI 2221.
5. An elective outside the College of Social and Behavioral Sciences. You are most likely to find appropriate courses in the Colleges of Arts and Letters, Fine Arts, and Natural Sciences. At least 6 of these credits should be in the humanities, unless you have chosen humanities courses to fulfill item 1 above.

Programs Leading to the Baccalaureate Degree

The College of Social and Behavioral Sciences offers a major in 13 fields as described in the following pages. In addition to the departmental majors, interdisciplinary majors are offered. (See Interdisciplinary Social Sciences, International Studies, and Social Science Education listed below.) Economics offers two majors, one in the College of Social and Behavioral Sciences and the other in the College of Business Administration.

Bachelor of Arts
- African and Afro-American Studies (AFA)
- Anthropology (ANT)
- Criminology (CCJ)
- Economics (ECN)
- Geography (GPY)
- Gerontology (GEY)
- History (HST)
- Interdisciplinary Social Sciences (ISS)
- International Studies (INT)
- Political Science (POL)
- Psychology (PSY)
- Sociology (SOC)
- Social Science Education (SEE)*
- Women's Studies (WST)

Bachelor of Science Degree
- Gerontology (GES)

Bachelor of Social Work Degree (B.S.W.)
- Social Work (SOK)

*Offered jointly with the College of Education.

Special Non-Degree Programs

The OFF-CAMPUS TERM PROGRAM offers a wide variety of opportunities for self-designed, supervised educational experiences for credit. This program is presently housed administratively in the Division of Interdisciplinary Social Sciences, and the courses are listed under Off-Campus Term and Interdisciplinary Social Sciences.

The HUMAN SERVICES courses are designed for students interested in careers in the human sciences and services, and may be taken in conjunction with any major or by special students. These courses are coordinated by the Department of Gerontology, and the courses are listed as:
- HUS 3001
- HUS 4020
- HUS 4700
- SOW 4332
- HUS 4100
- HUS 5325

Certificate of Interpretation For the Deaf

The College of Social and Behavioral Sciences offers a Certificate in Interpretation for the Deaf for students who want to facilitate the communicative needs of the deaf in our complex society. The certificate program incorporates academic training with practica designed to provide the student with interpreting experiences in a variety of situations. Students seeking this certificate must meet the admission requirements of the University and possess as a minimum the sign language proficiency equivalent of a Level II score on the Quality Assurance Examination for Sign Language. Information and advice about the certificate program may be obtained from the Interpreter Training Program Coordinator in the Department of Communication Sciences and Disorders. The program is open to students in all colleges.

The certificate program consists of the following courses:
- SPA 4000 (3)
- SPA 4332 (3)
- SPA 4930-003 (3)
- SPA 4363 (3)
- SPA 4930-001 (3)
- SPA 4050-001 (2)
- SPA 4331 (2)
- SPA 4930-002 (3)
- SPA 4050-004 (2)

Approval by the Coordinator of the Interpreter Training Program must be obtained prior to enrollment in this certificate training program. When the student has completed the above requirements, the Coordinator of the Interpreter Training Program will recommend the student for the certificate.

Certificate in Latin American Studies

The College of Social and Behavioral Sciences offers a Certificate in Latin American Studies for students who wish to gain an intensive multi-disciplinary understanding of this important area. A minimum of 24 semester hours is required of all students seeking such a certificate. Of these, at least 14 must be planned around the following core courses:
- GEA 3400 Geography of Latin America
- LAH 3200 Modern Latin America
- CPO 4930 Comparative Government and Politics (Latin America)
- SPN 3520 Spanish American Civilization; or equivalent in original Language.

The remaining 10 hours must be selected from other specified courses with Latin American content, a list of which is available from the Latin American Studies Coordinator.

In addition, students seeking a Certificate in Latin American Studies must have ability in Spanish, Portuguese, or another major Indo-American language or must have completed no less than two semesters of study in that language, or its equivalent. It is hoped that the student will develop an even higher level of competency in one language and at least a minimum proficiency in a second language.

When the student has completed the above requirements, the Latin American Studies Coordinator will recommend the student for the Certificate, which will be awarded upon the successful completion of all degree requirements for the major.

Information and advice about the certificate program may be obtained from the Latin American Coordinator or the Associate Dean. Only degree-seeking undergraduate students may earn a Certificate in Latin American Studies. The program is open to all majors in all colleges.

Academic Minor Programs

In order to help students develop some concentration in elective work taken in conjunction with their chosen major, the College of Social and Behavioral Sciences offers minors in the following fields: African Studies, Afro-American Studies, Anthropology, Economics, Geography, History, Human Services, International Studies, Manual Communications, Political Science, Psychology, Sociology, and Women's Studies. (See following pages for requirements in specific minors offered in the college.) There are certain restrictions that apply to students earning a minor in the College of Social and Behavioral Sciences: (1) students who major and minor in the College of Social and Behavioral Sciences may not use courses in the major for the minor or for any general distribution requirements; (2) only degree-seeking students may earn a minor in the social and behavioral sciences; and (3) ISS majors may not earn a minor in any of the social and behavioral sciences incorporated in their contracts. Minors will be certified at the time of graduation.

PROGRAMS AND CURRICULA

ANTHROPOLOGY (ANT)

Anthropology aims at comprehending people as biological and social beings. It is concerned with all forms of people through time and space. One consequence of this broad-ranging view is the presence within anthropology of four branches: physical anthropology, archaeology, cultural anthropology, and linguistics. Exposure to anthropological information and the cross-cultural perspective produces heightened
sensitivity in the student to the world about him/her. This helps the student to adopt an intellectual posture of disciplined skepticism with respect to any scheme which purports to define and account for regularities in human life.

In response to an increasing interest on the part of students, an undergraduate focus in applied anthropology has been created to offer the department's majors the option of including career training as part of their anthropology curriculum. The focus includes emphasis in applied anthropology coursework and a practicum course in which the student applies anthropological method and theory in off-campus settings.

In 1995 the department instituted an honors program to provide its best students with an opportunity to engage in a significant academic experience. Outstanding seniors may participate in a year-long course of study and original research in an area of their choosing under the guidance of a faculty mentor.

Students majoring in other fields may find anthropology coursework an exciting and valuable supplement to their primary academic interest. A minor in anthropology has been developed with this purpose in mind. The minor program is structured to allow the student maximum flexibility in course selection within a broadly defined progression of anthropological concerns. Thus, the student is able to tailor a minor in anthropology to best suit special wants and needs in the context of an overall curriculum.

The M.A. program, initiated in 1974, was the first in the USA to focus on career training for the practice of applied anthropology. The student pursues major studies in one of three tracks: applied urban and medical anthropology and public archaeology (cultural resources management). In addition to core seminars in each of the four major branches of anthropology required of all students, each track has its own specialty courses. Each student performs a full-time internship for one semester during which he/she works on a problem mutually defined and negotiated by the student, a faculty advisor, and a professional supervisor from the agency in which the internship is conducted.

The M.A. program, initiated in 1974, was the first in the USA to focus on career training for the practice of applied anthropology. The student pursues major studies in one of three tracks: applied urban and medical anthropology and public archaeology (cultural resources management). In addition to core seminars in each of the four major branches of anthropology required of all students, each track has its own specialty courses. Each student performs a full-time internship for one semester during which he/she works on a problem mutually defined and negotiated by the student, a faculty advisor, and a professional supervisor from the agency in which the internship is conducted.

The Ph.D. in Applied Anthropology is the first such program in the USA. Its primary goal is to train students for nonacademic employment in such domains of application as health practice and services delivery, community, regional and international development, and urban planning, design, and services delivery. Training is also provided for those interested in teaching applied anthropology in academic settings. Each student performs a full-time internship for two semesters during which he/she works as a member of the professional staff of a governmental or private-sector agency or organization engaged in problem-solving in the USA or elsewhere. The Ph.D. program, while independent, complements the M.A. program. The deadline for receipt of all application materials for admission in Fall Semester is March 1; for admission in either Spring or Summer Semester the deadline is November 1 of the preceding year.

The Center for Applied Anthropology is in the Human Resources Institute, College of Social and Behavioral Sciences. The Center is concerned with applying anthropological knowledge, theory, method, and perspectives to problems of contemporary society. Illustrative areas of activity include human services needs assessment, program planning and evaluation, social and environmental impact assessment, and public policy analysis.

Requirements for the B.A. Degree in Anthropology (ANT)

The major in Anthropology consists of a minimum of 33 credit hours. ANT 2000 is prerequisite to all subsequent courses. ANT 3100, ANT 3410, ANT 3511 and ANT 3610 are required as intermediate level training in the main subdivisions of the field, and ANT 4034 and ANT 4935 complete the specific requirements. Majors are required to complete a minimum of 12 hours of 4000-level elective coursework, including courses from at least three of the four subfield areas shown below. ANT 3511 counts in Area IV (Natural Sciences) of the General Distribution Requirements for non-majors.

**Archaeology**

ANT 4133 (3) ANT 4172 (3) ANT 4124 (4)

ANT 4153 (3) ANT 4181 (4) ANT 4158 (4)

ANT 4162 (3) ANT 4180 (4) ANT 4163 (3)

**Physical Anthropology**

ANT 4542 (3) ANT 4583 (3) ANT 4586 (3)

ANT 4552 (3)

**Anthropological Linguistics**

ANT 4620 (3) ANT 4750 (3)

**Cultural Anthropology**

ANT 4226 (3) ANT 4316 (3) ANT 4462 (3)

ANT 4231 (3) ANT 4326 (3) ANT 4495 (3)

ANT 4241 (3) ANT 4340 (3) MUH 4521 (3)

ANT 4302 (3) ANT 4367 (3) ANT 4705 (3)

ANT 4305 (3) ANT 4432 (3) ANT 4312 (3)

ANT 4442 (3)

Anthropology majors are urged to become competent readers and speakers of a relevant foreign language, to acquire communicative and quantitative skills appropriate to their interests, and to achieve at least a minimal level of computer literacy. Exceptions to course prerequisites require the consent of the instructor. Required Core Courses (21 cr. hrs.)

ANT 2000 (3) ANT 3511 (3) ANT 4034 (3)

ANT 3100 (3) ANT 3610 (3) ANT 4935 (3)

ANT 3410 (3)

Requirements for the Minor in Anthropology

The minor in Anthropology consists of a minimum of 18 credit hours with a "C" average (2.0), distributed among three areas. Students will normally progress through these areas in the order listed below, selecting courses prerequisite or otherwise appropriate to courses desired in subsequent areas. Exceptions to this pattern must be approved by the department's undergraduate advisor. Students are urged to consult with the major and minor student advisors to create the most beneficial specific set of courses.

1. 2000-level required core course (3 cr. hrs.)
   ANT 2000 (3)

2. 3000-level core courses (6-12 cr. hrs.)
   ANT 3100 (3) ANT 3511 (3)

3. 4000-level elective courses (9-12 cr. hrs.) (as described above)

Requirements for the Undergraduate Focus in Applied Anthropology

This sequence is designed for Anthropology majors who wish to include career training as part of their Anthropology curriculum. The student is required to complete the major in Anthropology, including guided training in Applied Anthropology as determined through consultation with the undergraduate advisor. The student must take ANT 4907 (3), the setting in which the off-campus practicum is pursued. A departmental Letter of Achievement is awarded upon graduation and successful completion of Focus requirements with a "B" average (3.0). Information regarding admission into the Focus program may be obtained from the department undergraduate advisor.

Anthropology Honors Program

The purpose of the Honors Program is to provide outstanding Anthropology undergraduates with advanced, individually tailored training in areas of anthropological interest to them. The program, operating independently of the major itself, involves a year of coursework and research culminating in the writing of an Honors thesis. Students in the
second semester of their Junior year, prior to completion of 90 semester hours, may apply to the program, which begins in the Fall semester. Admission is competitive, based on the student's overall academic record (minimal 3.0 GPA overall, 3.5 GPA for USF anthropology course work) and a letter of recommendation from a member of the Department of Anthropology. Successful completion of the program requires maintenance of a 3.0 overall and a 3.5 major GPA levels, completion of ANT 4932 (4) (Honors Seminar) with a grade of "B" or better, completion of ANT 4790 (3) (Honors Thesis) with a grade of "S" and completion of all other requirements for graduation. See the Anthropology Department Undergraduate Advisor for further information and application forms.

**COMMUNICATION SCIENCES AND DISORDERS (ISH, ISA, ISI)**

Undergraduate concentrations in the Communication Sciences and Disorders are available through the Division of Interdisciplinary Social Sciences. Concentrations in Speech-Language-Hearing Science and American Sign Language lead to the B.A. degree. The ISS undergraduate concentration in Speech-Language-Hearing Science provides preprofessional study for Master's level preparation as a Speech-Language Pathologist or Audiologist. The American Sign Language (ASL) concentration focuses on the study of deaf culture through the development of communicative proficiency in ASL and prepares individuals to work with the deaf in a variety of social service agencies. Students interested in these concentrations should contact the Department of Communication Sciences and Disorders regarding academic advising. The department also offers the Master's of Science (M.S.) degree in Speech-Language Pathology and in Audiology, including Deaf Education, as well as a Ph.D. specialization in Speech, Language, or Hearing Science through the department of Psychology (Experimental Psychology). A 5-year M.S. course of study combining undergraduate with graduate study is also available; however, enrollment into this program is currently not available.

**ISS Concentrations in Communication Sciences and Disorders**

**A. General Information**

All undergraduates seeking enrollment in this concentration must be in good academic standing as undergraduate students at the University of South Florida. Prior to beginning coursework in the junior year in the concentration, most students should complete general academic distribution requirements, successfully pass the CLAST, and have achieved 60 semester hours of coursework. Students with advising concerns relative to their first 60 semester hours are encouraged to meet with undergraduate departmental advisors since required and recommended courses for admission into the ISS concentration will also meet other university requirements.

**B. Prerequisites for Admission**

I. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010C or ANT 3511</td>
<td>4</td>
</tr>
</tbody>
</table>

II. Recommended Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIN 3010 or LIN 3801 and COP 3170</td>
<td>9</td>
</tr>
</tbody>
</table>

Courses in this category should also be completed with a minimum grade of "C."

**C. Other Requirements for the ISS Degree (min. 9 cr. hrs.)**

I. Required Courses (6-7 cr. hrs.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 3122 (3) or PSY 3213 (4) and ISS 3010 (3)</td>
<td>9 or 10</td>
</tr>
</tbody>
</table>

(min. 9 cr. required for admission and are usually taken prior to enrollment in the program)

II. Additional Courses (3 cr. hrs.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYG 2000 or ANT 2000 or PSY 3013</td>
<td>3</td>
</tr>
</tbody>
</table>

**D. Speech-Language-Hearing Concentration (min. 35-37 cr. hrs.)**

Coursework is sequenced for the ISS concentration in Speech-Language-Hearing Science. All students must complete study in basic knowledge of the communication sciences and in basic knowledge of communication disorders. In the senior year, a student can select a focus area in either Speech-Language Pathology or in Hearing Impairment. Upon admission to the concentration, each student will be assigned an advisor in order to provide guidance in academic planning.

**The course of study:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPA 3002 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 3030 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 3101 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 3110 (3)</td>
<td>3</td>
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<tr>
<td>SPA 3112 (2)</td>
<td>2</td>
</tr>
<tr>
<td>SPA 3011 (3)</td>
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</tr>
<tr>
<td>SPA 4050 (2)</td>
<td>2</td>
</tr>
<tr>
<td>DEP 4135 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 4201 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 4363 (3)</td>
<td>3</td>
</tr>
<tr>
<td>PSY 4931 (3, recommended)</td>
<td>3</td>
</tr>
</tbody>
</table>

Speech-Language Pathology Focus

SPA 3380 (3) & SPA 3380L (1) (4, recommended).

Hearing Impairment Focus

SPA 4140 (3) SPA 4210 (3) SPA 4222 (3)

Students interested in teacher certification in deaf education must complete required education courses in addition to all ISS requirements listed under Sections B and C. Effective July 1989, the academic entry requirement into the public school system for Speech-Language Pathologists will be the Master's degree.

**E. Concentration American Sign Language (min. 30 cr. hrs.)**

The ASL concentration seeks to educate students to communicate with the deaf and to apply this knowledge in work settings where knowledge of the deaf culture is essential for the provision of social services. This ISS concentration is not intended to prepare interpreters for the deaf although exceptionally proficient students may qualify as interpreters. This concentration also does not qualify students for admission into the M.S. programs in Speech-Language Pathology or Clinical and Rehabilitative Audiology, including Deaf Education. Those students choosing to be come teachers of the deaf must pursue the ISS concentration in Speech-Language-Hearing Science and obtain the M.S. degree.

General admission requirements, recommended admission requirements, and ISS requirements are identical to the ISS concentration in Speech-Language-Hearing Science. The specific course of study for the ASL concentration also assumes that the student has completed an A.A. degree or its equivalency. Upon admission to the concentration, each student will be assigned an advisor for the purpose of academic planning. The following courses are all required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPA 3002 (3)</td>
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</tr>
<tr>
<td>SPA 3030 (3)</td>
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<tr>
<td>SPA 3110 (3)</td>
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<tr>
<td>SPA 3380 (3)</td>
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</tr>
<tr>
<td>DEP 4135 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 4337 (3)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 4363 (3)</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum Grade for Majors

A student must receive a "C" grade or better in all courses within the major and those that are required prerequisites. Should a student fail a course in the area of concentration during the first year, in the major, no more than two courses may be repeated for grade forgiveness. Courses may not be repeated in the second year of the major.

**CRIMINOLOGY (CCJ)**

The major in criminology provides students with an in-depth exposure to the total criminal justice system including law enforcement, detention, the judiciary, corrections, and probation and parole. The program concentrates on achieving balance in the above aspects of the system from the perspective of the criminal justice professional, the offender, and society.

The objective of the undergraduate program in criminology is to develop a sound educational basis for professional training in one or more of the specialized areas comprising the modern urban Criminal Justice System.

**Requirements for the B.A. Degree:**

A minimum of 39 semester hours is required of all undergraduate majors in criminology including the following courses or their equivalents:
In addition to the above, a minimum of 15 hours in criminology must be selected by the student to complete the requirements. Transfer students should be aware that by University regulation they are obligated to establish academic residency by completing the equivalent of one academic year (30 semester hours) in “on-campus” courses. All undergraduate transfer students entering criminology as their major will be required, moreover, to take a minimum of 27 credits in major coursework at the University of South Florida.

These residence requirements are designed to insure that transfer students who subsequently receive their baccalaureate degree from the University of South Florida with a major in criminology will have been exposed to the same body of knowledge in their major as those students who complete all or a major portion of their coursework at the University of South Florida. Any student who receives a grade of “D” or lower in more than one USF CCJ course will be automatically barred from continuing as a criminology major.

ECONOMICS (ECN)
Economics offers a clear, logical way of thinking about complicated business problems as well as contemporary societal issues such as controlling unemployment, inflation, pollution, and crime. The department offers both major and minor programs requiring courses in basic economic analysis. With elective courses offered in industrial organization, labor economics, international trade, public finance, monetary economics, econometrics, history of economic thought, economic development, comparative economic systems, and other areas, students may tailor their study toward business, teaching, or government service careers. The economics curriculum also provides excellent preparation for those students seeking graduate or professional degrees in social sciences, law, or business.

Requirements for the B.A. Degree
A student may earn a Bachelor of Arts degree with a major in Economics by completing satisfactorily 33 credits in Economics in addition to college requirements. These 33 credits include:
- ECO 2023 (3)
- ECO 3014 (3)
- ECO 3015 (3)
- ECO 3101 (3)
- GE A 3203 (3)

The student is required to have obtained a grade of “C” in ECO 3101, Intermediate Price Theory, in order to enroll in any course for which ECO 3101 is a prerequisite.

Economics majors working at the regional campuses cannot expect to fulfill all economics course requirements at those regional campuses.

In addition to this core, students are required to select 12 hours of electives. Students are encouraged to select 3000-level courses in several of the applied areas during their junior year. At least 9 of the 12 hours of electives must be in courses for which either ECO 3101 or ECO 3203 is a prerequisite. The remaining economics electives must be selected from those upper level courses that provide the type of program that best suits the student’s interests and objectives. Not more than 3 hours of credit may be earned in ECO 4905 and ECO 4914.

Students majoring in economics are encouraged to supplement their programs with appropriate courses in other social sciences. Political science, psychology, sociology and others contribute greatly to an enriched plan of study. Similarly, a variety of courses in economics are designed to permit students majoring in other disciplines to acquire the skills and insights provided in economics.

Requirements for a Minor in Economics
Students majoring in Social Sciences, as well as students from other colleges, may minor in economics. Total requirements are:

1. A minor must include these four courses in basic economics:
   - ECO 2023 Economic Principles: Microeconomics (3)
   - ECO 2024 Economic Principles: Macroeconomics (3)
   - ECO 3101 Intermediate Price Theory (3)
   - ECO 3203 Intermediate Income & Monetary Analysis (3)

2. In addition, a minor must include two or more upper level courses taught in the Economics Department (excluding the variable credit courses ECO 4905, 4914, and 4935), bringing the total credit hours in economics to a minimum of 18. GEB 3121, Business and Economic Statistics II, or its equivalent, is acceptable for credit in a minor.

3. Before being recognized as a minor in economics, a student must obtain approval by the adviser in the Economics Department for the courses involved in the student's minor program.

4. A grade point average of 2.0 or better must be achieved in the minor coursework for a student to be certified for graduation with a minor in economics.

5. At least 12 of the required 18 credits must be taken in residence at USF.

GEOGRAPHY (GPY)
Requirements for the B.A. Degree:
Geography explains the variable character of the earth's surface. The two major divisions of geography are physical and cultural (human). Physical geography includes the study of earth-sun relationships, weather, climate, and natural features of the landscape, such as landforms, soils, vegetation, and hydrology. Cultural geography studies people, their various cultures, levels of technology, and economic activities that operate differentially to alter the natural landscape.

Geography's overriding purpose is to understand the earth as the home of man. A major concern of geography is the wise use of natural, human, and economic resources. Therefore, ecological and environmental considerations are central to the study of geography.

Students are encouraged to take elective credits in a wide variety of disciplines because of the cross-disciplinary approach to geography. Geographers typically work as urban and regional planners, environmental specialists, map and aerial photographic analysts, and resource managers.

A major in geography consists of 36 credit hours as follows:
- Required core courses (12 credit hours):
  - GEO 3013 (4)
  - GEO 4014 (4)
  - GEO 4100C (4)

- One of the following (4 credit hours):
  - GEO 4280C (4)
  - MET 4002 (4)

- Two of the following (8 credit hours):
  - GEO 3402 (4)
  - GEO 4440 (4)
  - GEO 4470 (4)
  - GEO 4372 (4)
  - GEO 4460 (4)
  - GEO 4502 (4)
  - GEO 4602 (4)

- One course with a GEA prefix (4 credit hours).
- Any additional 8 credit hours in geography, excluding
  - GEO 3901
  - GEO 4900
  - GEO 4910
  - GEO 3931C
  - GEO 1930

Requirements for the Minor:
A minor in Geography consists of sixteen hours, with a minimum grade-point average of 2.0. The required courses are:
- GEO 3000 (4)
- GEO 3013 (4)
- GEO 3014 (4)
- One upper level elective (GEA, GEO, MET, or URP 3000-5000 level) (4).

GERONTOLOGY (GEY)
Gerontology is the study of the process of human aging in all its many aspects: physical, psychological, and social. In the Department of Gerontology, particular emphasis is placed upon applied gerontology, with the goal of educating students who in their professional careers in the field of aging will work to sustain or improve the quality of life of...
Requirements for the B.A. Degree:
The Bachelor of Arts Degree in Gerontology entails 37 semester hours of required course work. In this program the course of study is intended to provide students with a liberal education in gerontology and some exposure to the various career opportunities in the field of aging. This degree is especially appropriate for students who are undecided about their eventual career goals in aging or who plan to pursue graduate work in gerontology or some other field.

Required Courses:
- GEY 3000 (3)
- HUS 4020 (4)
- GEY 4649 (3)
- GEY 4327 (3)
- GEY 4935 (3)
- GEY 4360 (3)
- GEY 4945 (6)
- GEY 3625 (3)
- GEY 4401 (3)

Requirements for the B.S. Degree:
The Bachelor of Science Degree in Gerontology is a specialist degree which, in addition to providing students with a basic education in gerontology, is intended to prepare them for entry level positions in Nursing Home Administration. It is especially appropriate for students who intend to begin working immediately following completion of the degree program.

Required courses:
- MAN 3025 (3)
- GEY 3601 (3)
- GEY 4328 (3)
- MAN 3240 (3)
- GEY 4360 (3)
- GEY 4939 (3)
- MAN 3301 (3)
- GEY 4640 (3)
- GEY 4945 (8)
- BUL 3112 (3)
- GEY 4327 (3)

Prior to taking the courses required in the major, students must complete the following twelve (12) hours of prerequisites: ACG 2001, ACG 2011, CGS 2000, and GEY 3000.

These courses are intended to reflect educational requirements mandated by the State of Florida and specified in Chapter 212.11 of the Florida Administrative Code.

The gerontology prerequisite can only be satisfied by a student's having taken GEY 3000 at this university or its equivalent at another institution. The human services prerequisite can be satisfied either by a student's having taken HUS 3001 or an equivalent course at another institution or by having had suitable work experience in the human services. The prerequisites of accounting can be fulfilled by taking ACG 2001 and ACG 2011 at this university or comparable work at another institution.

Students interested in either the B.A. or the B.S. option should contact the Department as early as possible in their careers at the University of South Florida.

Minor in Human Services
An undergraduate minor in Human Services is available for students interested in pursuing careers in fields such as social welfare, healthcare and mental health care, rehabilitation, and corrections. This minor may be taken in conjunction with any undergraduate major but it should be particularly beneficial to persons who are majoring in such disciplines as anthropology, criminal justice, nursing, political science, psychology, social work, and sociology. The Human Services minor is coordinated by the Department of Gerontology. Requirements for the minor are a total of 15 hours of the following upper-level courses:
- HUS 3001
- HUS 4700
- HUS 4100
- HUS 5505
- HUS 5325
- HUS 4020

Center for Applied Gerontology
The activities of the Center for Applied Gerontology include research on aging, program evaluation, short-term training of agency personnel and other activities intended to complement the educational program in gerontology.

HISTORY (HTY)
Requirements for the B.A. Degree:
A minimum of 32 semester hours is required for a major in history. Twelve hours of 2000 level courses, or their equivalent, constitute the lower level requirements. At least 12 hours of course work must be drawn from the 3000-4000 level in addition to HIS 4104 and 4936, which constitute the upper level requirements for the degree. It is recommended that history majors take ENC 3310, "Advanced Expository Writing," SPC 2023, "Fundamentals of Speech Communication," HIS 2001, "Use of the Library," and additional hours drawn from the following disciplines: African and Afro-American Studies, American Studies, Anthropology, Economics, Geography, Political Science, Interdisciplinary Social Sciences, Psychology, Philosophy, Sociology, Literature, the Humanities, and the Fine Arts. Majors intending to pursue graduate work should take a minimum of two years of classical or modern foreign language.

Requirements for the Honors Program:
The department's honors program challenges the superior student to achieve academic excellence through individual research and individualized instruction. Admission to the program will be competitive. A maximum of 15 students per year will be selected. They must meet the following criteria: 20 hours (at least 8 at USF) of history courses (3.5 GPA or better), 75 hours total course work (3.3 GPA or better), and recommendation by a USF history faculty member. Honors students will be assigned faculty advisors who will guide their research and the writing of an honors thesis. Students will also participate in an Honors Colloquium. Students interested in the program should contact the department undergraduate advisor for details of this demanding and rewarding program.

Requirements for the Minor:
The Department of History offers two options for students interested in the minor in History. Option one requires four history courses (at least 15 hours) at the 3000 and 4000 levels drawn from a minimum of three of the following fields: a) Ancient; b) Medieval; c) Modern European; d) United States; e) Non-Western; Latin American, Asian, African. Option two entails a 15-hour program organized and contracted by the student and the department around the specific needs of the student's major program. In both plans, a minimum of 8 hours must be completed at the University of South Florida and the student must maintain a 2.0 GPA in the minor. Certification of the minor will be supervised by the department. Students interested in a minor in history are encouraged to see the History department adviser as early in their undergraduate program as possible.

DIVISION OF INTERDISCIPLINARY SOCIAL SCIENCES (AFA/INT/OCT/ISS/WST)
The Division of Interdisciplinary Social Sciences offers four academic majors: the College major (Interdisciplinary Social Sciences), and the majors in African and Afro-American Studies, in International Studies and Women's Studies. It offers a minor in Women's Studies, a minor in International Studies, a minor in African and Afro-American Studies, a series of interdisciplinary social science core courses, and a series of independent study courses through the Off-Campus Term Program. Requirements for the Interdisciplinary Social Science major, the International Studies major and minor, the African and Afro-American Studies major and minor, and the major and minor in Women's Studies are described below.
AFRICAN AND AFRO-AMERICAN STUDIES (AFA)

The African and Afro-American Studies Program provides a quality undergraduate education leading to a Bachelor of Arts degree in African and Afro-American Studies. Essentially it is a service program which provides opportunities for all students to broaden the bases of their knowledge of the entire human experience and intercultural understanding so essential to living in a multi-racial society and a world that has become a global village. It provides a new horizon in liberal education that seeks reunification of the knowledge of human experience and strikes at the narrowness and ethnocentrism of the traditional disciplines which tended to contribute much to race prejudice and misunderstanding.

In the interest of general education the program provides a basic and broad knowledge about Africa and peoples of African descent from prehistoric times to the turbulent present. Part of its mission is to assist black students to achieve a more dignifying identity and fuller participation in the mainstream of their society and nation. It attempts to help them to develop a greater awareness of one's self and one's talents and to provide educational and research opportunities necessary for the acquisition and understanding of political and economic realities and tools that must enable black people and other minorities to become effective determinants of their own political and economic life. To the non-black student the program provides an opportunity to acquire additional perspectives from which to view, analyze and deal with contemporary social issues and political problems.

Admission to the African and Afro-American Studies major is open to all students who have been duly admitted to the University of South Florida by the Office of Admissions and who file necessary papers in the Office of the Coordinator of Undergraduate Student Affairs, College of Social and Behavioral Sciences, to declare a major in the field. All of the program's courses are open to all other students - regular and special - of the University.

Requirements for the B.A. Degree:
The major in African and Afro-American Studies consists of a minimum of 36 hours in the field specified as follows:

Required Core Courses (15 cr. hrs.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFA 2001</td>
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</tr>
<tr>
<td>AFH 3200</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>AMH 3572</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>AFA 4331</td>
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<td>(3)</td>
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<tr>
<td>PHM 4120</td>
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<td>(3)</td>
</tr>
<tr>
<td>AFS 3311</td>
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<td>(3)</td>
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</tbody>
</table>

Required Supporting Core Courses (6 cr. Hrs.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECP 4143</td>
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</tbody>
</table>

Suggested Elective Courses (15 cr. hrs.)

<table>
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<th>Course Title</th>
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<tbody>
<tr>
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<tr>
<td>INR 4254</td>
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</table>

Majors must maintain a minimum of 2.0 average and are also responsible for fulfilling College and University general education requirements.

Requirements for the Minor:

African and Afro-American Studies Program offers minors in African and Afro-American Studies to meet the interest of students. Each minor consists of eighteen hours, exactly half of the upper-division credits required for a major. Requirements for the minors are as follows:

African and Afro-American Studies Option 1 (Minimum of 18 hours):

Required Core Courses (9 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
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Electives (9 hours) selected from:

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<th>Course Title</th>
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<td>(3)</td>
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<tr>
<td>HUM 3240</td>
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African and Afro-American Studies Option II (Minimum of 18 hours):

Required Core Courses (9 hours)

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<tr>
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Electives (9 hours) selected from:

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AFA 4150</td>
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<td>AFA 4331</td>
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Required Core Courses (9 hours)

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<th>Course Title</th>
<th>Credits</th>
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</thead>
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<tr>
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<td>(3)</td>
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<tr>
<td>ECP 4143</td>
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<td>(3)</td>
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AFRICAN AND AFRO-AMERICAN STUDIES (AFA)

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AFRICAN AND AFRO-AMERICAN STUDIES (AFA)

Interdisciplinary Social Science Major (ISS)

This program of study is designed to provide an interdisciplinary focus in the social sciences for students who are interested in a broad educational experience that extends beyond the boundaries of a single discipline. This major offers, within certain parameters, a wide choice of courses, and an opportunity to design a program of study geared toward the student's individual career needs and interests. It should be understood, however, that each program of study has to be designed in such a way that quality and coherence are assured. For these reasons, the program of study is to be planned by the student in consultation with the advisor. Approval of the contract is provided by the advisor.

Specific requirements for a B.A. degree in Interdisciplinary Social Sciences (ISS) include:

1. The completion of 42 approved hours of course work from the College of Social and Behavioral Sciences (CSBS), with a minimum of 30 hours at the 3000 or above level.

2. The student has to choose between two cognate areas (provided below) and complete twelve hours in each, or the student can select one of the more structured curricula available: ISS with an emphasis in (a) Speech and Hearing Science, (b) Interpreter Training for the Deaf, (c) American Sign Language, (d) Urban Education.

3. It is suggested that the student work out a program of study during the junior year, particularly before too many courses are completed in CSBS. No student should assume, under any circumstances, that courses already completed in CSBS will automatically count toward the ISS degree.

4. Students must maintain a minimum grade point average of 2.0 in ISS to graduate.

5. For those highly motivated students, with a minimum grade point average of 3.2, an individualized curriculum can be developed with the approval of the advisor. Under such circumstances core courses and restricted electives may be waived. This course of study will be directed toward the special educational interests of these students. A thesis will be required of students taking this option.

COGNATE AREAS - you must select two areas, and take 12 hours in each. Cognates must be selected from the areas of study listed below: AFA, ANT, CCJ, EGN, GEY, GPY, HTY, HUS, INT, LAS, PAD, POL, PSY, SOC, SOW, and WST.

INTERNATIONAL STUDIES (INT)

Requirements for the B.A. Degree:
The major in International Studies enables students to undertake programs of study which emphasize (a) preparation for careers in international activities, or (b) the study of particular international themes or topics, or (c) the study of particular regions or cultures. The program of study is developed by each student in consultation with the International Studies Adviser so as to best serve the education and career goals of the individual.

The major consists of a minimum of 37 semester hours. At least 21 of these hours (seven courses) must be from the International Studies Program offerings. The seven required courses are:

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INTERNATIONAL STUDIES (INT)

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The additional 16 hours may be selected from course offerings of other departments, which are approved by the major adviser as having adequate international or cross-cultural content, or the student may take upper level electives from the International Studies curriculum.

With the approval of the major adviser, credits earned in ISS 4900 (1-3) and ISS 4910 (1-3) may be used to augment or substitute for the foregoing requirements. Students are encouraged, but not required, to engage in study abroad programs, a large number of which have been approved by the USF International Affairs Center. Credits earned in such programs apply toward graduation and many also apply to the INT major.

Required Supporting Courses:
Students must pass a 2000 level foreign language course (that is, at least one semester of foreign language study beyond the first year introductory courses), or complete one year of study of a non-Western language. Students who are bilingual or who are already conversationally fluent or who can translate with facility from a foreign language text are exempt from the above course requirement, but the INT faculty may require demonstration of proficiency.

Students will be provided with academic advice and counsel about other courses offered throughout the university which may support and complement their major program. INT majors should plan their programs in conjunction with the adviser who is empowered to make appropriate substitutions when educationally justified.

Minor in International Studies
The minor in International Studies is basically a name given to a set of International Studies courses taken by a student that approximates one half of the upper level credits required for a major. The minor consists of 18 credit hours made up of six courses as follows:

- ISS 2221 (3)
- ISS 3260 (3)
- ISS 4250 (3)

and 3 upper level courses chosen from the International Studies Program’s offerings of the Division of Interdisciplinary Social Sciences. Each student’s program must be planned with the International Studies Program major adviser, who is empowered to approve appropriate substitutions when educationally justified.

Interdisciplinary Core Courses
Two of these courses, one an introductory course and the other a senior seminar, are taught from an interdisciplinary social science perspective. These courses are designed to introduce students to the study of humans in social groups, and to bring into some coherency the various concepts, theories and methods studied in the social sciences. Social Science Statistics is also required for majors in Interdisciplinary Social Sciences.

Off-Campus Term
The Off-Campus Term Program, described in more detail elsewhere in this catalog, is a University-wide, interdisciplinary program which urges students to spend part of their time in college in pursuits that are self-designed and implemented in an environment entirely off campus and out of the classroom. OCT provides for an “education in life” for full academic credit as an alternative to the traditional methods of learning.

WOMEN’S STUDIES (WST)
Requirements for the B.A. Degree
The major in Women’s Studies provides a well-rounded Liberal Arts education based on the best and most current scholarship on women in many disciplines. Its subject is not only the evolution of historical attitudes, ideologies, and practices concerning women but also an analysis of the current status of different classes, races and groups of women.

Women’s Studies offers excellent undergraduate preparation as well for (1) those who wish to apply to law school or to graduate study in a variety of fields, e.g., Urban or Medical Anthropology, Counselor Education, Criminal Justice, Gerontology, History, Rehabilitation Counseling, Social Work, Women’s Studies; (2) those who want to focus on women in specific disciplines or professions; and (3) those whose training would benefit from a close scrutiny of the major issues facing women today. Majors must complete 33 hours, distributed as follows:

1. Required Core Courses (18 hours)
   - WST 2010
   - SOP 3742
   - WST 4310
   - AFA 4335
   - WST 4935
   - STA 3122, or equivalent

2. (3 hours)
   - Either WST 3275 or ANT 4302

3. (3 hours)
   - Either REL 3145 or POS 4693 or WST 4320

4. (9 hours)
   - Three electives chosen from the remaining courses listed under Women’s Studies, including those not taken under 2 and 3 above.

Those electing to major in Women’s Studies should consult the Program Coordinator for timely scheduling of classes.

Minor in Women’s Studies
A student wishing to minor in Women’s Studies will be required to take five courses:

- WST 2010
- Two Women’s Studies courses at the 3000 level.
- Two Women’s Studies courses at the 4000 level, no more than three credits of which may be satisfied by WST 4900 (Directed Readings) or 4910 (Directed Research).

Students minoring in Women’s Studies must be certified by the Program Coordinator.

POLITICAL SCIENCE (POL)
Requirements for the B.A. Degree
The undergraduate program leading to the B.A. degree in political science offers a general purpose degree, and a number of more specialized alternatives. These include the pre-professional plan in political science. The program is designed for students interested in and seeking to understand political problems and issues, and the nature of the political process, as well as the philosophical and legal basis of political structures and processes at local, state, national, and international levels. Satisfying the degree requirements prepares students for positions in the public and private sectors, for law school, for graduate work in political science, international relations, public administration, and related disciplines, for positions in education, and for applied political activity.

Students who earn a B.A. degree in political science should be able to relate knowledge from their major field to other allied disciplines as well as being well-grounded in political science. In fact, it is impossible to understand fully and to explain political events and behavior without some knowledge of history, economics, sociology, and other related fields. To aid and encourage political science majors in this endeavor, students must take a minimum of 18 hours in courses from among history, economics, anthropology, geography, sociology, psychology, philosophy, or other approved Social Sciences. Six hours should be in history, three in economics, and six from the remaining fields. Six of the eighteen hours must be taken at or above the 3000 level.

A minimum of 36 credit hours is required to satisfy the requirements of the major. Students must take the 12 credit hours of required coursework in political science. No more than six credit hours can be taken from POS 4905, POS 4910, and POS 4941. (A GPA of 3.0 is required to enroll in these courses; special exception may be granted by the Chair for students with a GPA between 2.70 and 2.99).

Students transferring credit hours toward a major in political science must complete a minimum of 21 credit hours within the Department, regardless of the number of credits transferred, in order to satisfy the requirements of the major.

The undergraduate curriculum in political science is composed of the following:
Students should complete POT 3003 and POS 3713 by the end of the first semester of their junior year; students transferring with 45 credit hours or more must complete these courses within their first two semesters in residence at USF.

Electives from the seven fields (24 cr. hrs.) with at least one course from Field I, one course from Field II or III, and one course from any of Fields IV, V, VI, or VII; no course from a given field or field grouping can be taken until the core course has been completed.

Field I Political Theory
- POS 5734 (3)
- POT 4204 (3)
- POT 3013 (3)
- POT 5626 (3)
- POS 4054 (3)
- POT 4064 (3)

Field II Comparative Government and Politics
- CPO 4034 (3)
- CPO 5934 (3)
- CPO 4930 (3)
- POS 4112 (3)
- POS 4204 (3)
- POS 3173 (3)
- POS 4413 (3)
- POS 3182 (3)
- POS 4424 (3)
- POS 3273 (3)
- POS 5054 (3)
- POS 3453 (3)

Field III International Relations
- INR 3102 (3)
- INR 4403 (3)
- INR 4035 (3)
- INR 4502 (3)
- INR 4334 (3)
- INR 5066 (3)
- INR American National and State Governments
- POS 2112 (3)
- POS 4204 (3)
- POS 3173 (3)
- POS 4413 (3)
- POS 3182 (3)
- POS 4424 (3)
- POS 3273 (3)
- POS 5054 (3)
- POS 3453 (3)

Field V Urban Government and Politics
- POS 3142 (3)
- POS 5155 (3)
- POS 3145 (3)
- PUP 4534 (3)
- POS 4165 (3)
- URP 4050 (3)
- PUP 5060 (3)
- PUP 4534 (3)
- PUP 3145 (3)
- PUP 3146 (3)
- PUP 3154 (3)

Field VII pre-Law
- INR 4403 (3)
- POS 4614 (3)
- POS 3283 (3)
- POS 4624 (3)
- POS 3691 (3)
- POS 4693 (3)

The following courses are not included within any of the seven fields, but may still be used as elective hours:
- PAD 3003 (3)
- POS 4936 (3)
- POS 4970 (3)
- POS 4910 (1-3)
- POS 3931 (3)

Requirements for a Minor in Political Science
A minor in political science consists of a minimum of 18 credit hours, made up of two courses (6 credit hours) from among CPO 3002 (or INR 3002), POS 2041, and POT 3003. An additional 12 credit hours in regularly scheduled political science courses are required. Students transferring credit hours toward a minor in political science must complete 12 credit hours within the Department, regardless of the number of credit hours transferred, in order to be certified for a minor.

Field Work
The Department of Political Science has a field work program which provides students with part-time internships with state and local government and with political parties at the state and local level. Academic credit is available for such internships. For further information, contact the Department of Political Science.

Honors in Political Science
Honors in Political Science is designed for the outstanding undergraduate who seeks an intensive program plus academic recognition during the senior year. Admission to the honors sequence, which is available to all undergraduate majors, will be controlled by grade point average, personal interviews and close scrutiny of the student's program and record. Students admitted will write an honors thesis, POS 4970 (3).

Pre-Professional Plan in Political Science
This plan is designed for students seeking an intensive undergraduate concentration in political science. Typically, students electing this plan will be oriented towards graduate work in political science or other social sciences. A minimum of 36 credit hours is required.

Students must take six credit hours of required courses:
- POS 2041 (3)
- POS 3713 (3)
Ten additional courses in political science (30 cr. hrs.) must be taken, of which at least seven must be above the 3000 level. Concentration within fields will be encouraged.

Requirements for the Pre-Law Plan in Political Science
The Department of Political Science offers a pre-law plan designed for the undergraduate considering a career related to law; Field VII of the undergraduate curriculum (Law and Politics). The courses making up the field are of particular interest to law-oriented students, but may be taken by others as well. The Department seeks to guide majors to those courses which develop skills and provide information needed for good performance in the study of law. The Department also seeks to give students the skills and information needed for entry into a number of law-related positions in business and government. An integral part of this plan is a high degree of student access to the Department's pre-law adviser.

Prior to admission to law school, a student must take the Law School Admission Test (LSAT). This test is given by the Educational Testing Service of Princeton, New Jersey.

The Law School Admission Test is given simultaneously several times each year at the University of South Florida and numerous other testing centers throughout the state. Students should plan to take the test at least one year prior to planned enrollment in law school. Additional information is available from the Department of Political Science, University of South Florida.

(Prelaw is not a prescribed program of study. No specific college major is required for admission to law school. Those students intending to pursue the study of law must obtain a Bachelor of Arts degree in an area of personal choice. It is generally agreed that knowledge and understanding of the political, economic, and social context within which legal problems arise facilitate a career in law.)

International Affairs Focus in Political Science
The Department of Political Science offers a number of courses that prepare students for graduate study in International Relations and career opportunities in private or public transnational organizations.

Basic courses in the area include:
- INR 3002 Introduction to International Relations
- CPO 3002 Introduction to Comparative Politics
- INR 3102 American Foreign Policy

In addition, the Department offers the following upper-level courses:
- CPO 4034 Politics of Developing Areas
- CPO 4930 Comparative Politics of Selected Areas
- INR 4334 Defense Policy
- INR 4035 International Policy Economy
- INR 4403 International Law
- INR 4502 International Organizations
- CPO 5934 Issues in Comparative Politics
- INR 5086 Issues in International Relations

Students desiring careers in international affairs or international administration are encouraged to supplement these courses with courses offered in the Departments of International Studies, Management, Economics, Business Administration, Foreign Languages, and Public Administration.

PSYCHOLOGY (PSY)
Psychology involves the scientific study of behavior and mental processes. Because of this focus, psychology is relevant to many other areas of study both inside and outside of the social and behavioral sciences. The undergraduate program in Psychology offers the student a well-rounded liberal arts education. In addition, the program provides excellent training for qualified students who wish to pursue graduate work in such disciplines as Clinical, Experimental or Industrial Psychology, Education, Gerontology, Counseling, Management, Medicine,
and other human service programs. The undergraduate major emphasizes the breadth of psychology while allowing the student some electives to pursue in depth a particular aspect of the field. The graduate faculty of the Psychology Department are divided into three broad program areas: Clinical, Experimental, and Industrial/Organizational. Each of these program areas offers Ph.D. level training as well as introductory instruction at the undergraduate level.

**Requirements for the B.A. Degree**

Majors must complete at least 34 semester hours in the field. All majors must complete:

1. **2000/3000 Level Requirement (6 semester hours)**
   - Successful completion of: PSY 3013 (3 semester hours) and one of the following:
     - INP 3101
     - PSY 3022
     - SOP 3742

2. **Methods Course Requirement (7 semester hours)**
   - Successful completion of: PSY 3213 and one of the following:
     - CLP 4433
     - PSY 4205
     - or another methods course approved by the undergraduate advisor in Psychology.

3. **4000 Level Requirement (21 semester hours)**
   - Successful completion of 7 additional courses numbered at the 4000 level selected as follows: At least two courses from each of the two groups below:
     - **Group I**
       - EXP 4204C
       - EXP 4304
       - CLP 4143
       - DEP 4005
     - **Group II**
       - EXP 4404
       - EXP 4523C
       - INP 4004
       - PPE 4004
   - and 3 additional courses numbered at the 4000 level.
   - **Note:** No more than a total of 3 hours of the following course may count toward the major:
     - PSY 4913 Directed Research
     - PSY 4913 (3) is recommended for students planning graduate training.

Functional mathematics and biological science are recommended; otherwise, students majoring in psychology are encouraged to complete a varied undergraduate program.

**Requirements for the Minor in Psychology**

A minor in Psychology consists of a minimum of 15 credit hours, comprising PSY 2012, PSY 3013, and any three 4000 level psychology courses except PSY 4913. A GPA of 2.0 or better in the minor is required for certification. The purpose of the minor is to help students majoring in other disciplines to obtain an appropriate psychology background that will complement their work in their major. See the Psychology Department Undergraduate Advisor for suggested minor programs for students majoring in various fields.

**Psychology Honors Program**

The purpose of the Honors Program is to provide a select group of undergraduate Psychology majors an opportunity to undertake an intensive individualized research experience. The culmination of the Honors Program is the completion and defense of an honors thesis. Application for the program will take place during the second semester of the student's junior year, or prior to completion of 90 semester credits. Admission to the program is competitive and based on the student's overall academic record, performance in psychology courses and a letter of recommendation from a member of the Psychology Department faculty. Successful completion of the program requires a GPA of 3.5 in major coursework, an overall GPA of 3.0 at USF and completion of 43 hours in psychology including PSY 4913 (3), PSY 4932 (4), and PSY 4970 (8). See the Psychology Department Undergraduate Advisor for details of the program and application form.
SOCIAL WORK (SOK)

Undergraduate Study

The University of South Florida offers a program leading to a Bachelor of Social Work (B.S.W.) degree in the Department of Social Work, College of Social and Behavioral Sciences. This program has been developed in accordance with the guidelines set forth by the Council on Social Work Education, the national accrediting body for social work education programs, and in accordance with the recommendations of the National Association of Social Workers. The B.S.W. program is fully accredited by the Council on Social Work Education. The primary objective of the B.S.W. program is the preparation of the graduate for beginning level professional practice as a social work generalist. The secondary objectives of the B.S.W. program are:

1. to provide for the social work human resources needs of the University service district (the central Florida west coast area), the State of Florida, and the Southeast Region;
2. to prepare graduates for additional professional training at the graduate level in social work or in related human service professions;
3. to provide an opportunity to develop a knowledge base and skill base as a "generalist" practitioner. The student will develop an understanding of various interventive methods, and skill in their application to a variety of client systems. For example, interventive methods may take the form of individual and group counseling, resource development, consultation, teaching, advocacy, etc. Client systems may be individuals, families, groups, community groups, organizations, or social welfare organizations. The student will develop an understanding of the dynamics of human behavior in individual, group and organizational contexts and the influences of the sociocultural environment upon those behaviors. The student will learn about the development of social welfare systems and institutions and the social, economic, and political processes affecting policy development and program implementation. The student will develop an understanding of the utilization of basic social research skills particularly related to the processes of problem-solving, planning, and evaluation.

The student will also become aware of the value base of the profession and engage in a self-examination process as it relates to the development and reflection of ethical and effective professional practice. The B.S.W. program, as any professional program, places great emphasis on the development of a professionally responsible graduate in terms of one's obligations to the client system served, the profession itself, the organization in which one works, and to the general public which ultimately provides any profession with legitimacy.

Enrollment in the B.S.W. program is limited. Unlike many academic programs where the student may declare a major, the B.S.W. program is a limited access program. Students may apply for admission to the program after having satisfied the admission criteria described below. However, the completion of the prerequisites does not guarantee the student's admission to the program. Limited state funding places constraints on the size of the social work faculty and in order to maintain a high quality of instruction it is necessary to achieve an appropriate faculty-student ratio. This means that it may be necessary to deny admission to the B.S.W. program solely on the basis of no available space. Any student filing intent to seek admission or actually applying for admission to the program should be aware of this possibility.

Additionally, any student who does not maintain a GPA of at least 2.75 in social work courses while enrolled in the B.S.W. program or who clearly does not exhibit responsible professional behavior, may be subject to dismissal from the program. A social work major receiving a grade of less than "C" in a core course will be required to repeat the course.

Admission to the B.S.W. program is a two-stage process. Any student that holds a minimum of Sophomore standing may declare a pre-social work major. This is done by filing a declaration of major form with the College of Social and Behavioral Science, Records and Advising Office and a similar form with the Department of Social Work. All pre-majors will be assigned an advisor within the Department who will assist the student in selecting pre-core courses (see listing of pre-core courses). Many students will have already taken most of the pre-core courses as part of general distribution at USF or in their course of study at a community college. After completing the pre-core courses a student will be ready to apply for admission to the B.S.W. program as a full major. It is necessary to be admitted as a major before taking core social work courses.

Admission requirements for the social work major are as follows:

1. A student must have completed a minimum of one semester as a pre-social work major;
2. A student must have completed required pre-core courses (see listing);
3. A student must complete an application for admission and file it with the Department of Social Work at the beginning of the semester in which admission is sought;
4. A student may be asked to complete an admission interview with a favorable action from the Admissions Committee.

Any of the foregoing admission criteria may be waived by the Department where unusual circumstances and compelling merit are clearly demonstrated.

A student must achieve a GPA of 2.75 in Social Work courses to enroll in field placement and subsequently graduate with the B.S.W. degree.

Pre-Core Courses

1. A student must complete one course in each of the following cognate areas:
   - Human Biology: Food and Drugs, Sex, Reproduction and Population, Topics in Human Biology
   - Political Science: American National Government, State and Local Government, Florida Politics and Government
   - Psychology: Introduction to Contemporary Psychology, Contemporary Problems in Psychology, General Psychology
   - Sociology: Introduction to Sociology, Contemporary Social Problems, Social Psychology

2. A student must complete one of the following cross-cultural courses:
   - Anthropology: Introduction to Anthropology, Anthropological Perspective, Cultural Anthropology
   - Sociology: Racial and Ethnic Relations
   - Women's Studies: Introduction to Women's Studies, Contemporary Women in the United States, Psychology of Women, Women in Cross-Cultural Perspective

3. A student must complete one of the following behavior courses:
   - Human Services: The Life Cycle
   - Psychology: Developmental Psychology
4. A student must complete SOW 3302, Introduction to Social Work, with a minimum grade of "B," and SOW 3203, The American Social Welfare System, with a minimum grade of "C."

Requirements for the B.S.W. Degree (Core Courses)
1. Human Behavior and Social Environment Courses
   SOW 3101 (3)  SOW 3102 (3)
2. Social Welfare Policy & Service Course
   SOW 4233 (4)
3. Social Research Course
   SOW 3403 (4)
4. Social Work Practice Courses
   SOW 4341 (5)  SOW 4343 (5)
5. Directed Field Experience
   SOW 4510 (10)
6. Additional Requirements
   SOW 4361 (2)

Summary:
- Core Courses: 26 hours
- Field Experience: 10 hours
- Total: 36 hours

SOCIOLOGY (SOC)
The primary purpose of the major in Sociology is to contribute directly to the student's capacity for critical analysis and understanding of social phenomena and the dynamics of social structure and process. At the same time, it will prepare students for a wide range of careers such as teaching, law enforcement, personnel work, sales, research, urban planning, etc. It also provides training for advanced graduate work in sociology and social psychology and other applied areas such as gerontology, criminal justice, social work, etc.

Requirements for the Major (B.A. Degree)
The major consists of a minimum of 30 credit hours. The following courses may not be counted in the 30 hour minimum for the major but may be elected as additional courses: SYG 1010, SYG 2412, SYA 3504. No more than 3 credit hours of Individual Research (SYA 4910) may be counted as major elective credit. A model program of recommended sequences may be obtained from the Department of Sociology.

Transfer students should be aware that by University regulations, the equivalent of one academic year must be taken in on-campus courses. In Sociology, we require that of the 30 credits needed to make up the major, no more than 9 credits earned elsewhere, including exchange program credits, can count towards the major. The purpose of this rule is to insure that our certification that an individual who has majored in sociology genuinely reflects our understanding of sociology as a major and that there is no fundamental difference between the transfer student and those whose work was entirely or mostly completed at the University of South Florida.

STA 3122 (3)  SYG 2000 (3)  SYA 3010 (3)
SYG 2000 (3)  SYA 3300 (3)  SYO 3530 (3) or SYO 3500 (3)

For students electing a major after having successfully taken 12 upper level credits without having had a formal Introductory course, SYO 3500, Social Organization, may be substituted for SYG 2000 as a requirement. Students making this choice must take SYO 3530 to meet the additional requirement stated above.

Requirements for a Minor:
A minor consists of a total of 15 credits; SYG 2000, Introduction to Sociology (or equivalent) plus 12 semester hour credits at the 3000 level or higher. Though we do not require an adviser, feeling students to be capable of making reasonable choices, we recommend the use of an adviser to find the best set of courses fitting one's personal interests.
State University System, External Degree Program

Bachelor of Independent Studies (BIS)

The Bachelor of Independent Studies (BIS) Program is available through participating state universities in Florida. The universities currently involved are the Florida State University, the University of Florida, the University of North Florida, and the University of South Florida. The administrative office for the statewide program is located at USF in Tampa.

Founded in 1968, the external degree program is for adults who find it difficult to attend regular university classes because of career or family commitments. The BIS student proceeds at his/her own pace and time, for the most part, in his/her own setting. The exception is the summer seminars which require periodic, short-term campus residence.

Curriculum

The curriculum of interdisciplinary studies consists of four study areas: Humanities, Natural Sciences, Social Sciences and Inter-area Studies. The first three areas of study are completed through guided independent study and a resident seminar. While the seminar is of short duration, the tutorial/independent study for each area requires a longer commitment of time. The student may begin in any of the first three study areas and is encouraged to start in his/her area of strength.

Tutorials

The tutorial or guided independent study is predominantly print intensive, with core and suggested readings drawn from the BIS Guide to Independent Studies. In the Humanities tutorial, for example, the student reads across the disciplines of the Humanities Study Area which include Language, Literature, Philosophy, Art, Drama, and Architecture. Selected works are reviewed within the framework of historical periods. Tutorial objectives include understanding of the basic principles of each of the genres and periods, the ability to visualize relationships between the disciplines, grasp of the nomenclature of the disciplines, and the capacity to apply basic concepts to current issues. The student is responsible for systematic interaction with the faculty mentor who directs the reading process and evaluates the student's progress.

In the Natural Sciences tutorial, the BIS learner studies about Science--Science for the non-scientist. Emphasis is placed on the interrelationships of the disciplines of Science. Topics illustrative of this interdisciplinary approach to Sciences include Mathematics, Physics, Chemistry, Biology, Astronomy, Geology, Ecology, History, and Philosophy of Science, and the impact of Science on technology. As is the case with other tutorials the learning objectives involve concepts, nomenclature, cross disciplinary insights, and application of concepts/methods to current issues.

In the Social Sciences tutorial, the student reeds selected core and supplementary reading and completes written projects in each of the basic disciplines of the Social Science Study Area. These include Anthropology, Economics, Geography, History, Political Science, Psychology, and Sociology. Tutorial objectives include knowledge of the basic concepts and principles of each discipline, familiarity with major social science research issues, understanding of the relationships among the different disciplines, and the ability to apply disciplinary or interdisciplinary concepts or models to current issues.

Following the tutorial, the student completes a comprehensive examination in order to demonstrate that a satisfactory level of proficiency has been attained in the independent study component of a particular area. The exam may be taken on or off campus.

Seminars

Students are invited to attend seminars on the USF campus. This process is completed for each of the first three study areas (Humanities, Natural Sciences, and Social Sciences). Each seminar represents a period of intensive residential learning under the direction of a team of faculty members. Seminar faculty teams identify the subject matter and activities of each seminar. Humanities seminars, for example, are often theme oriented but the focus is on interdisciplinary concerns. A number of historical periods may be approached through discussion of selected genres of the age such as art, music, literature, and architecture. In a Natural Sciences seminar, the focus is on an interdisciplinary approach to learning about Science. Social Sciences seminar faculty focus on the knowledge gained in the tutorial with an emphasis on synthesis, extension, and application of this learning to selected topics such as energy, patterns of human behavior, and human rights.

Seminar activities also vary with the study area. A visit to a museum or art gallery goes with a Humanities Seminar. In Science, laboratory experiences and field trips are utilized to show students the ways of Science and to allow them to experience the excitement of discovery. Many of the activities described in a Social Sciences seminar syllabus are used in other seminars as well, i.e., lectures by faculty team members or guest lecturers, presentations by group members, group discussion, library research, learning journals, and a research paper.

Students in all seminars may be asked to read materials related to the seminar theme prior to the seminar and to complete written assignments after the completion of the two-week seminar period. Seminars meet for two consecutive six-day weeks and activities take up a full day. Students who have completed the comprehensive exam for the study area tutorial are automatically invited to a seminar. Others become eligible with the consent of the mentor.

Undergraduate Thesis

The fourth study area or Inter-area Studies calls for a synthesis of the first three study areas via the preparation and defense of an undergraduate thesis. The student begins the Area with Inter-area reading leading to the completion of an undergraduate thesis prospectus under the direction of a primary adviser. Following approval of the prospectus by a committee composed of three faculty, the student writes the study under the direction of the committee chairperson. The final step is to successfully complete the thesis orally either on campus or via teleconference at the discretion of the Committee.

Admission Procedures

Applicants to the BIS Program must qualify for admission to the University of South Florida and for admission to the External Degree Program. The USF Director of Admissions rules on the admission of an applicant to the University. The BIS Committee rules on admission of an applicant to the BIS Program. BIS applicants typically welcome the challenge of Liberal Studies and the rigor of independent study. See Admissions Section for information regarding credit hour fees for the BIS Program.

Mechanisms for Recognizing Prior Learning

Program policy allows for recognition of prior learning. Applicants, for example, who demonstrate sufficient competence may waive up to a maximum of two areas of guided independent study. Applications for waivers are processed after pre-enrollment procedures have been completed.

Applicants who have sufficient competence in some, but not all, of the disciplines in a study area may receive advanced placement or an abbreviated reading program, based on the individual's background and needs. This assessment is accomplished as the student relates with the mentor in the context of the tutorial. Individuals with an A.A. degree, and Registered Dental Hygienists, Registered Nuclear Medicine Technologists, Registered Nurses, Registered Radiologic Technologists, and Registered Respiratory Therapists have been admitted on an A.S. degree from a state-approved program. For the "two-plus-two interface" with BIS requirements.

In other words, those with an appropriate associate's degree complete two substantive study areas involving two tutorials and two seminars. The two study areas (Social Sciences & Natural Sciences or Humanities & Social Sciences or Natural Sciences & Humanities) are stipulated by the BIS Committee in keeping with the applicant's background and career plans. The two designated study areas are regarded...
as the curriculum contract component of the "two-plus-two interface." Anyone choosing the "two-plus-two" option is ineligible to apply for waiver.

The BIS Program is academically responsible to the Provost for Academic Affairs through the BIS Committee. Administratively, the Program reports to the Dean of the School of Extended Studies and Learning Technologies.

For further information, contact the State University System, External Degree Program, Bachelor of Independent Studies (BIS) at the University of South Florida, Tampa, Florida 33620.
COURSE DESCRIPTIONS

Courses offered for credit by the University of South Florida are listed on the following pages in alphabetical order by college and subject area. The first line of each description includes the State Common Course prefix and number (see below), title of the course, and number of credits.

Credits separated by a colon indicate concurrent lecture and laboratory courses taught as a unit:

PHY 3040, 3040L GENERAL PHYSICS AND LABORATORY (3:1)

Credits separated by commas indicate unified courses offered in different semesters:

AMH 2010, 2020 AMERICAN HISTORY I, II (4,4)

Credits separated by a hyphen indicate variable credit:

HUM 4905 DIRECTED RESEARCH (1-5)

The abbreviation "var." also indicates variable credit:

MAT 7912 DIRECTED RESEARCH (var.)

The following abbreviations are utilized in various course descriptions:

PR Prerequisite
CI With the consent of the instructor
CC With the consent of the chairperson of the department or program
CR Corequisite
Lec. Lecture
Lab. Laboratory
Dem. Demonstration
Pro. Problem
Dis. Discussion
6A Courses to satisfy Rule 6A-10.30 (Gordon Rule)

The University reserves the right to substitute, not offer, or add courses that are listed in this catalog.

Alphabetical Listing of Departments and Programs

Course descriptions are listed by college under the following department and program headings:

Department/Program College
Accounting Business Administration
Administration/Supervision Education
Adult Education Education
African and Afro-American Studies Social and Behavioral Sciences
Studies
Air Force ROTC University-wide Courses
American Studies Arts and Letters
Ancient Studies (Religious Studies)
Anthropology Arts and Letters
Arabic (Language) Social and Behavioral Sciences
Army ROTC Arts and Letters
Art Fine Arts University-wide Courses
Art Education Arts and Letters
Arts and Letters
Astronomy Education
Basic and Interdisciplinary Systems
Engineering Engineering
Biology Natural Sciences
Botany (Biology) Natural Sciences
Business and Office Education
Education
Chemistry Education
Chemical and Mechanical Natural Sciences
Engineering
Chinese Engineering
Civil Engineering and Arts and Letters
Mechanics
Classics
Common Body of Knowledge Business Administration
Communication Arts and Letters
Communication

Communication Science and Education
Disorders
Computer in Education
Computer Science and Engineering
Computer Service Courses
Cooperative Education
Content Specializations
Counselor Education
Criminology
Curriculum and Instruction
Dance
Distributive and Marketing Education
Economics
Electrical Engineering
Elementary Education
Engineering Technology
English
English Education
Finance
Foreign Language Education
Foundation Courses in
Business (Graduate)
Ph.D. and M.A.
Foundations Education
French (Language)
General Business Administration
General Foreign Languages
Geography
Geology
Gerontology
German (Language)
Greek (Classics)
Hebrew (Language)
Higher Education
History
Honors Program
Humanities
Humanities Education
Human Services
Industrial and Management
Systems
Industrial/Technical Education
Information Systems and
Decision Sciences
Interdisciplinary Studies
International Studies
Italian (Language)
Language
Latin (Classics)
Liberal Studies
Library, Media and Information Studies
Linguistics
Management
Marine Science
Marketing
Mass Communications
Mathematics
Mathematics Education
Measurement and Research
Medical Sciences
Medical Technology
Medicine
Microbiology (Biology)
Military Science
Social and Behavioral Sciences
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Engineering
Engineering
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Social and Behavioral Sciences
Education
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- Engineering
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- Computer Service Courses
- Electrical Engineering
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- Dance
- Music

### College of Medicine

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- Medical Sciences

### College of Natural Sciences

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- Zoology Courses
- Chemistry
- Geology
- Marine Science
- Mathematics
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- Physics

### College of Nursing

- Nursing

### College of Public Health

- Public Health

### College of Social and Behavioral Sciences

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- Off-Campus Term
- Political Science
- Psychology
- Public Administration
- Rehabilitation Counseling
- Social Sciences, Interdisciplinary
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### Common Course Prefix

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<td>STA</td>
<td>Mathematics, Social Sciences Interdisciplinary</td>
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<td>Mass Communications</td>
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<td>History</td>
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<td>WST</td>
<td>History, International Studies Program, Women's Studies</td>
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<tr>
<td>ZOO</td>
<td>Biology, Marine Science, Zoology (Biology)</td>
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<td>3000-3999 Junior Level</td>
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<td>5000-5999 Senior/Graduate Level</td>
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<td>6000-Up Graduate Level</td>
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UNIVERSITY-WIDE COURSES

COOPERATIVE EDUCATION
Associate Director: Ray Easterlin, Assistant Director: L. J. Berman, Job Development Coordinator: Barbara Shayeb-Helou.

AEROSPACE STUDIES
Professor: Col Don Liesch; Assistant Professors: Maj Kenneth L. Reynolds, Capt Debra B. Hubbard, Capt Steven Hammock.

HONORS PROGRAM
Director: Stuart Silverman (There is no permanent University Honors faculty. Instructors for the Honors courses are recruited from among the University's most outstanding teacher-scholars).

MILITARY SCIENCE

COOPERATIVE EDUCATION
COE 1940 COOPERATIVE EDUCATION, 1ST TRAINING PERIOD
PR: 30 hours of academic credit, acceptance in Cooperative Education Program. (S/U only.)

COE 1941 COOPERATIVE EDUCATION, 2ND TRAINING PERIOD
PR: COE 1940. (S/U only.)

COE 2942 COOPERATIVE EDUCATION, 3RD TRAINING PERIOD
PR: COE 1941. (S/U only.)

COE 2943 COOPERATIVE EDUCATION, 4TH TRAINING PERIOD
PR: COE 2942. (S/U only.)

COE 3944 COOPERATIVE EDUCATION, 5TH TRAINING PERIOD
PR: COE 2943. (S/U only.)

COE 3945 COOPERATIVE EDUCATION, 6TH TRAINING PERIOD
PR: COE 3944. (S/U only.)

COE 4946 COOPERATIVE EDUCATION, 7TH TRAINING PERIOD
PR: COE 3945. (S/U only.)

COE 4947 COOPERATIVE EDUCATION, 8TH TRAINING PERIOD
PR: COE 4946. (S/U only.)

COE 4948 COOPERATIVE EDUCATION, 9TH TRAINING PERIOD
PR: COE 4947. (S/U only.)

COE 4949 COOPERATIVE EDUCATION, 10TH TRAINING EDUCATION (0)
PR: COE 4948. (S/U only.)

AEROSPACE STUDIES
AFR 1101 THE AIR FORCE TODAY ORGANIZATION AND DOCTRINE
Introduction to the Air Force in the contemporary world through a study of its total force structure and mission. (1)

AFR 1120 THE AIR FORCE TODAY STRATEGY AND ROLES
A study of the strategic offensive and defensive forces, general purpose forces, and aerospace support forces that make up the Air Force of today. (1)

AFR 2130 U.S. AIR POWER: ASCENSION TO PROMINENCE
A study of air power from balloons and dirigibles through the jet age. Emphasis is on the employment of air power in WWI and WWII and how it affected the evolution of air power concepts and doctrine. (1)

AFR 2140 U.S. AIR POWER: KEY TO DETERRENCE
A historical review of air power employment in military and nonmilitary operations in support of national objectives. Emphasis is on the period from post WWII to present. (1)

AFR 2150 FIELD TRAINING
Field Training is offered during the summer months at selected Air Force bases throughout the United States. Students in the four-year program participate in four weeks of Field Training, usually between their sophomore and junior years. Students applying for entry into the two-year program must successfully complete six weeks of Field Training prior to enrollment in the Professional Officer Course. The major areas of study in the Field Training program include: officer training, aircraft and aircrew orientation, career orientation, survival training, base functions and Air Force environment, and physical training. (0)

AFR 3220 AIR FORCE MANAGEMENT AND LEADERSHIP I
An integrated management course emphasizing the individual as a manager in an Air Force milieu. The individual motivational and behavioral processes, leadership, communication, and group dynamics are covered to provide a foundation for the development of the junior officer's professional skills as an Air Force officer (officer). The basic managerial processes involving decision making, utilization of analytic aids in planning, organizing, and controlling in a changing environment are emphasized as necessary professional concepts. (3)

AFR 3231 AIR FORCE MANAGEMENT AND LEADERSHIP II
A continuation of the study of Air Force advancement and leadership. Concentration is on organizational and personal values, management of forces in change, organizational power, politics, and managerial strategy and tactics are discussed within the context of the military organization. Actual Air Force cases are used to enhance the learning and communication processes. (3)

AFR 4201 NATIONAL SECURITY FORCES IN CONTEMPORARY AMERICAN SOCIETY I
A study of the Armed Forces as an integral element of society, with an emphasis on American civil-military relations and context in which U.S. defense policy is formulated and implemented. Special themes include: societal attitudes toward the military and the role of the professional military leader-manager in a democratic society. Students will be expected to prepare and present individual or group presentations for the class, write reports and otherwise participate in group discussions, seminars, and conferences. (3)

AFR 4211 NATIONAL SECURITY FORCES IN CONTEMPORARY AMERICAN SOCIETY II
A continuation of the study of the Armed Forces in contemporary American society. Concentration is on the requisites for maintaining adequate national security forces; political, economic, and social constraints on the national defense structure; the impact of technological and international developments on strategic preparedness; the variables involved in the formulation and implementation of national security policy; and military justice and its relationship to civilian law. Students will be expected to prepare individual and group presentations for the class, write reports and otherwise participate in group discussions, seminars, and conferences. Proficiency in communicative skills must be demonstrated. (3)

AFR 2001 LEADERSHIP LABORATORY
Leadership Laboratory is required for each of the Aerospace Studies courses. It meets one hour per week. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership Laboratory involves a study of Air Force customs and courtesies; drill and ceremonies; career opportunities in the Air Force; and the life and work of an Air Force junior officer. Students develop their leadership potential in a practical laboratory, which typically includes field trips to Air Force installations throughout the U.S. (0)
Bachelor of Independent Studies

State University System

External Degree Program

ISS 4909 BIS SOCIAL SCIENCES, INDEPENDENT STUDY (15)
ISS 4939 BIS SOCIAL SCIENCES, SEMINAR (15)
PR: BIS SSI 4909 or CI (S/U only)
ISC 4909 BIS NATURAL SCIENCES, INDEPENDENT STUDY (15)
ISC 4939 BIS NATURAL SCIENCES, SEMINAR (15)
PR: BIS ISC 4909 or CI (S/U only)
HUM 4909 BIS HUMANITIES, INDEPENDENT STUDY (15)
HUM 4930 BIS HUMANITIES, SEMINAR (15)
PR: BIS HUM 4909 or CI (S/U only)
IDS 4990 BIS INTER-AREA STUDIES (30)
OR: SSI 4939, SSI 4909, ISC 4939, HUM 4909, HUM 4939 See program description for School of Extended Studies and Learning Technologies for description of curriculum components.

HONORS PROGRAM

University Honors Students must take all of the following including 2 semesters of either Thesis or Project (but not both).

IDH 2010 ACQUISITION OF KNOWLEDGE (4)
PR: Admission into the Honors Program. An appreciation of the problems of how human understanding proceeds through operations such as perception, classification, and inference, among others, as well as the open philosophical questions behind these operations.

IDH 3100 ARTS/HUMANITIES HONORS (4)
PR: IDH 2010. An introduction to western arts and letters from the perspectives of three period's terms (classicism, romanticism, and modernism), the relationship of ideas to art, the similarities among the arts of a given period, and important differences between periods.

IDH 3350 NATURAL SCIENCES HONORS (4)
PR: IDH 2010. Restricted to University Honors Students. An exploration of current knowledge concerning fundamental principles in the Sciences, their potential for application and attendant ethical and philosophical questions.

IDH 3400 SOCIAL AND BEHAVIORAL SCIENCES HONORS (4)

IDH 3600 SEMINAR IN APPLIED ETHICS (4)
PR: IDH 2010. Restricted to University Honors Students. This course explores ethical issues related to selected topics such as Ethics of Technology, Ethics in Business, Bio-Medical Ethics, Personal Ethics Development.

IDH 4000 JUNIOR HONORS SEMINAR (4)
PR: IDH 2010, IDH 3100, IDH 3200, IDH 3300, IDH 3400. A course in problem-solving skills designed to prepare students for independent research. The class will be responsible for determining course content and requirements in close consultation with a faculty mentor.

IDH 4950 HONORS PROJECT (4)
PR: Senior Honors Standing. The development of and public presentation of a special project such as an original musical composition, dramatic piece, etc. under the direction of a mentor.

IDH 4970 HONORS THESIS (4)
PR: Senior Honors Standing. The research for and writing of a senior thesis under the direction of a mentor.

MILITARY SCIENCE

Students not attending on an Army Scholarship may take the 1000 and 2000 level courses with no obligation to the Army. Army Scholarships and Service obligation options are discussed in class.

MIS 1001 ORGANIZATION OF THE ARMY AND ROTC (1)
Introduction, purpose, and obligation of the Army and ROTC. Introduction to military customs and traditions; rank structure and the role of an Army officer. An optional two hour weekly Laboratory with emphasis on adventure skills, such as rappelling, physical training and weapons is offered.

MIS 1400 FUNDAMENTALS OF LEADERSHIP DEVELOPMENT (1)
Basic leadership techniques and principles, professional ethics, senior-subordinate relationships, leadership problems, basic counseling and management techniques. An optional two hour weekly laboratory with emphasis on adventure skills, such as rappelling, physical training and weapons is offered.

MIS 2601 MILITARY TRAINING MANAGEMENT AND INSTRUCTIONAL TECHNIQUES (1)
Develops an understanding of the fundamental concepts involved with methods of instruction, training management and curriculum development in the military. Actual student preparation and presentation of instruction will be an integral part of the course. An optional two hour weekly Laboratory with emphasis on adventure skills such as rappelling, physical training and weapons is offered.

MIS 2610 LEADERSHIP ASSESSMENT (1)
Course will include an introduction to interpersonal skills required for effective leadership and diagnostic leadership assessment exercises. Topics will also include immediate first aid and injury prevention. An optional two hour weekly laboratory with emphasis on adventure skills such as rappelling, physical training and weapons is offered.

MIS 2610L LEADERSHIP LABORATORY (0)
Laboratory consists of a two hour block of instruction per week and directly supports classroom instruction. Instruction is centered around interpersonal skills which develops the student's potential. Laboratory includes instruction on drill and ceremonies; customs and courtesies, tactics, weapons and other required subjects. (S/U only).

MIS 2940 INTENSIFIED BASIC SKILLS COURSE (4)
An intense summer program conducted at Fort Knox, Kentucky for six weeks. Designed as an alternate method to meet the prerequisites of the Advance Course for students who have no basic Military Science courses. (S/U only.)

MIS 3300 SMALL UNIT OPERATIONS (3)
Open to ROTC Contract Cadets only. Provides training required by junior officer to direct and coordinate individuals and small units in the execution of offensive and defensive tactical missions. Also provides exposure to military weapons and communications systems found at this level. Students must attend a two hour Leadership Laboratory weekly.

MIS 3404 LEADERSHIP FUNDAMENTALS - TACTICS AND CAMP PREPARATION (3)
Open to ROTC Contract Cadets only. Improves cadet proficiency in those military subjects necessary to meet minimum standards of technical competence and self-confidence required of a junior officer in the U.S. Army. Prepares cadets for participation at Advanced Camp. Major emphasis during course is placed on physical training and field training exercises. Student must attend a two hour Leadership Laboratory weekly.

MIS 4002 ARMY AS A PROFESSION (2)
Designed to prepare cadets for duty as commissioned officers. Instruction centers around proficiency/familiarization with the military justice system, military administration, the Officer Professional Management System, International laws of war, and principles of management/leadership.

MIS 4421 SEMINAR IN MILITARY LEADERSHIP AND MANAGEMENT (3)
Provides a basic understanding of the professional soldier's responsibilities to the Army and the nation. Attempts to improve ethical decision-making skills through an examination of the need for ethical conduct, greater awareness and sensitivity to ethical issues, and the opportunity to apply these abilities in real world case study situations. Included are seminars to acquaint the new lieutenant with his/her relationship to NCOs, company grade officers, and senior officers.
AMERICAN STUDIES

RELIGIOUS STUDIES
Chairperson: W. C. Tremmel; Professors: W. M. Shea, J. F. Strange, W. C. Tremmel; Associate Professor: D. J. Fasching, N. Katz, M. G. Mitchell; Visiting Instructor: C. Kligore; Other Faculty: J. S. Hatcher, E. E. Smith.

AMERICAN STUDIES

AMS 2363 ISSUES IN AMERICAN CIVILIZATION (2)
Through lecture and demonstration an examination of such topics as natural environment and the quality of life, sports and American society, leisure and technology, vigilant tradition, jazz music, role of the family, American success myth, youth in America. Repeatable up to 6 credit hours.

AMS 3001 AMERICA AT THE TURN OF THE CENTURY - 6A (4)
Integration of major aspects of American life between 1898 and 1914. Should be taken the first term a student becomes an American Studies major. Elective for non-majors.

AMS 3201 THE COLONIAL PERIOD (3)
The pattern of American culture as revealed through an examination of selected writings and pertinent slides and recordings dealing with the art, architecture and music of the colonial period. Elective for non-majors.

AMS 3210 REGIONS OF AMERICA (4)
The pattern of American culture as revealed through an examination of selected writings and other pertinent materials dealing with selected American regions. Elective for non-majors. Repeatable up to eight credit hours.

AMS 3230 AMERICA DURING THE TWENTIES AND THIRTIES (4)
Selected interdisciplinary materials are used to examine the relationships among regionalism, nationalism and internationalism during the twenties and thirties. Emphasis is placed on the measure of cultural nationalism attained by the United States during this period. Elective for non-majors.

AMS 3302 ARCHITECTURE AND THE AMERICAN ENVIRONMENT (3)
By means of slides, lectures and discussions the course examines 350 years of American architectural history. Architectural styles, aesthetics and the relation between a building and its social environment are stressed.

AMS 3370 SOUTHERN WOMEN: MYTH AND REALITY - 6A (3)
An analysis of the myths surrounding Southern Women, this course will identify these myths, discern their sources and purposes, and contrast them with history. (Also offered under Women's Studies.)

AMS 3700 RACISM IN AMERICAN SOCIETY (3)
An introduction into the causes and effects of racism in American history, literature, art, the media, and folklore. Related concepts of ethnocentrism, and class conflict will also be studied.

AMS 3930 SELECTED TOPICS IN AMERICAN STUDIES (1-4)
Offerings include The American Success Myth, Cultural Darwinism in America, America Through Foreign Eyes, Contemporary Topics in American Studies and Racism.

AMS 4910 INDIVIDUAL RESEARCH (1-4)
The content of the course will be governed by student demand and instructor's interest. Instructor's approval required prior to registration.

AMS 4930 SELECTED TOPICS IN AMERICAN STUDIES (1-4)
Offerings include American Painting: its social implications, Technology in the Twentieth Century America, American Environmental
ANCIENT STUDIES

CLASSICS

CLA 4100 GREEK CIVILIZATION - 6A
Study of Greek Civilization from its beginning to the Roman period, with emphasis on social customs, political institutions, and daily life. (4)

CLA 4120 ROMAN CIVILIZATION - 6A
Study of Ancient Roman Civilization with emphasis on social customs, political institutions, and daily life. (4)

CLA 4935 SENIOR SEMINAR
PR: Senior in the Interdisciplinary Classics and the Ancient World Program. A seminar integrating disciplines involved in the study of the civilizations of the Ancient Near East, Greece and Rome. (3)

Courses in Translation

CLT 3040 CLASSICAL WORD ROOTS IN SCIENCE
A course in the Greek and Latin word elements used in science and technology. (3)

CLT 3101 GREEK LITERATURE IN TRANSLATION -6A
Reading and discussion of major works in Greek literature. Special emphasis on the *Iliad*, the dramatists Aeschylus, Sophocles, Euripides and Aristophanes. Some attention is given to the social and political background of the works. All readings are in English. (4)

CLT 3102 ROMAN LITERATURE IN TRANSLATION -6A
Reading and discussion of major works in Roman literature. Special emphasis is placed on the *Aeneid*, comedy and satire. Some attention is given to the political background of the works. All readings are in English. (4)

CLT 3370 CLASSICAL MYTHOLOGY -6A
Study of Greek and Roman myths embodied in classical literature and of their impact on Western civilization. All readings are in English. (4)

Greek

GRE 1100 BEGINNING CLASSICAL GREEK I
An introductory course in classical Greek grammar with appropriate readings. (4)

GRE 1101 BEGINNING CLASSICAL GREEK II
PR: GRE 1100 or equivalent. An introductory course in classical Greek grammar with appropriate readings. (4)

GRK 3110 BEGINNING MODERN GREEK I
An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition. (4)

GRK 3111 BEGINNING MODERN GREEK II
PR: GRK 3110 or its equivalent. A continuation of GRK 3110. (4)

GRW 4905 DIRECTED READING
Departmental approval required. (1-4)

GRW 5905 DIRECTED READING
Departmental approval required. (1-4)

Latin

LAT 1120 (formerly LAT 1100) BEGINNING LATIN I
An introductory course in Latin grammar with appropriate readings. (4)

LAT 1121 (formerly LAT 1101) BEGINNING LATIN II
PR: LAT 1120 or equivalent. An introductory course in Latin grammar with appropriate readings. (4)

LNW 4363 MARTIAL
PR: LAT 1121 or equivalent. Readings in the Epigrams of Martial. Study of the tradition, techniques, and artistry of the Roman epigram. Available to majors and non-majors. (4)

LNW 4381 LIVY
PR: Basic knowledge of Latin. Readings in the ideas and artistry of this Roman historian. (4)

LNW 4500 CICERO AND ROMAN PHILOSOPHY
PR: Basic knowledge of Latin. Readings in the philosophic writings of Cicero, together with a consideration of eclectic thought. (4)

LNW 4501 SENeca AND ROMAN PHILOSOPHY
PR: Basic knowledge of Latin. Readings in the philosophic writings of Lucius Annaeus Seneca, together with an examination of Stoic, Epicurean, and Eclectic thought. (4)

LNW 4634 ROMAN ELEGIAc
POETS I: CATULIUS
PR: Basic knowledge of Latin. Readings in Catullus. Study of techniques and tradition in Roman lyric poetry. (4)

LNW 4634 (formerly LNW 4665) CICERO
PR: Basic knowledge of Latin. Readings in the epistles of Cicero. (4)

LNW 4654 (formerly LNW 4575) HORACE
PR: Basic knowledge of Latin. Readings in the Odes and Epodes of Horace; study of the Ode's tradition. (4)

LNW 4660 VERGIL
PR: LAT 1121 or equivalent. Readings in Vergil's *Aeneid*. Study of the tradition, techniques, and artistry of Roman epic poetry. Available to majors and non-majors. (4)

LNW 4670 OVID
PR: LAT 1121 or equivalent. Readings in Ovid's *Metamorphoses*. Study of Ovid's technique, style, and artistry. Available to majors and non-majors. (4)

LNW 4900 DIRECTED READING
Departmental approval required. (1-4)

LNW 4930 SELECTED TOPICS
PR: LAT 1121 or equivalent. Study of an author, movement, or theme. (4)

LNW 5900 DIRECTED READING
Departmental approval required. (S/U only.) (1-4)

LNW 5934 SELECTED TOPICS
Study of an author, movement or theme. May be repeated up to twelve credit hours. (4)

COMMUNICATION

COM 3003 DIMENSIONS OF COMMUNICATION
PR: SPC 2023. An introductory survey of the various perspectives for the study of human communication. An exploration of the assumptions, constructs, and explanatory paradigms associated with the study of communication in its symbolic, aesthetic, historical, critical, and pragmatic dimensions. (3)

COM 3110 COMMUNICATION FOR BUSINESS AND THE PROFESSIONS
Identification of communication situations specific to business and the professions. Analysis of variables related to communication objectives and preparation of oral presentations in the form of informational reports, conference management, persuasive communications, interviews, and public hearing. (3)

COM 3120 INTRODUCTION TO COMMUNICATION THEORY IN ORGANIZATIONS
PR: majors, COM 3003 or Cl; non-majors, COM 3122 or COM 3110 or Cl. A survey of communication concepts which impact upon organizational effectiveness. (3)

COM 3122 INTERVIEW COMMUNICATION
A study of communication theory relative to interview situations with emphasis on the employment interview, appraisal interview, and persuasive interview. (3)

COM 4942 COMMUNICATION INTERN SEMINAR
PR: Communication major, minimum GPA 3.0, 75 hours completed, 15 hours of core requirements and 9 elective hours completed, and Cl. Seminar provides students with an opportunity to put into practice concepts and skills acquired in their study of communication. Weekly seminar sessions augment intern experience. Application for seminar must be submitted one semester prior to seminar offering. (3)
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<th>Course Code</th>
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<tr>
<td>ORI 3000</td>
<td>INTRODUCTION TO COMMUNICATION AS PERFORMANCE</td>
<td>Designed to develop proficiency in the understanding and oral communication of literary and other written materials.</td>
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<tr>
<td>ORI 3950</td>
<td>COMMUNICATION AS PERFORMANCE LAB</td>
<td>PR: ORI 3000 or ORI 3000. The study, rehearsal, and performance of literature for Readers Theatre and Chamber Theatre productions. May be repeated (maximum total four hours).</td>
</tr>
<tr>
<td>ORI 4120</td>
<td>PERFORMANCE OF POETRY</td>
<td>PR: ORI 3000 or ORI 3000. Critical appreciation of lyric and narrative poetry and communication of that appreciation to audience. Study of poetic theory and prosodic techniques.</td>
</tr>
<tr>
<td>ORI 4140</td>
<td>PERFORMANCE OF DRAMA</td>
<td>PR: ORI 3000 or ORI 3000. Critical appreciation and oral interpretation of special textual materials which are inherently dramatic in nature and experience in various forms of group approaches to oral interpretation.</td>
</tr>
<tr>
<td>ORI 5145</td>
<td>ORAL INTERPRETATION OF DRAMATIC LITERATURE II</td>
<td>PR: ORI 4140. A study of selected pre-modern dramas with special emphasis on problems of interpretation for oral performance.</td>
</tr>
<tr>
<td>SPC 2023</td>
<td>FUNDAMENTALS OF SPEECH COMMUNICATION</td>
<td>The nature and basic principles of speech; emphasis on improving speaking and listening skills common to all forms of oral communication through a variety of experience in public discourse.</td>
</tr>
<tr>
<td>SPC 2050</td>
<td>SPEECH IMPROVEMENT AND PHONETICS</td>
<td>Designed to improve vocal quality and expressiveness, articulation, and pronunciation, and to give instruction and practice in using the International Phonetic Alphabet for speech improvement.</td>
</tr>
<tr>
<td>SPC 3210</td>
<td>PERFORMANCE OF CHILDREN'S LITERATURE</td>
<td>PR: ORI 3000 or ORI 3000. A study of the theories and practice in the oral interpretation of poetry and narrative fiction for children with special emphasis on classical and modern literature.</td>
</tr>
<tr>
<td>SPC 3590</td>
<td>SPEECH IMPROVEMENT AND PHONETICS II</td>
<td>PR: SPC 2050 or Cl. A continuation of SPC 2050. Emphasis will be upon applying listening and transcription skills to the improvement of vocal quality and effective expressions.</td>
</tr>
<tr>
<td>SPC 3651</td>
<td>COMMUNICATION AS A PROCESS</td>
<td>PR: Junior standing or Cl. A study of source, message, and receiver variables in human communication; communication settings; descriptive and predictive models of communication; speech communication as a process.</td>
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<tr>
<td>SPC 3653</td>
<td>ORAL INTERPRETATION OF DRAMATIC LITERATURE</td>
<td>PR: Junior standing or Cl. The study of source, message, and receiver variables in human communication; communication settings; descriptive and predictive models of communication; speech communication as a process.</td>
</tr>
<tr>
<td>SPC 3900</td>
<td>FUNDAMENTALS OF SPEECH COMMUNICATION</td>
<td>Designed to improve vocal quality and expressiveness, articulation, and pronunciation, and to give instruction and practice in using the International Phonetic Alphabet for speech improvement.</td>
</tr>
<tr>
<td>SPC 3930</td>
<td>SELECTED TOPICS</td>
<td>PR: Junior standing, minimum GPA 2.5, 15 hours of core requirements and 9 elective hours completed, and Cl. Communication major. Exploration of selected topics of current significance to the several areas of communication through group discussion and research.</td>
</tr>
<tr>
<td>SPC 4900</td>
<td>DIRECTED READINGS</td>
<td>PR: Senior standing, minimum GPA 2.5, 15 hours of core requirements and 9 elective hours completed, and Cl. Communication major. Exploration of selected topics of current significance to the several areas of communication through group discussion and research.</td>
</tr>
<tr>
<td>SPC 5335</td>
<td>NONVERBAL COMMUNICATION</td>
<td>PR: Senior standing and Cl. A study of scientific and pragmatic research in nonverbal behavior relating to communication.</td>
</tr>
<tr>
<td>SPC 5912</td>
<td>RESEARCH</td>
<td>PR: Senior or graduate standing and Cl.</td>
</tr>
<tr>
<td>SPC 5995</td>
<td>SELECTED TOPICS</td>
<td>PR: Senior or graduate standing. Undergraduates must have minimum GPA 3.0, 15 hours of core requirements and 9 elective hours completed, and Cl.</td>
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**ENGLISH**

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<tr>
<td>AML 3031</td>
<td>AMERICAN LITERATURE FROM THE BEGINNINGS TO 1860</td>
<td>A study of representative works from the period of early settlement through American Romanticism, with emphasis on such writers as Cooper, Irving, Bryant, Hawthorne, Emerson, Melville, Thoreau, and Poe, among others.</td>
</tr>
<tr>
<td>AML 3032</td>
<td>AMERICAN LITERATURE FROM 1860 TO 1912</td>
<td>A study of representative works of selected American Realists and early Naturalists, among them Whitman, Dickinson, Twain, James, Howells, Crane, Dreiser, Wharton, Robinson, Dunbar, and Johnson.</td>
</tr>
<tr>
<td>AML 3061</td>
<td>AMERICAN LITERATURE FROM 1912-1945</td>
<td>A study of poetry, drama, and fiction by such writers as Pound, Stein, Fitzgerald, Hemingway, Faulkner, Porter, Toomer, Cummings, Williams, Anderson, Steinbeck, Wright, West, Stevens, Henry Miller, and others.</td>
</tr>
<tr>
<td>AML 3271</td>
<td>BLACK LITERATURE</td>
<td>A study of Black American literature from the nineteenth century to the present, including the works of such writers as W.E.B. DuBois, Jean Toomer, Langston Hughes, Richard Wright, Ralph Ellison, LeRoi Jones, and Nikki Giovanni.</td>
</tr>
</tbody>
</table>
AML 4101 NINETEENTH-CENTURY AMERICAN NOVEL (3)  
A study of the American novel from its beginnings through 1900,  
including such novelists as Cooper, Hawthorne, Melville, James,  
Twain, Crane, and Dreiser, among others.

AML 4123 TWENTIETH-CENTURY AMERICAN NOVEL (3)  
A study of major trends and influences in American prose fiction  
from 1900 to the present. Includes works by such writers as Heming-  
way, London, Fitzgerald, Faulkner, West, Mailer, Bellow, Ellison,  
Donleavy, Updike, Vonnegut, and others.

AML 4261 LITERATURE OF THE SOUTH (3)  
A study of the major writers of the "Southern Renaissance" including  
writers such as Faulkner, Wolfe, Caldwell, Hellman, McCullers,  
O'Connor, Warren, Styron, Allen Tate, and Donald Davidson.

AML 4300 SELECTED AMERICAN AUTHORS (3)  
The study of two or three related major authors in American litera-  
ture, focusing on several major figures; the course may include such  
writers as Melville and Hawthorne, Hemingway and Faulkner, James  
and Twain, Pound and Eliot, Stevens and Lowell, etc. Specific topics  
will vary. May be repeated twice for credit with different topics.

CRW 2100 NARRATION AND DESCRIPTION -6A (3)  
A study of narrative and descriptive techniques in prose. By making  
the student sensitive to language usage, it is designed to bridge the  
gap between expository writing and imaginative writing.

CRW 3111 FORM AND TECHNIQUE OF FICTION -6A (3)  
A study of short narrative forms such as the anecdote, tale, character  
sketch, incident, monologue, epistolary story, and short story as  
they have been used in the development of fiction and as they exist  
today.

CRW 3112 FICTION I -6A (3)  
PR: CRW 3111. An introduction to fiction writing, beginning with a  
detailed study of the various elements of fiction and proceeding  
through the many processes of revision to arrive at a completed  
work of art.

CRW 3121 FICTION II -6A (3)  
PR: CRW 3111, CRW 3112. A fiction workshop which provides  
individual and peer guidance and direction for the student's writing  
and develops critical standards.

CRW 3311 FORM AND TECHNIQUE OF POETRY (3)  
Examines the techniques employed in fixed forms from the couplet  
through the sonnet to such various forms as the Rondel, ballad,  
villanelle, sestina, etc. Principles in the narrative, dramatic, and lyric  
forms are explored.

CRW 3312 POETRY I (3)  
PR: CRW 3311. An introduction to poetry writing utilizing writing  
exercises employing poetic language and devices; the exercises  
progress to the writing of both rhymed and unrhymed metrical and  
non-metrical forms.

CRW 3321 POETRY II (3)  
PR: CRW 3311, CRW 3312. A poetry workshop which provides  
individual and peer guidance and direction for the student's writing  
and develops critical standards.

CRW 4120 FICTION II (3)  
PR: CRW 3311, CRW 3312, CRW 3121. An advanced fiction workshop  
wherein works may be carried over from CRW 3121 or longer  
forms such as the novel may be begun. May be taken twice for credit.

CRW 4320 POETRY III (3)  
PR: CRW 3311, CRW 3312, CRW 3121. An advanced poetry workshop  
wherein students are expected to create work exhibiting a firm  
knowledge of the principles explored in the preceding courses. May  
be taken twice for credit.

CRW 4930 SELECTED TOPICS IN CREATIVE WRITING (1-4)  
PR: 12 hours of CRW courses or CI. Focus of the course will be  
governed by student demand and instructor interest. Topics to be  
covered may include story writing, the literary essay, writing in mixed  
genres, and utilizing popular conventions in serious works. May be  
repeated up to 8 credit hours.

ENC 1101, 1102 FRESHMAN ENGLISH -6A (3,3)  
Instruction and practice in the skills of writing and reading. Courses  
must be taken in numerical sequence.

ENC 1121 FRESHMAN ENGLISH: HONORS (3)  
Honors Section of ENC 1101. Reserved for students in the Univer-  
sity's Honors Program.

ENC 1122 FRESHMAN ENGLISH II: HONORS (3)  
PR: ENC 1121. Honors Section of ENC 1102. Reserved for students  
in the University's Honors Program.

ENC 3210 TECHNICAL WRITING -6A (3)  
Effective presentation of technical and semi-technical information.

ENC 3213 PROFESSIONAL WRITING -6A (3)  
Introduction to the techniques and types of professional writing,  
including correspondence and reports most often found in business,  
technical, and scientific communities.

ENC 3310 EXPOSITORY WRITING -6A (3)  
A course teaching the techniques for writing effective prose, excluding  
fiction, in which student essays are extensively criticized, edited,  
and discussed in individual sessions with the instructor.

ENC 4260 ADVANCED TECHNICAL WRITING (3)  
PR: ENC 3210, or ENC 3310, or GEB 3211, or CI. Advanced  
Technical Writing is a course designed to develop writing skills of a  
high order: technical exposition; technical narration, description,  
and argumentation; graphics; proposals; progress reports; physical  
research reports; and feasibility reports.

ENC 4311 ADVANCED COMPOSITION (3)  
A course teaching the techniques for writing effective, lucid, and  
compelling prose, with special emphasis on style, logical  
argumentation, and critical thinking.

ENC 4931 SELECTED TOPICS IN PROFESSIONAL AND  
TECHNICAL WRITING (3)  
PR: ENC 3213, ENC 3210, or ENC 3310 or CI. Focus of the course  
will be determined by student demand and instructor interest.  
Topics to be covered may include legal writing, the conventions of  
business writing, and writing for the social sciences.

ENG 3105 MODERN LITERATURE, FILM, AND THE  
POPULAR ARTS (3)  
A study of particular films and novels that shows us how such  
popular arts as the detective story, westerns, science fiction, spy  
stories, and musical comedy have changed; tells us something about  
why important changes took place; and explores how and why  
many serious writers and filmmakers today use techniques, ideas  
and situations drawn from the popular arts.

ENG 3114 MODERN DRAMA (3)  
A study of such modern and contemporary dramatists as Ibsen,  
Strindberg, Chekhov, Pirandello, Shaw, O'Neill, Pinter, Stoppard,  
Brecht, Beckett, and Ionesco.

ENG 4013 LITERARY CRITICISM (3)  
A study of the works of major literary critics from Aristotle to the  
present, with emphasis on their meaning, their implied world view,  
and their significance for our own time and literature.

ENG 4906 INDIVIDUAL RESEARCH (1-4)  
Directed study in special projects. Special permission of chairper-  
son required.

ENG 4907 DIRECTED READING (3)  
Readings in special topics.

ENG 4935 HONORS SEMINAR I (3)  
PR: Admission to English Honors Program (should be taken concur-  
rently with ENG 4936). A study of two or three major American or  
British writers. Students will be expected to participate in class  
discussion, make formal presentations, and complete a major re-  
search project.

ENG 4936 HONORS SEMINAR II (3)  
PR: Admission to English Honors Program (should be taken concur-  
rently with ENG 4935). A study of critical theory from Aristotle  
to the present. Students will be expected to participate in class  
discussion, make formal presentations, and complete a major re-  
search project.

ENG 4970 HONORS THESIS SEMINAR (3)  
PR: ENG 4935 and ENG 4936. For students writing honors theses.  
Class time will be devoted to exchange of research findings, instruc-  
tor and peer critique of method, structure, and rhetoric of individual  
projects.
ENL 3015 BRITISH LITERATURE TO 1616 (3)
A survey of representative prose, poetry, and drama from its beginnings through the Renaissance, including such poems and figures as Donne, Herbert, Crashaw, Vaughan, Marvell, Milton, Pope, Swift, Johnson, Boswell, and Goldsmith.

ENL 3230 BRITISH LITERATURE 1616-1780 (3)
A survey of 17th Century and Neoclassical literature, including such figures as Donne, Herbert, Crashaw, Vaughan, Marvell, Milton, Pope, Swift, Johnson, Boswell, and Goldsmith.

ENL 3273 BRITISH LITERATURE 1900-1945 (3)
Survey of poetry, drama, and fiction of such writers as Eliot, Yeats, Thomas, Conrad, Shaw, Joyce, Lawrence, Huxley, Woolf, Forster, Waugh, Owen, Auden, O'Casey, among others.

ENL 3331 EARLY SHAKESPEARE (3)
A study of six to eight of Shakespeare's comedies, histories, and early tragedies, ending with Hamlet. Special attention to developing the student's ability to read and interpret the text.

ENL 3332 LATE SHAKESPEARE (3)
A study of the problems of Shakespeare's problem plays, major tragedies, and late romances. Special attention to developing the student's ability to read and interpret the text.

ENL 4122 BRITISH NOVEL THROUGH HARDY (3)
An intensive study of the Canterbury Tales and major critical concerns.

ENL 4338 ADVANCED STUDIES IN SHAKESPEARE (3)
A critical study of British fiction from 1900 to the present, with emphasis on such writers as Conrad, Lawrence, Joyce, Woolf, Huxley, Orwell, Burgess, Murdoch, Golding, among others.

ENL 4171 HISTORY OF BRITISH DRAMATO 1912 (3)
A study of the history of British Drama, from its liturgical origins to the beginning of the twentieth century, exclusive of Shakespeare. Included are the mystery and morality plays, and representative works by Marlowe, Jonson, Middleton, Dryden, Congreve, Sheridan, and Wilde, among others.

ENL 4303 SELECTED AUTHORS (3)
The study of two or three related major figures in English, American, or World Literature. The course may include such writers as Fielding, Austen, Keats and Yeats, Joyce and Flaubert, etc. Specific topics will vary. May be taken twice for credit with different topics.

ENL 4311 CHAUCER (3)
An intensive study of The Canterbury Tales and major critical concerns.

LIN 4100 HISTORY OF THE ENGLISH LANGUAGE (3)
The evolution of language from Anglo-Saxon through Middle English to Modern English. Development of the English lexis. Changes in the pronunciation, syntactic, and semantic systems; discussion of the forms which influenced them.

LIN 4340 TRADITIONAL ENGLISH GRAMMAR (3)
A course primarily using the sentence diagram to present a detailed analysis of the parts of speech, verb tenses, sentence functions, and other basic grammatical classifications of traditional English grammar.

LIN 4370 STRUCTURE OF AMERICAN ENGLISH (3)
An introductory survey of traditional, structural, and generative transformational grammars and their techniques for the analysis and description of linguistic structure in general, and contemporary American English in particular.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIT 3374</td>
<td>THE BIBLE AS LITERATURE</td>
<td>(3)</td>
<td>Major emphasis on literary types, literary personalities of the Old and New Testaments, and Biblical archetypes of British and American literary classics.</td>
</tr>
<tr>
<td>LIT 3383</td>
<td>THE IMAGE OF WOMEN IN LITERATURE</td>
<td>(3)</td>
<td>A survey of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from Sappho to the present, with special emphasis on women writers and on the emergence of the women's movement. (Also offered under Women's Studies.)</td>
</tr>
<tr>
<td>LIT 3410</td>
<td>RELIGIOUS AND EXISTENTIAL THEMES</td>
<td>(3)</td>
<td>Theological and philosophical ideas, allusions, and symbols in the writings of Dostoevsky, Nietzsche, Mann, Joyce, Eliot, Céline, Sartre, among others.</td>
</tr>
<tr>
<td>LIT 3451</td>
<td>LITERATURE AND THE OCCULT</td>
<td>(3)</td>
<td>An introduction to the occult tradition as a major ingredient in English, Continental, and American literature; analysis of the origins, classifications, and areas of the various magical arts from classical times through the present.</td>
</tr>
<tr>
<td>LIT 3716</td>
<td>SURVEY OF POETRY</td>
<td>(3)</td>
<td>Achronological sampling of the major poems written in English from the Middle Ages to the present. Recommended as the first course in the poetry option.</td>
</tr>
<tr>
<td>LIT 3931</td>
<td>SELECTED TOPICS IN ENGLISH STUDIES</td>
<td>(1-4)</td>
<td>Varying from semester to semester, the course examines in depth a predominant literary theme or the work of a select group of writers. Special courses in writing may also be offered under this title. May be repeated with different topics.</td>
</tr>
<tr>
<td>LIT 4011</td>
<td>THEORY OF FICTION</td>
<td>(3)</td>
<td>Intensive study of the genres and varieties of fiction to ascertain the theoretical and technical problems involved in the work of fiction.</td>
</tr>
<tr>
<td>LIT 4930</td>
<td>SELECTED TOPICS IN ENGLISH STUDIES</td>
<td>(1-4)</td>
<td>The content of the course will be governed by student demand and instructor interest. It will examine in depth a recurring literary theme or the work of a small group of writers. Special courses in writing may also be offered under this title. May be repeated with different topics.</td>
</tr>
<tr>
<td>PDA 1105</td>
<td>ADVANCED READING</td>
<td>(3)</td>
<td>Designed to help students develop maximum reading efficiency. The course includes extensive instruction and laboratory practice in the improvement of adequate rates of reading, vocabulary, and comprehension skills. An independent study approach is also available for students who prefer to assume responsibility for their own progress.</td>
</tr>
<tr>
<td>PDA 2405</td>
<td>SPEED READING DEVELOPMENT</td>
<td>(2)</td>
<td>A course designed to develop speed reading techniques on various levels of difficulty. Emphasis is placed on comprehension via numerous practice drills. Will not be counted toward the English major. (S/U only.)</td>
</tr>
<tr>
<td>PDA 2505</td>
<td>VOCABULARY</td>
<td>(3)</td>
<td>A practical course in rapid vocabulary improvement for students in all areas. Stress is on words in context. Will not be counted toward the English major.</td>
</tr>
<tr>
<td>HUM 2930</td>
<td>SELECTED TOPICS</td>
<td>(1-4)</td>
<td>An introductory course dealing with a recurrent theme in the arts or focusing on a particular artistic center (a nation or city at a particular time). May be repeated for credit with change of content. May be repeated up to 8 credit hours.</td>
</tr>
<tr>
<td>HUM 3024</td>
<td>THE ARTS</td>
<td>(3)</td>
<td>Analyses of selected works of film, literature, music, and visual arts, including a variety of periods, nationalities and art forms, emphasizing artistic diversity. Especially recommended for students intending to take 4000-level Humanities courses at a future date.</td>
</tr>
<tr>
<td>HUM 3214</td>
<td>STUDIES IN CULTURE: THE CLASSICAL AND MEDIEVAL PERIODS</td>
<td>(3)</td>
<td>Analyses of selected works of classical and medieval architecture, drama, sculpture, intellectual prose, and other art forms. Typical course focus is on architecture, drama, and intellectual prose.</td>
</tr>
<tr>
<td>HUM 3236</td>
<td>STUDIES IN CULTURE: THE RENAISSANCE AND THE NINETEENTH CENTURY</td>
<td>(3)</td>
<td>Analyses of selected fiction, drama, painting, architecture, music and other art forms. Typical course focus is on painting and music.</td>
</tr>
<tr>
<td>HUM 3251</td>
<td>STUDIES IN CULTURE: THE TWENTIETH CENTURY</td>
<td>(3)</td>
<td>Analyses of selected works of twentieth century art, primarily emphasizing film, with secondary emphasis on painting and fiction.</td>
</tr>
<tr>
<td>HUM 3271</td>
<td>THE CULTURE OF THE EAST AND WEST</td>
<td>(4,4)</td>
<td>Masterpieces of music, visual arts, theatre, literature, and philosophy in varying cultural and historical situations.</td>
</tr>
<tr>
<td>HUM 3580</td>
<td>CURRENT SCENE</td>
<td>(2)</td>
<td>Live performances in contemporary media will be followed by discussions. The course will emphasize recent developments in the arts with some special attention to current innovations. (S/U only.)</td>
</tr>
<tr>
<td>HUM 4402</td>
<td>HUMANITIES IN THE ORIENT: INDIA</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Examples from the arts and letters of India and the relationship of these arts to the Hindu and Buddhist philosophy-religions.</td>
</tr>
<tr>
<td>HUM 4404</td>
<td>HUMANITIES IN THE ORIENT: CHINA</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Examples from the arts and letters of China; their relationship to Taoism, Confucianism and other Chinese philosophies; Western influences on twentieth century Chinese arts and letters.</td>
</tr>
<tr>
<td>HUM 4405</td>
<td>HUMANITIES IN THE ORIENT: JAPAN</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Examples from the arts and letters of Japan, their relationship to Zen Buddhism and other Japanese philosophy-religions; Western influences on twentieth century Japanese arts and letters.</td>
</tr>
<tr>
<td>HUM 4433</td>
<td>CLASSICAL ARTS AND LETTERS</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the ancient world.</td>
</tr>
<tr>
<td>HUM 4434</td>
<td>CLASSICAL ARTS AND LETTERS</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the ancient world.</td>
</tr>
<tr>
<td>HUM 4435</td>
<td>MEDIEVAL ARTS AND LETTERS</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the middle ages.</td>
</tr>
<tr>
<td>HUM 4436</td>
<td>MEDIEVAL ARTS AND LETTERS</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the middle ages.</td>
</tr>
<tr>
<td>HUM 4437</td>
<td>RENAISSANCE ARTS AND LETTERS -6A</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the Renaissance.</td>
</tr>
<tr>
<td>HUM 4438</td>
<td>RENAISSANCE ARTS AND LETTERS -6A</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the Renaissance.</td>
</tr>
<tr>
<td>HUM 4440</td>
<td>THE ENLIGHTENMENT -6A</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the Enlightenment.</td>
</tr>
<tr>
<td>HUM 4442</td>
<td>ARTS AND LETTERS OF THE ROMANTIC PERIOD</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the romantic period.</td>
</tr>
<tr>
<td>HUM 4444</td>
<td>NINETEENTH CENTURY ARTS AND LETTERS</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the nineteenth century.</td>
</tr>
<tr>
<td>HUM 4452</td>
<td>HUMANITIES IN AMERICA (19th Cen.), I</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the nineteenth century, emphasizing the post-Civil War period, in order to achieve an understanding of the relationship between democratization and the search for indigenous voices in American art.</td>
</tr>
<tr>
<td>HUM 4455</td>
<td>HUMANITIES IN AMERICA (20th Cen.), II</td>
<td>(4)</td>
<td>PR: Sophomore standing or Cl. Case studies in the arts and letters of the United States, in order to explore the diversity of American culture in the twentieth century; to examine the historical, social and economic forces that shape the arts and letters of this period; and to show the strong interplay between fact and imagination that characterizes American culture in our time.</td>
</tr>
</tbody>
</table>
HUM 4462 LATIN AMERICAN ARTS AND LETTERS I (4)
PR: Sophomore standing or Cl. Analysis of selected Latin American works of art in their cultural context, with emphasis on major art forms selected from the Pre-Columbian period.

HUM 4464 LATIN AMERICAN ARTS AND LETTERS II (4)
PR: Sophomore standing or Cl. Analysis of selected Latin American works of art in their cultural context, with emphasis on major art forms selected from the colonial through contemporary periods.

HUM 4471, 4473 TWENTIETH CENTURY ARTS AND LETTERS (4,4)
PR: Sophomore standing or Cl. Case studies in the arts and letters of the twentieth century.

HUM 4905 DIRECTED STUDY (1-4)
PR: CI. Specialized individual study determined by the student's needs and interests.

HUM 4930 SELECTED TOPICS IN HUMANITIES (1-4)
PR: Sophomore standing or Cl. This course will deal with a recurrent theme in the arts as, for example, love or death, or will focus on artistic centers such as Renaissance Florence or Paris in the 1920s. Topics will vary; course may be repeated for credit with change of content.

HUM 4931 SEMINAR IN HUMANITIES (4)
PR: Humanities major or Cl; Senior standing. Discussion of interdisciplinary humanities. Includes essay.

HUM 4941 STUDY ON LOCATION (1-4)
Prerequisites: None. The art of a culture will be examined during travel in groups, led by an instructor, to important cities or sites. Monuments, museums, architecture, plays, and/or concerts will be studied. Reading assignments and lectures.

LANGUAGE

General Foreign Languages

FOL 2200 GENERAL FOREIGN LANGUAGE II (1-3)
A general purpose course that may be used for transfer of credit, credit by examination, and similar matters; may also be used for formal courses in less commonly taught languages or for workshops in professional interpreting.

FOL 3100 GENERAL FOREIGN LANGUAGE I (1-4)
A general purpose course that may be used for transfer of credit, credit by examination, and similar matters; may also be used for formal courses in less commonly taught languages or in professional translation.

FOL 4905 DIRECTED STUDY (1-3)
Departmental approval required.

FOL 5906 DIRECTED STUDY (1-3)
PR: FOL 4200 or equivalent.

Arabic

ARA 1120 (formerly ARA 3120) MODERN ARABIC I (4)
An intensive study of basic skills: pronunciation, listening comprehension, speaking and some composition.

ARA 1121 (formerly ARA 3121) MODERN ARABIC II (4)
PR: ARA 1120 or its equivalent. A continuation of ARA 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

Chinese

CHI 1120 MODERN CHINESE I (4)
Mandarin. An intensive study of basic skills: pronunciation, listening comprehension, speaking, and some composition.

CHI 1121 MODERN CHINESE II (4)
Mandarin. PR: CHI 1120 or equivalent. A continuation of CHI 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

French

FRE 1040 (formerly FRE 1060) FRENCH FOR READING (3)
Designed to provide a reading ability in French that will support research in other disciplines. Primarily for graduate students.

FRE 1120 (formerly FRE 1100) BEGINNING FRENCH I (4)
The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking and reading.

FRE 1121 (formerly FRE 1101) BEGINNING FRENCH II (4)
PR: FRE 1120 or equivalent. A continuation of FRE 1120.

FRE 1170 OVERSEAS STUDY-ELEM. FRENCH (4)
Elementary-level French taught in France. In lieu of FRE 1120 and FRE 1121. No credit toward a major or minor in French. May be repeated up to 8 credit hours.

FRE 2200 FRENCH III (3)
PR: FRE 1121 or equivalent. A review of the basic structure of French. May be taken concurrently with FRE 2201.

FRE 2201 FRENCH IV (3)
PR: FRE 1121 or equivalent. Readings in French on the intermediate level. May be taken concurrently with FRE 2200.

FRE 2241 CONVERSATION II (4)
PR: FRE 3240 or equivalent proficiency. Conversation practice with concentration on current idiomatic usage. May be repeated for a total of 8 hours.

FRE 2270 OVERSEAS STUDY-INTR. FRENCH (3-6)
Two semesters of university-level French or equivalent proficiency. At USF this equates to FRE 1120 (4 credits) plus FRE 1121 (4 credits) or FRE 1470 (8 credits—only 4 credits if taken beginning levels 3 and 4). May be repeated up to 6 credit hours.

FRE 3230 READING IN FRENCH LITERATURE AND CULTURE (3)
PR: FRE 2201 or equivalent. This course is designed to build reading skills in French while giving students a broad background in literary criticism which will serve them in all subsequent courses.

FRE 3240 CONVERSATION I (4)
PR: FRE 1121. For development of basic conversational skills.

FRE 4420 COMPOSITION I (3)
A fundamental composition course for students who have completed FRE 2200 or FRE 2201.

FRE 3440 COMMERCIAL FRENCH (3)
PR: FRE 1121 or equivalent. An introduction to the French language as used in undertaking ordinary business transactions.

FRE 3470 OVERSEAS STUDY (1-6)
An intensive study-travel project in France. Prior approval and early registration required. May be repeated up to 12 credit hours.

FRE 3500 FRENCH CIVILIZATION (3)
Readings and discussion on the cultural history of France.

FRE 4421 COMPOSITION II (3)
Continuation of French composition. This course is designed to follow FRE 3420.

FRE 4470 ADVANCED OVERSEAS STUDY (1-6)
PR: FRE 3470 or Cl. Intensive language study in France. Departmental approval required.

FRE 4905 DIRECTED STUDY (1-3)
Departmental approval required.

FRE 4930 SELECTED TOPICS (1-3)
Study of an author, movement or theme.

FRE 5422 (formerly FRE 5422) ADVANCED WRITTEN EXPRESSION (3)
PR: FRE 4421, or equivalent. Course is designed to give advanced training in free composition in French.

FRE 5566 (formerly FRE 5564) CONTEMPORARY FRANCE (3)
PR: FRE 3500 or equivalent or graduate standing. An advanced course in French civilization and culture including a study of recent social, artistic and political trends as well as various current intellectual movements. Text and discussions in French.

FRW 4100 INTRODUCTION TO FRENCH NOVEL (3)
A study of the history of the novel from its early appearance to present times with emphasis on the 19th and 20th centuries. Authors to be studied include Chretien de Troyes, Rabelais, Balzac, Flaubert, Proust, Camus, Sartre, Robbe-Grillet, and others. Specific content may vary from year to year.
A study of the history of drama and poetry. Will include medieval drama, Racine, Corneille, Moliere, Anouilh, Sartre, Ionesco and others. Will also include Villon, Ronsard, DuBellay, Lamartine, Hugo, Vigny, Musset, Baudelaire, Mallarme, Rimbaud, Valery, Péguy, Eliard, Apollinaire, Char, and others. Course content may vary from year to year.

FRW 4310 CLASSICAL DRAMA
PR: FRW 4101. Corneille, Moliere, and Racine.

FRW 5222 CLASSICAL PROSE AND POETRY
PR: FRW 4101. Emphasis on Malherbe, La Fontaine, Boileau, Descartes, and Pascal.

FRW 5226 20TH CENTURY POETRY AND THEATRE

FRW 5286 (formerly FRW 5283) THE 20TH CENTURY NOVEL
PR: FRW 4100. Proust, Gide, Mauriac, Maupassant, Camus, Robbe-Grillet.

FRW 5415 LITERATURE OF THE MIDDLE AGES
PR: FRW 4100 or 4101. Major genres, including epics, Arthurian romances, drama and lyric poetry. Reading in modern French translation.

FRW 5425 (formerly FRW 5420) LITERATURE OF THE RENAISSANCE
PR: FRW 4100 or 4101. A study of Renaissance French humanism including Rabelais, Montaigne, and Pleidee poets.

FRW 5445 (formerly FRW 5440) 18TH CENTURY LITERATURE
PR: FRW 4100. The classical tradition and the new currents of thought in the Age of Enlightenment.

FRW 5530 PRE-ROMANTICISM

FRW 5535 ROMANTICISM AND EARLY REALISM
PR: FRW 4101. A study of the romantic and early realistic movements with emphasis on Lamartine, Vigny, Musset, Hugo and Balzac.

FRW 5556 NATURALISM AND REALISM
PR: FRW 4100 or 4101. A detailed study of realism and naturalism with emphasis on Flaubert, Zola, les Goncourt, Maupassant, and Dosto.

FRW 5934 SELECTED TOPICS
PR: Upper-level or graduate standing. Study of an author, movement or theme.

GER 1120 (formerly GER 1100) BEGINNING GERMAN I
Development of basic skills in listening and reading comprehension, speaking and writing of German.

GER 1121 (formerly GER 1101) BEGINNING GERMAN II
PR: GER 1120 or equivalent. Continued development of basic skills in listening and reading comprehension, speaking and writing German.

GER 2200 GERMAN III
PR: GER 1121 or equivalent. A review of the basic structure of spoken and written German. May be taken concurrently with GER 2201.

GER 2201 GERMAN IV
PR: GER 1121 or equivalent. Readings in German on the intermediate level. May be taken concurrently with GER 2200.

GER 3420 CONVERSATION I
PR: GER 1121. For development of basic conversational skills.

GER 3420 COMPOSITION I
A fundamental course for students who have completed GER 2200 or GER 2201.

GER 3500 GERMAN CIVILIZATION
PR: GER 2200 or GER 2201. Readings in German on the cultural history of Germany.
ITALIAN CONVERSATION I (4)
To develop fluency and correctness in spoken Italian. Intensive study for conversational skill based particularly upon the current Italian idiom. Syntax is intensified and the vocabulary and idiomatic expressions expanded.

ITALIAN COMPOSITION (3)
A fundamental composition course for students who have completed ITA 2200 and ITA 2201.

ITALIAN OVERSEAS STUDY (1-6)
An intensive study-travel project in Italy. Prior approval and early registration required. May be repeated up to 12 credit hours.

ITALIAN CIVILIZATION (3)
Readings and discussion on the cultural history of Italy.

ITALIAN CONVERSATION II (4)
To assist students who have already made a start in speaking Italian, who have not had the advantages of travel or who have non-Italian speaking parents, to improve their skill in speaking Italian. Current events; literary discussions; free conversation; prepared speeches. Differences of media, syntactical signal.

ITALIAN SELECTED TOPICS (1-3)
Study of an author, movement or theme.

ITALIAN SURVEY OF ITALIAN LITERATURE I (4)
A survey of Italian literature from the earliest monuments through the classicism of the 18th century.

ITALIAN SURVEY OF ITALIAN LITERATURE II (4)
A survey of Italian literature beginning with the Classicism of the 18th century and continuing to present.

ITALIAN DIRECTED STUDY (1-3)
Departmental approval required.

JAPANESE

MODERN JAPANESE I (4)
An intensive study of basic skills: pronunciation, listening comprehension, speaking, and some composition.

MODERN JAPANESE II (4)
PR: JPN 1120 or equivalent. A continuation of JPN 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

POLISH

BEGINNING POLISH I (4)
This course features all four major skills: listening, reading, speaking, and writing. Grammar exercises, dictation, readings and vocabulary-building are central in this first course. Knowledge of Russian can help. S/U available.

BEGINNING POLISH II (4)
PR: POL 1120 or equivalent by examination. This course continues the four basic skills of POL 1120, with continued emphasis on structures, dialogues, readings, dictation, and vocabulary-building. Knowledge of Russian can help. S/U available.

PORTUGUESE

BEGINNING PORTUGUESE I (4)
Development of basic skills in listening and reading comprehension, speaking and writing of Brazilian Portuguese.

BEGINNING PORTUGUESE II (4)
PR: POR 1120 or equivalent. Continued development of basic skills in listening and reading comprehension, speaking and writing of Brazilian Portuguese.

RUSSIAN

BEGINNING RUSSIAN I (4)
The first course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking and reading.

BEGINNING RUSSIAN II (4)
PR: RUS 1120 or CI. The second course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking and reading.

BEGINNING RUSSIAN III (4)
PR: RUS 1121 or CI. A continuation of RUS 1121. For development of basic conversational skills.

BEGINNING RUSSIAN IV (3)
PR: RUS 1121 or CI. Readings in Russian on the intermediate level. May be taken concurrently with RUS 2200.

ACCELERATED SPANISH FOR NEAR-NA TIVE SPEAKERS AND OTHERS (1-6)
PR: CI. Accelerated course for near-native speakers and others with some knowledge of Spanish capable of making rapid progress.

SPANISH I (4)
Development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

BEGINNING SPANISH II (4)
PR: SPN 1100 or equivalent. Continued development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

BEGINNING SPANISH III (3)
PR: SPN 1101 or equivalent. A review of the basic structure of spoken and written Spanish. May be taken concurrently with SPN 2201.

BEGINNING SPANISH IV (3)
PR: SPN 1121 or equivalent. Readings in Spanish on the intermediate level. May be taken concurrently with SPN 2200.

CONVERSATION I (3)
PR: SPN 1121. For development of basic conversational skills.

CONVERSATION II (3)
PR: SPN 2240 or equivalent. To improve fluency in spoken Spanish.

COMPOSITION (3)
PR: SPN 2200-2201. A study of syntax, grammar and writing.

COMMERCIAL SPANISH (3)
PR: SPN 1121 or equivalent. An introduction to the Spanish language as used in undertaking ordinary business transactions.

OVERSEAS STUDY (1-6)
PR: SPN 1121. An intensive study-travel program in a Spanish-speaking country. Prior departmental approval and early registration are required.

SPANISH CIVILIZATION (3)
PR: SPN 1121. The culture and civilization of Spain.

SPANISH AMERICAN CIVILIZATION (3)
Readings and discussions on the culture and civilization of Spanish America. For majors and non-majors.

EXPOSITORY WRITING (3)
PR: SPN3300. Practical training in contemporary Spanish structure, usage and stylistic devices.
SPW 410 ADVANCED CONVERSATION (3)
PR: SPN 3241 or equivalent. Intensive practice in the formulation and expression of ideas in standard Spanish.

SPW 4470 ADVANCED OVERSEAS STUDY (1-6)

SPW 5567 CONTEMPORARY SPAIN (3)
PR: SPN 3500 or equivalent or graduate standing. Advanced readings and discussions dealing with contemporary Spanish civilization and culture, including a study of recent social, artistic and political trends. Texts and discussions in Spanish.

SPW 5750/Fomerly SPN 5780) PHONOLOGY AND PHONETICS (3)
PR: SPN 3300. A study of the Spanish sound system.

SPW 5845 HISTORY OF THE SPANISH LANGUAGE (3)
Traces the development of Spanish from its Latin origins to the present.

SPW 5820 INTRODUCTION TO HISPANIC LITERATURE (3)
PR: SPN 2201 or equivalent. Prose fiction, drama, poetry, and essay; techniques of literary analysis.

SPW 4100 SURVEY OF SPANISH LITERATURE I (3)
PR: SPW 3200 or equivalent. A study of Spanish literature from its origins through the 17th century.

SPW 4101 SURVEY OF SPANISH LITERATURE II (3)
PR: SPW 3200 or equivalent. A study of the later periods of Spanish literature.

SPW 4130 SURVEY OF SPANISH-AMERICAN LITERATURE I (3)
PR: SPW 3200 or equivalent. An introduction to the study of Colonial Spanish-American literature from the Discovery to Modernism.

SPW 4131 SURVEY OF SPANISH-AMERICAN LITERATURE II (3)
PR: SPW 3200 or equivalent. An introduction to the study of Spanish-American literature from the Modernism period to the present.

Emphasis on modern writers since Dario.

SPW 4900 DIRECTED STUDY (1-3)
Departmental approval required.

SPW 4930 SELECTED TOPICS (1-3)
Study of an author, movement or theme.

SPW 5245 THE PICARESQUE NOVEL (3)
Realistic prose-fiction of the Renaissance and Golden Age.

SPW 5315 (formerly SPW 5313) GOLDEN AGE DRAMA (3)
PR: SPW 4100. Lope de Vega, Alarcon, Tirso, Calderon, and others.

SPW 5400 (formerly SPW 5400) MEDIEVAL LITERATURE (3)
PR: SPW 4100 or equivalent. Course gives an in-depth study of principal works and authors of the period such as El Poema de Mio Cid, Libro de Buen Amor and La Celestina.

SPW 5485 (formerly SPW 5482) POST CIVIL WAR LITERATURE (3)
PR: SPW 4101. The drama and novel since 1936.

SPW 5510 ROMANTICISM (3)
PR: SPW 4101. Poetry and drama of the first half of the 19th century.

SPW 5555 REALISM (3)

SPW 5605 THE QUIJOTE (3)
Cervantes’ masterpiece Don Quijote de la Mancha.

SPW 5725 GENERATION OF 1898 (3)
PR: SPW 4101. The major figures of the period and their main followers.

SPW 5726 GENERATION OF 1927 (3)

SPW 5755 MEXICAN LITERATURE (3)
PR: SPW 4130. Major writers of all genres. Emphasis on modern writers.

SPW 5765 LITERATURE OF ARGENTINA AND URUGUAY (3)
PR: SPW 4131. Emphasis on the gauchito theme and contemporary prose fiction.

SPW 5775 CARIBBEAN LITERATURE (3)
PR: SPW 4130. Emphasis on contemporary Cuban and Puerto Rican literature.

SPW 5934 SELECTED TOPICS (3)
PR: Upper-level or graduate standing. Study of an author, movement or theme.
LIN 4600 LANGUAGE AND SOCIETY
PR: LIN 3010. An analysis of the interrelation of a language and the structure of the society using it. The linguistic behavior patterns characteristic of particular social, political, economic, educational, and racial groups. Problems in communication between strata.

LIN 4701 PSYCHOLINGUISTICS
PR: LIN 3010. The nature of linguistic structure and its correlation in behavior and perception. Examination of the hypotheses of Whorf, Chomsky, and others.

LIN 4710 LANGUAGE AND COMMUNICATION: ACQUISITION AND DEVELOPMENT
PR: LIN 3010. A survey of current research and theory in the processes of normal acquisition and development of language and communication in children. The acquisition and development of phonology, syntax, semantics, pragmatics, and nonverbal communication and the role of language in general cognitive development.

LIN 4900 DIRECTED READING
PR: Cl. Readings in special topics. Must be arranged prior to registration.

LIN 4930 SELECTED TOPICS
PR: Cl. Course content depends upon students' needs and instructor's interest and may range over the entire field of linguistics.

MASS COMMUNICATIONS

ADV 3000 INTRODUCTION TO ADVERTISING
PR: MMC 3100 and MMC 3602. A study of the structures, functions, and persuasive language of advertising in mass media with attention to social, political, economic, and legal aspects.

ADV 3002 CREATIVE STRATEGY II
PR: ADV 3000 for advertising majors; VIC 3000 for other Mass Comm majors. Application of graphic design principles to various areas of advertising. Combining visual and verbal elements effectively.

ADV 3101 CREATIVE STRATEGY I
PR: ADV 3000 and ECO 2023. Study of laboratory experience in preparation of advertising copy for newspapers, magazines, radio, television, direct mail, outdoor displays, and special items.

ADV 3103 RADIO-TELEVISION ADVERTISING
PR: ADV 3000. An intensive study and analysis of radio and television for advertising purposes, including copywriting, script and storyboard preparation, time buying and selling techniques, audience research methods, and basic production concepts.

ADV 3200 ADVERTISING MEDIA STRATEGY
PR: ACG 2001, ADV 3000, ECO 2022 and ECO 2013. Problems, techniques, strategy of media research, planning, budgeting and effective utilization in advertising.

ADV 3700 RETAIL ADVERTISING PLANNING AND EXECUTION
PR: ADV 3000 and ADV 3101. A study of retail advertising, including management decisions, processes, procedures, media planning, production techniques, and problems affecting the development of advertising to fulfill retail objectives.

ADV 4800 ADVERTISING CAMPAIGNS
PR: ACG 2001, ADV 3101, ADV 3300, MMC 4420, ECO 2013, ECO 2023, and MAR 3023. Advanced advertising course requiring planning and production of complete general advertising campaigns, including research, production methods, budgeting, and media sales.

ADV 4940 ADVERTISING PRACTICUM
PR: Senior standing and Cl. For selected advertising sequence majors. Practical experience outside the classroom in a live advertising situation where the student works for academic credit under the tutelage of a professional practitioner. ($/U only.)

FIL 3004 THE FILM AS MASS COMMUNICATION I: SYNTAX
PR: MMC 3100 and MMC 3602. The language, conventions, elements, and patterns of the film medium as related to current models of effective mass communication and new theories of nonverbal communication. Concurrent laboratory experiences in control of light and line.

FIL 3200 THE FILM AS MASS COMMUNICATION II:

RHETORIC AND STYLISTICS
PR: FIL 3004. A continuation of FIL 3004 to include the effective arrangements of scenes and sequences in motion picture and television films. Concurrent laboratory experiences in sound and editing.

FIL 3201 THE FILM AS MASS COMMUNICATION III: WORKSHOP
PR: FIL 3200. Practical exercises, demonstrations, and experiences in applying material covered in FIL 3004 and FIL 3200.

FIL 4205 ADVANCED CAMERA TECHNIQUES
PR: FIL 3004. Advanced camera technology, professional procedures, emulsion selection, color control, studio and location shooting, laboratory methods, matte shooting, and special effects.

FIL 4206 ADVANCED FILM LIGHTING
PR: FIL 4205. Advanced lighting of studio and location sets stressing professional procedures and standards from preparation to post production.

FIL 4207 SENSITOMETRY AND PHOTOMETRICS
PR: FIL 3004. The materials and processes of cinema photo; response of materials to development and exposure.

FIL 4404 SOCIAL HISTORY OF THE FILM, 1945 TO THE PRESENT
PR: MMC 3100 and MMC 3602. The development of the film from 1945 to the present.

JOU 3006 MAGAZINES IN SOCIETY
PR: MMC 3100 and MMC 3602. A study of the development of various types of magazines in America, and a critical analysis of current problems and performances of periodicals along with changes indicated for the future.

JOU 3100 BEGINNING REPORTING
PR: MMC 3100 and MMC 3602. Basic instruction in news judgment, sources of news, newsgathering, and newswriting techniques. Typing ability is required.

JOU 3101 ADVANCED REPORTING
PR: POS 2041, JOU 3100, or RTV 3300 (RTV majors only). JOU 4200 (may be taken concurrently), and PHI 1103. Getting information and writing the more complex and specialized story, techniques of investigative and analytical reporting, including ethical and legal considerations.

JOU 3300 MAGAZINE ARTICLE AND FEATURE WRITING
PR: CRW 2100, JOU 3100. Planning, researching, writing, and marketing articles for general and special interest magazines and newspaper magazine supplements; experiences in developing advertising; critical analysis of contemporary magazine articles.

JOU 3306 CRITICAL WRITING: EDITORIALS, REVIEWS, COLUMNS
PR: JOU 3101, JOU 4200. Interpretive and opinion writing for the mass media. Analysis and discussion of current events as a basis for critical thinking and editorial writing; evaluation of editorial pages of leading newspapers. Study of journalistic techniques involved in writing art, drama, music and book reviews and satire, sports, or personal columns.

JOU 3940 REPORTING PRACTICUM
PR: JOU 4104 and Cl. For selected News-Editorial Sequence majors. Practical experience outside the classroom in a live newspaper reporting situation where the student works for academic credit under the tutelage of a professional practitioner. ($/U only.)

JOU 4104 PUBLIC AFFAIRS REPORTING
PR: JOU 3101, POS 2041 and POS 3142. Covering city council meetings, courthouse, city hall, courts, society, and other special assignments. Emphasis is on coverage of major governmental units at all levels of government, including examination and interpretation of public documents and records.

JOU 4200 NEWS EDITING
PR: ECO 2013, JOU 3101, and SYG 1010. Evaluating news and its display; editing and rewriting copy for the mass media, with emphasis on the daily newspaper; news judgment, headlines, makeup; ethical problems.
### JOU 4206 NEWSPAPER DESIGN AND TYPOGRAPHY (3)
PR: ADV 3002 and JOU 4200 or Cl. Theoretical and practical applications of national design; problems in newspaper layout; the research of newspaper typography and design and its application; redesign of contemporary newspapers.

### JOU 4500 NEWSPAPER ORGANIZATION AND MANAGEMENT (3)

### MMC 4941 EDITING PRACTICUM (1)
PR: Senior standing, JOU 4202 and Cl. For selected News-Editorial Sequence majors. Practical experience outside the classroom at a daily newspaper copydesk, where the student works for academic credit under the tutelage of a professional news editor. (S/U only.)

### MMC 4944 MAGAZINE PRACTICUM (1)
PR: Senior standing and Cl. For selected Magazine Sequence majors. Practical experience outside the classroom in a live magazine or industrial publication situation where the student works for academic credit under the tutelage of a professional practitioner. (S/U only.)

### MMC 3602 MASS COMMUNICATIONS AND SOCIETY (3)
PR: Sophomore standing. A survey of the history, theory processes, and philosophy of mass communications and the mass media in the United States, and their relationship to the other major institutions of American society.

### MMC 4123 MEDIA SCRIPT WRITING (3)
PR: MMC 3100 and MMC 3602. An introduction to the techniques of writing scripts for photographic and multi-media presentation, electronic media, and industrial and documentary film.

### MMC 4200 HISTORY AND PRINCIPLES OF COMMUNICATIONS LAW (3)
PR: MMC 3100 and MMC 3602. Historic and Constitutional backgrounds of freedom and control of expression, statutory enactments, major Supreme Court cases, court decisions and administrative rulings which have shaped legal control of communications.

### MMC 4420 RESEARCH METHODS IN MASS COMMUNICATIONS (3)
PR: MMC 3100, MMC 3602, and/or Cl. An introduction to the theory and practice of quantitative and historical research methods as applicable to the study of media and mass communications. Emphasis on survey research, evaluation of data, and report writing.

### MMC 4910 INDIVIDUAL RESEARCH IN MASS COMMUNICATIONS (1-3)
PR: CC and Cl. The course provides means for a student to do independent study in an area not covered by a numbered course.

### MMC 4936 SELECTED TOPICS IN MASS COMMUNICATIONS STUDIES (1-3)
PR: Junior standing. Courses designed to meet current or specific topics of interest to instructors and students.

### MMC 4945 MEDIA INTERNSHIP - SEMINAR (3)
PR: Cl and 15 hours in Mass Com. courses and completion of an 8-12 week media internship with newspaper, broadcast station, or other media-related agency approved by the department and paid by the sponsor. Reports on experiences for discussion and evaluation. (S/U only.)

### PGY 3610 PHOTOJOURNALISM I (3)
PR: MMC 3100 and MMC 3602. Camera operation, darkroom techniques, picture editing, ethics, history, and laws in connection with photojournalism.

### PGY 3620 PHOTOJOURNALISM II (3)
PR: PGY 3610. Advanced process and practice of photography for publication. Content includes advanced camera and laboratory techniques, publication requirements and theory of photochemical color separation used in magazine and newspaper. Emphasis is placed on student production.

### PGY 4100 COLOR PHOTOGRAPHY (3)
PR: PGY 3620. Development of knowledge and skills of color photography for publication and presentation. Emphasis is on the use of transparency and negative color materials in their application to the media. Laboratory required.

### PUR 3000 PRINCIPLES OF PUBLIC RELATIONS (3)
PR: ECO 2013, ECO 2023, MAN 3025, MMC 3100 and MMC 3602. The functions of public relations within corporate and institutional structures; ethical standards of practice, and relationships of the practice to the public media and other modes of contemporary communication.

### PUR 4001 ADVANCED PUBLIC RELATIONS (3)
PR: PUR 3000, PUR 4100, and MMC 4420. As final course in PR sequence, it involves intensive study of counseling and problem-solving techniques used in professional practice. Analysis of case studies and preparation of complete PR program. Extensive reading in the literature of contemporary practice.

### PUR 4100 WRITING FOR PUBLIC RELATIONS (3)
PR: JOU 3100, PUR 3000. Persuasive writing techniques unique to the practice of public relations; application of principles and ethical practices to problem-solving situations drawn from case studies; writing formats used in promotional and publicity literature.

### PUR 4700 PUBLIC RELATIONS PRACTICUM (1)
PR: Sophomore standing and Cl. For selected Public Relations Sequence majors. Practical experience outside the classroom in a professional public relations situation where the student works for academic credit under the tutelage of a professional practitioner.

### PUR 4991 PUBLIC RELATIONS: ISSUES, PRACTICES AND PROBLEMS (3)
PR: PUR 3000. The nature of specialized areas of public relations and the role of the public relations specialist. The conceptual definitions and the technical approaches to the structure, process and functions of such specialized areas as public information, community relations, etc. Trends and techniques of communication.

### RTV 3000 INTRODUCTION TO BROADCASTING (3)
PR: MMC 3100 and MMC 3602. A survey of the organization, structure, and function of the broadcasting industry.

### RTV 3100 WRITING FOR RADIO AND TV (3)
PR: ENC 3100 or CRW 2100, RTV 3000. The writing of radio and television scripts such as documentaries, children's programs, commercials, dramas, talks, and demonstrations.

### RTV 3210 RADIO PRODUCTION AND DIRECTION (3)
PR: RTV 3000. Radio production and direction; laboratory and broadcast experiences.

### RTV 3220 VIDEO WORKSHOP (1)
PR: MMC 3100 and MMC 3602. An introduction to the techniques and applications of field television production and electronic editing.

### RTV 3230 BROADCASTING ANNUCING (3)
PR: ORI 3000, RTV 3000, SPC 2023 or SPC 2050. Development of skills required for effective announcing and other appearances before microphone and camera.

### RTV 3300 BROADCAST NEWS (3)
PR: RTV 3000. The study and methods in gathering, writing, and editing newscasts for radio and television.

### RTV 3910 RADIO PRACTICUM (1)
PR: RTV 3210 and Cl. The study, rehearsal, and production of radio programs and materials. (S/U only.)
### PHILOSOPHY

#### PHH 3000 INTRODUCTION TO PHILOSOPHICAL TRADITIONS -6A
An historical introduction to selected philosophical traditions through readings from representative thinkers.

#### PHH 3062 ANCIENT AND MEDIEVAL PHILOSOPHY
A survey of philosophy from the pre-Socrates through Plotinus.

#### PHH 3420 MODERN PHILOSOPHY
A survey of Western philosophy from Descartes through Thomas Reid.

#### PHH 3440 RECENT PHILOSOPHY
A survey of philosophy from Kant through nineteenth century philosophy.

#### PHH 4500 CONTEMPORARY PHILOSOPHY -6A
Selected schools of twentieth century thought such as idealism, positivism, pragmatism, realism, and existentialism.

#### PHH 4700 AMERICAN PHILOSOPHY -6A
Major traditions in American thought, Puritanism, the Enlightenment, Transcendentalism, Idealism, Pragmatism, and Analytic Philosophy in relation to American culture.

#### PHI 1000 GREAT PHILOSOPHERS OF THE WESTERN WORLD
Lectures and discussions of the great philosophers since Plato, focusing on particular problems.

#### PHI 1010 PHILOSOPHIC CONTROVERSIES
A discussion of central controversies in philosophy such as the nature of love, violence, freedom, truth, morality, etc.

#### PHI 1103 PRACTICAL LOGIC -6A
Elementary theory and application of logical fallacies, deductive and inductive logic. Not for majors.

#### PHI 3011 INTRODUCTION TO PHILOSOPHICAL PROBLEMS -6A
An introduction to major philosophical problems through readings from representative thinkers.

#### PHI 3100 LOGIC -6A
Language analysis and classical modern formal logic, including the logic of classes and propositions, and discussion of philosophical issues.

#### PHI 3404 SCIENTIFIC METHOD
Probability, inductive inference, the hypothetico-deductive method, experimentation, and selected topics in the philosophy of science.

#### PHI 3600 ETHICS
A study of theoretical ethics through examination of the works of Plato, Aristotle, Kant, Sartre and others on moral problems and principles.

#### PHI 3601 CONTEMPORARY MORAL ISSUES
Open to all students. A study of contemporary moral issues concerning racism, sex, sexism, abortion, poverty, crime, war, suicide, and human rights in general.

#### PHI 3631 ETHICS AND BUSINESS
An application of traditional ethical theories to contemporary problems in business.

#### PHI 3634 BIOMEDICAL ETHICS
This course will focus on the ethical issues arising from advances in medical practice, delivery of health care, and scientific research.

#### PHI 3700 PHILOSOPHY OF RELIGION -6A
Analysis of religious experience and activity and examination of principal religious ideas in light of modern philosophy.

#### PHI 3905 DIRECTED STUDY
(1-4) PR: Cl. Individual study directed by a faculty member. Approval slip from instructor required.

#### PHI 3930 SELECTED TOPICS
(1-4) PR: Cl. Selected topics according to the needs of the student.

#### PHI 4320 PHILOSOPHY OF MIND -6A
A study of historical and current issues in philosophy of mind, including the nature and status of mind, mind/body dualism, the relationship of mind and body, the problems of other minds, the physical basis for intelligence, etc.

#### PHI 4360 THEORY OF KNOWLEDGE -6A
An examination of human knowledge: its scope and limits, and an evaluation of evidence, criteria of truth, the nature of belief, conditions for meaningfulness, theories of perception, and a study of memory and sense perception in the four major fields of nature, history, personal experience, and the a priori.

#### PHI 4800 AESTHETICS -6A
A study of traditional and contemporary aesthetic theories with emphasis on creative process, the nature of the art work, the aesthetic response, expressiveness, form and content as well as art and morality.

#### PHI 4905 DIRECTED STUDY
(1-4) PR: Cl. Individual study directed by a faculty member. Approval slip from instructor required.

#### PHI 4930 SELECTED TOPICS
(1-3) PR: Cl. Selected topics according to the needs of the senior students. Approval slip from instructor required.

#### PHI 5135 SYMBOLIC LOGIC
(3) PR: PHI 3100 or Cl. Mathematical treatment of formal logic, including methods of proof, quantification, the logic of relations and an introduction to properties of deductive systems.

#### PHI 5225 PHILOSOPHY OF LANGUAGE
(3) PR: Eight hours of philosophy, major in linguistics, or Cl. An examination of semantical, syntactical, and functional theories of language with special attention given to the problems of meaning, linguistic reference, syntactical form, and the relations between scientific languages and ordinary linguistic usage. Seminar format.

#### PHI 5913 RESEARCH
(1-4) PR: Cl. Individual research supervised by a faculty member. Approval slip from instructor required.

#### PHI 5934 SELECTED TOPICS
(1-3) PR: Cl. Selected topics according to the needs of the student. Approval slip from instructor required.

#### PHM 3021 PHILOSOPHIES OF LOVE AND SEX
Discussion of Philosophies of Love/Sex of Plato, Aristotle, Epicurus, Aquinas, Hume, Kant, Schopenhauer, Russell, Sartre, Marx, etc.

#### PHM 3100 SOCIAL PHILOSOPHY -6A
An analysis of rival theories of social order and their philosophical foundations.
PHM 3400 INTRODUCTION TO PHILOSOPHY OF LAW (3) A study of the fundamental concepts of law from a philosophic standpoint including crime, justice, punishment, free speech, insanity, etc.

PHM 4222 ANCIENT AND MEDIEVAL POLITICAL PHILOSOPHY -6A (3) A survey of political philosophy from 6 B.C. until 1600 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHM 4331 MODERN POLITICAL PHILOSOPHY -6A (3) A survey of political philosophy from 1600 A.D. until 1900 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHM 4340 CONTEMPORARY POLITICAL PHILOSOPHY -6A (3) A survey of political philosophy in the twentieth century, including an examination of the ethical, metaphysical and epistemological bases of these philosophies.

PHP 3786 EXISTENTIALISM -6A (3) A study of the religious and atheistic existentialists and the bearing of their views on religion, ethics, metaphysics, and theory of knowledge.

PHP 4000 PLATO -6A (3) The examination of Plato will include the dialogues Protagoras, Georgias, Meno, Republic, etc.

PHP 4010 ARISTOTLE -6A (3) Study of Aristotle’s philosophy.

PHP 4410 KANT (3) Lecture and discussion of Kant’s philosophy, especially The Critique of Pure Reason.

PHP 4740 RATIONALISM -6A (3) A careful study of the epistemologies of Descartes, Spinoza, Leibniz, and Malebranche.

PHP 4745 EMPIRICISM -6A (3) A careful study of epistemologies of Locke, Berkeley, Hume, and Thomas Reid.

PHP 4784 ANALYTICAL PHILOSOPHY -6A (3) A study of the method devoted to clarifying philosophical problems through analysis of the language in which these problems are stated.

PHP 4788 PHILOSOPHY OF MARXISM -6A (3) A critical survey of Marxist philosophy from Marx and Engels to Mao Tse-Tung and Herbert Marcuse. Hegelian foundations of Marxist philosophy analyzed in detail.

RELIGIOUS STUDIES


REL 2500 INTRODUCTION TO WORLD RELIGIONS -6A (3) Belief structures and behaviors of native American religions, Hinduism, Buddhism, Chinese religions, Judaism, Christianity and Islam, examined in films and in the reading of core religious texts.

REL 3000 INTRODUCTION TO RELIGION (3) This course examines the phenomenon of religion to answer the question: Religion, what is it? Religious thought (mythology and theology) and religious behavior (ritual and morality) are closely examined.

REL 3120 RELIGION IN AMERICA (3) To examine the movement from state church to pluralism in American religious institutions, the religious results of non-Protestant immigration; the Jewish factor; the effect of home missions and social concern programs upon American life; political entanglements and the concept of church/state separation.

REL 3131 NEW RELIGIONS IN AMERICA (3) A course designed to allow the student to survey the wide spectrum of contemporary sects and cults and learn what motivates their development.

REL 3145 WOMEN AND RELIGION -6A (3) Analysis of the status and roles of women as compared to men in the Judeo-Christian tradition. Contemporary issues of feminist theology, and the controversies surrounding them. (May also be taken for credit in Women’s Studies.)

REL 3170 RELIGION, ETHICS AND SOCIETY -6A (3) Explores the relations between religion, ethics, and society in Eastern and Western cultures, and the critical problems raised by the emergence of modern, secularized civilization. Open to majors and non-majors.

REL 3210 INTRODUCTION TO THE BIBLE/OLD TESTAMENT (4) An introduction to the critical study of the Hebrew Scriptures against the background of the ancient Near East, with attention to the history and religion of the Hebrew people. REL 3210 and REL 4221 may not both be credited toward the major.

REL 3240 INTRODUCTION TO THE NEW TESTAMENT (3) An introduction to the critical study of the New Testament in context of Christian beginnings in the first century A.D. REL 3240 and REL 4244 may not both be credited toward the major.

REL 3280 BIBLICAL ARCHAEOLOGY (3) An examination in depth of the archaeological data relating to the background and content of the Bible, including ancient customs, Biblical sites and cities, Biblical history, and material culture of the Biblical period. Special attention will also be given to excavation methods and interpretation of archaeological evidence.

REL 3290 WORLD RELIGIONS (5) An introduction to and a comparison of the ideas, the literature and institutions of the major religions of the world including Judaism, Christianity, Islam from the Near East and Hinduism, Taoism, Confucianism, and Buddhism from the Far East. General comparison of Western and Eastern beliefs.

REL 3330 THE RELIGIONS OF INDIA (3) All religions of the world came to India and all became Indian. What is this “Indianness” which stems from Hinduism, Buddhism, Jainism and Sikhism, but extended itself to include Judaism, Christianity, Islam, Zoroastrianism and Bahai’s? Readings from classical texts to modern literature.

REL 3350 RELIGIONS OF CHINA AND JAPAN (3) This course will investigate the philosophy of ancient China and its two major interpreters, Lao Tzu and Confucius. It will also look at the native Japanese Shinto religion.

REL 3420 CONTEMPORARY RELIGIOUS THOUGHT (3) An examination of the central ideas of recent theological thinkers; such men as Barth, Brunner, Bultmann, Bonhoeffer, Rahner, Tillich, Cox, Altizer, Buber, Niebuhr.

REL 3500 HISTORY OF CHRISTIANITY (4) The historical development of Christianity, its ideas and institutions, from the first century to the rise of religious modernism in the 19th century.

REL 3600 INTRODUCTION TO JUDAISM (3) An introduction to Judaism: its religious tenets; its codes of ethics; its rites and customs. This course is intended as a description of what it means to be a Jew.

REL 3611 HISTORY OF JUDAISM I (3) A study of the evolution of the religion of ancient Israel from the Exodus to the end of the second century of our era, seen against the background of its historical, geographical, political, social and spiritual setting.

REL 3612 HISTORY OF JUDAISM II (3) A study of the history of Judaism and the Jews from the third century of our era through the Middle Ages to the Emancipation in the 19th century. Taking History of Judaism I first is advantageous.

REL 3613 MODERN JUDAISM (2) A study of Jewish life in the West since 1789, emphasizing Jewish beliefs, practices, and institutions.

REL 3900 DIRECTED READINGS (1-4) PR: CI. Individual guidance in concentrated reading on a selected topic.
REL 3921 COLLOQUIUM
This colloquium will be held at least 3 times each semester in order bring all religious studies faculty and undergraduate majors together to discuss research of a particular faculty member, student, or guest scholar. May be repeated up to 3 semester hours. (S/U only.)

REL 3938 SELECTED TOPICS
PR: Cl. Course contents depend on students' needs.

REL 4161 RELIGION, BIOLOGY AND SOCIETY
An exploration of the way in which religion and technology have interacted in Western civilization so as to both express and transform human values and identity. Special emphasis will be given to the value questions raised by modern technology. Open to majors and non-majors.

REL 4162 RELIGION, SCIENCE AND SOCIETY
This course will explore the religious roots of science and the history of its emancipation. Special emphasis will be given to the interaction of religion and science in contemporary society. Open to majors and non-majors.

REL 4171 CONTEMPORARY CHRISTIAN ETHICS -6A
PR: Jr. standing or Cl. This course will survey several major approaches to contemporary Christian ethics and their application to a number of ethical issues peculiar to personal and social life in contemporary society. Open to majors and non-majors.

REL 4193 COMPARATIVE MYSTICISM
A course designed to acquaint the student with the nature of mystical experience, and some of the varieties of mystical experience recorded in the writings of the mystics.

REL 4221 BIBLE I/OLD TESTAMENT - LAW AND HISTORY
An examination of the Pentateuch (Torah) from the point of view of its literary development, religious traditions, historical background, law, covenant theology, and the history of the religion of Israel.

REL 4224 BIBLE II/PROPHETS AND WRITINGS
PR: REL 3210 or REL 4221 or Cl. An investigation of the prophetic movement and the historical and cultic writings in Israel from the point of view of theological developments, history presupposed, and the religious institutions depicted. Special attention is given to a theme such as Job and the problem of evil.

REL 4252 NEW TESTAMENT II: THE LETTERS OF PAUL AND OTHER NEW TESTAMENT WRITINGS
PR: REL 4244 or REL 3240 or Cl. An investigation of the phenomenon of earliest Christianity in its Pauline and non-Pauline forms, particularly as reflected in Paul's letters and in other writings of the New Testament. Special attention is given to the program of Apocalyptic, as in the book of Revelation.

REL 4333 HINDUISM
The philosophy of the saints; the complex rituals of the Brahmins; the art of its temples; the psychology and physiology of yoga; the social rigidity of the caste system; the esoteric science of meditation; the ascetic activism of Mahatma Gandhi—all of these are Hinduisms, and more. Close readings of classical texts, philosophic systems and medieval poems.

REL 4343 BUDDHISM IN INDIA, SRI LANKA, AND SOUTH EAST ASIA
The life and teachings of the Buddha; the order of monks and nuns; the Buddhist Emperor Ashoka; schisms; the rise of the Great Vehicle and the philosophy of emptiness; Buddhist missions; Buddhist art and culture; Buddhism and national liberation; contemporary social and political issues.

REL 4344 BUDDHISM IN CHINA, JAPAN, AND TIBET
Mahayana Buddhism followed the silk routes to China and Japan, and later it crossed the Himalayas into Tibet. An overview of the variety of schools and practices of Buddhism and its adaptation by these ancient cultures.

REL 4506 FROM MYTH TO CHRISTIANITY
Study of the religions/mythologies of the ancient Middle East and Eastern Mediterranean and how their influences shaped the theology and practices of Christianity up to the end of the fourth century; influences many of which continue to be evident in the traditional Roman and Eastern Orthodox churches.

REL 4670 JUDAISM AND CHRISTIANITY AFTER THE HOLOCAUST -6A
This course will explore the impact of the Holocaust on Jewish and Christian thought and identity in the light of the history of religious and cultural anti-semitism in Western civilization. Open to majors and non-majors.

REL 4910 UNDERGRADUATE RESEARCH
PR: Junior standing and Cl. Individual investigations with faculty supervision.

REL 4931 SEMINAR IN RELIGION
A course designed for persons, especially Religious Studies majors, whose prior religious studies have prepared them for a cooperative creative and/or research effort in the area of religion.

REL 4936 SELECTED TOPICS
PR: Junior standing and Cl. Individual investigations with faculty supervision.

REL 4939 THE DEVELOPMENT OF RELIGIOUS STUDIES
Course designed for senior majors (and minors) in religious studies to complement REL 4931 (Senior Seminar). Discussion of key figures and methodological advances in the development of the field from the 18th century to present, with readings of classics in the development.

Ancient Studies Sequence
CLA 3000 ANCIENT CIVILIZATIONS
Study of the character, ideas, and cultural achievements of the peoples of the Ancient Middle East and Mediterranean and their relevance for modern Western civilization.

CLA 3801 HISTORY OF THE ALPHABET
Study, in reasonable detail, of the evolution of our "Roman" alphabet, as well as of other ancient and modern alphabets, from the writing system of ancient Egypt.

CLA 4160 EGYPTIAN CIVILIZATION
Study of the Ancient Egyptian civilization, including customs, religion, art and architecture, language and literature, science and the calendar, and an introduction to hieroglyphic writing. (Alternate years.)

CLA 4171 MESOPOTAMIAN CIVILIZATION
Study of the Ancient Mesopotamian (Sumero-Babylonian) civilization, including customs, religion, art and architecture, languages and literatures, science and the calendar, and an introduction to cuneiform writing. (Alternate years.)

CLA 4900 DIRECTED READINGS
PR: Consent of coordinator prior to registration. Readings in special topics chosen by the student in cooperation with the instructor. Reading of literature also possible in English translation.

CLA 4930 SELECTED TOPICS
Course contents depend on student demand and instructor's interest and may range over the whole field of ancient languages, literatures, and civilizations. Offerings on a semi-regular basis include Tongues of the Bible (2), and The Bible as History (3).

HEB 1120, 1121 (formerly HEB 3120, 3121) BASIC HEBREW I, II
Designed to give students a working knowledge of Classical (Biblical) Hebrew and to introduce them to the Biblical literature in the original language.

NOTE: In any of the numbers CLA 4900, CLA 4930, enrollment is repeatable for different subject matters.
COLLEGE OF BUSINESS ADMINISTRATION

ACCOUNTING/LAW


ECONOMICS


FINANCE

Chairperson: P. Kare; Lykes Professor of Banking & Finance: J. L. Pappas; University Distinguished Service Professor and Sergio Bonanni Distinguished Professor of International Finance: A. Beenhakker; Professors: S. E. Bolten, R. G. Cox, S. D. Kaplin, R. L. Meyer, F. B. Power, A. Schwartz, G. Trivilli, K. F. WIan; Associate Professors: S. B. Bulmash, D. A. Johnson, S. Long, R. J. Rivard; Assistant Professors: S. Besley, W. G. Modrow; Distinguished Lecturer: R. B. Brown; Other Faculty: P. Anderson, J. Rader, T. Swan, A. Waters, D. Wurst.

INFORMATION SYSTEMS AND DECISION SCIENCES


MANAGEMENT


MARKETING


ACCOUNTING/LAW

ACG 2001 FINANCIAL AND MANAGERIAL ACCOUNTING I (3)
Study of basic accounting principles including the recording and reporting of financial activity. The preparation and interpretation of financial statements.

ACG 2011 FINANCIAL AND MANAGERIAL ACCOUNTING II (3)

ACG 3102 INTERMEDIATE ACCOUNTING I (4)
PR: ACG 2011. Measurement theory and methodology underlying income measurement and reporting of financial position. The study of compound interest fundamentals, cash, temporary investment, receivables, inventories, property and equipment, intangibles, and long term investments.

ACG 3112 INTERMEDIATE ACCOUNTING II (4)

ACG 3301 MANAGERIAL ACCOUNTING (3)
PR: ACG 2011. The study of the uses of accounting data internally by managers in planning and controlling the affairs of organizations, both profit oriented as well as not-for-profit oriented entities. NonAccounting majors only.

ACG 3361 COST ACCOUNTING AND CONTROL I (3)
PR: FIN 3403, GEB 3121. Deals with relevant costs for decision making, standards and job order costing, flexible budgeting direct and absorption costing, regression analysis and decision models.

ACG 3401 ACCOUNTING INFORMATION SYSTEMS (3)

ACG 3930 SELECTED TOPICS IN ACCOUNTING (1-4)
Course description will vary with the topics included.

ACG 4651 AUDITING (3)
PR: ACG 3112, ACG 3401, and GEB 3121. Principles and procedures of internal and public auditing. The ethics, responsibilities, standards, and reports of professional auditing.

ACG 4901 INDEPENDENT STUDY (1-3)
PR: Consent of Director. Specialized independent study determined by the students' needs and interests. May be repeated up to 6 credit hours (S/U only).

ACG 4911 INDEPENDENT RESEARCH (1-4)
PR: Consent of Director. Individual study contract with instructor and director required. The research project will be mutually determined by the student and instructor. May be repeated up to 8 hours.

ACG 4931 SELECTED TOPICS IN ACCOUNTING (1-4)
PR: Cl. The course content will depend on student demand and instructor's interest.

TAX 4001 FEDERAL TAXES I (3)
PR: ACG 3112. An introduction to the federal income tax structure. Use of tax services and the concept of taxable income primarily applicable to individuals.

ACG 5205 ADVANCED ACCOUNTING (4)
PR: ACG 3112. Accounting for business combinations, preparation of consolidated financial statements, home office and branch operations, accounting for international operations and partnership.

ACG 5505 NONPROFIT ORGANIZATION ACCOUNTING (3)

ACG 5805 CONTEMPORARY ACCOUNTING THOUGHT (3)
PR: Intermediate Accounting II or equivalent. An in-depth coverage of selected topics in accounting. Emphasis is placed on current significant developments that have taken place in the profession which the student should have for a well-rounded background in accounting but have not been exposed to in previous courses. Available to majors and nonmajors.

ACG 5935 SELECTED TOPICS IN ACCOUNTING (1-4)
PR: Cl. To allow advanced undergraduate students and graduate
ECONOMICS

ECO 2013 ECONOMIC PRINCIPLES (MACROECONOMICS) (3)
PR: ECO 2023. Introduction to the theory of income determination with emphasis on applications of monetary and fiscal policies. Topics discussed are: objectives of full employment, price stability, economic growth, and balance of payments stability.

ECO 2023 ECONOMIC PRINCIPLES (MICROECONOMICS) (3)
PR: ECO 2013. Fundamentals of scarcity and choice, price theory, and market systems. The roles of the consumer, producer, and government in economic decision making are emphasized.

ECO 3101 INTERMEDIATE PRICE THEORY (3)
PR: ECO 2023. Analysis of supply and demand as related to product and resource pricing under the various market structures.

ECO 3203 INTERMEDIATE INCOME & MONETARY ANALYSIS (3)
PR: ECO 2013 and ECO 3101 with a grade of "C" or better. Analysis of the determination of income, employment, prices, and interest rates. Emphasis is placed on the interaction of aggregate demand and aggregate supply.

ECO 3622 AMERICAN ECONOMIC HISTORY (3)
PR: ECO 2023. The growth and evolution of American economic institutions from Colonial times to the present.

ECO 3703 INTERNATIONAL ECONOMICS (3)
PR: ECO 3101 with a grade of "C" or better. Role of international trade in the U.S. economy. Emphasis is placed on the bases of trade and the nature of gains from trade, balance of payments, exchange rate determination, equilibrating mechanisms for restoring balance of payments stability, and international commercial policy.

ECO 4213 MONETARY THEORY (3)
PR: ECO 3203. Examination of the impact of the financial sector on real and nominal economic magnitudes. The course approaches its subject matter through the theory of portfolio and capital adjustments.

ECO 4303 HISTORY OF ECONOMIC THOUGHT (3)
PR: ECO 3101 with a grade of "C" or better. The development of economic schools of thought, from Plato to Marshall, are traced and analyzed. The impact of historical and political conditions will be stressed.

ECO 4323 MARXIST POLITICAL ECONOMY (3)
PR: ECO 2013, or Cl. An examination of the Marxist school of thought in economics. Application of Marxist economic theory to problems of advanced capitalist and socialist societies.

ECO 4401 INTRODUCTION TO MATHEMATICAL ECONOMICS (3)
PR: ECO 2013, and GEB 3121, MAC 2233 or Cl. Economic processes expressed as equations and economic systems as mathematical models. Investigation of static and dynamics properties by mathematical analysis and computer simulation.

ECO 4504 PUBLIC FINANCE (3)
PR: ECO 3101 with a grade of "C" or better. Examination of the public sector and its contribution to economic welfare. Government expenditures and revenues in relation to their impact on resource allocation, income distribution, stabilization, and economic growth.

ECO 4713 INTERNATIONAL MONETARY RELATIONS (3)

ECO 4723 INTERNATIONAL COMMERCIAL POLICIES (3)
PR: ECO 3101 with a grade of "C" or better. Advanced analysis of international trade theory and commercial policy, international economic integration, and multinational enterprise.

ECO 4905 INDEPENDENT STUDY (1-3)
PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated up to 6 credit hours. (S/U only.)

ECO 4914 INDEPENDENT RESEARCH (1-3)
PR: Cl. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 6 hours.

ECO 4935 SELECTED TOPICS IN ECONOMICS (1-3)
PR: Cl. Topics to be selected by the instructor or instructors on pertinent economic issues.

ECO 5407 ECONOMIC PROGRAMMING AND CONTROL (3)

ECO 5424 ECONOMETRICS I (3)
PR: ECO 5203 or GEB 5717 and GEB 3121 or GEB 6756, or Cl. Chairperson approval required for undergraduates. Theory and use of multiple regression to estimate relationships in causal models, to analyze economic behavior and to forecast the outcome of economic disturbances. Use of standard software packages. Estimation and interpretation of regression equations.

ECO 5425 ECONOMETRICS II (3)
PR: ECO 5424. Chairperson approval required for undergraduates. Advanced econometric techniques; model building, estimation and forecasting; design and execution of individual research projects.

ECP 3203 LABOR ECONOMICS (3)
PR: ECO 3101 with a grade of "C" or better. History of the trade union movement; economic analysis of trade union philosophies and practices; examination of basic influences affecting labor force, real wages, and employment; collective bargaining and labor law.

ECP 3413 BUSINESS-GOVERNMENT RELATIONSHIPS (3)
PR: ECO 2023. Analysis of the three public policy approaches: competitive, regulatory, and ownership; in terms of ability to bring about economically desirable price-cost relationships, reductions in cost, invention and innovation and an optimal allocation of resources.

ECP 3519 ECONOMICS OF THE URBAN ENVIRONMENT (3)
PR: ECO 2013 and ECO 2023. Economic analysis of the phenomena of cities as well as urban social problems including poverty, discrimination, housing, transportation, pollution, crime and fiscal considerations.

ECP 4232 COLLECTIVE BARGAINING AND PUBLIC POLICY (3)
PR: ECO 2023 or Cl. Administration of labor management agreements, etc. Impact of the government role in collective bargaining and labor relations will be examined in light of current labor laws and judicial interpretations.

ECP 4431 LAW AND ECONOMICS (3)
PR: ECO 3101 with a grade of "C" or better. An advanced analysis of the economic impact in the areas of: Tort, Criminal, Property and Contract Law as well as in the formation and adjudication of law.

ECP 5405 INDUSTRIAL ORGANIZATION (3)
PR: ECO 3101 with a grade of "C" or better or GEB 6716. Chairperson approval required for undergraduates. The economics of industrial organization. The study of the behavior of firms and the implications of such behavior on economic performance. The relationship between structure of industry and performance.

ECP 5406 SEMINAR IN INDUSTRIAL ORGANIZATION (3)
PR: ECP 5405. Chairperson approval required for undergraduates.
FIN 5814 URBAN ECONOMICS (3)
PR: ECO 3101 with a grade of "C" or better or GEB 6716. Chairperson approval required for undergraduates. The economics of urban areas, including analysis of their growth and development as well as intra-urban location patterns. Advanced economic analysis of urban problems.

FIN 6624 REGIONAL ECONOMICS (3)
PR: ECO 3101 with a grade of "C" or better or GEB 6716. Chairperson approval required for undergraduates. Economics analysis of the geographical allocation of scarce resources within and among regions. Topics discussed are: location of households and firms, interregional migration of labor and capital, regional growth and development, methods of regional analysis, and regional policy.

FIN 2103 ECONOMIC DEVELOPMENT (3)
PR: ECO 2013 or CL. Problems, policies, and dynamics of economic development in emerging nations. Benefits and relevance of theories of economic development are examined within the context of the social and political milieu of today's underdeveloped areas.

FIN 4009 COMPARATIVE ECONOMIC SYSTEMS (3)
PR: ECO 2013 or CL. Analysis of the major types of economic systems: traditional, capitalism, democratic socialism, communism and fascism. The methodology of Max Weber will be stressed.

FIN 2111 BUSINESS AND ECONOMIC STATISTICS I -6A (3)
PR: MAC 2233. Description of sample data; calculation of probabilities; frequency functions of random variables; the binomial and normal distributions; sampling theory and estimation; test of hypotheses; elements of Bayesian decision theory.

FIN 3121 BUSINESS AND ECONOMIC STATISTICS II (3)
PR: MAC 2233, GEB 2111. Theory and use of statistical inference. Point and interval estimation; criteria for choosing estimators and decision rules; hypotheses tests; analysis of variance, correlation and regression.

FINANCE

FIN 2100 PERSONAL FINANCE (3)
Survey of the problems and techniques of personal financial planning. Includes consumer credit, insurance, home ownership, and personal investing, with attention given to current economic and legal constraints. Not available for credit to upper level students who have been admitted to the College of Business Administration.

FIN 2105 INTRODUCTION TO INVESTMENTS (3)
Emphasizes the operations of the security markets in the U.S. and the risks and returns of alternative investment media. Designed for non-business administration students. Not available for credit to upper level students who have been admitted to the College of Business Administration.

FIN 3233 MONEY AND BANKING (3)
PR: ECO 2013. Examines the structure and operations of our monetary system, commercial banking, central banking, money, and capital markets, and provides an introduction to monetary theory and policy.

FIN 3403 PRINCIPLES OF FINANCE (3)
PR: ACG 2011 and ECO 2023. Study of the processes, decision structures, and institutional arrangements concerned with the use and acquisition of funds by a firm. Includes the management of the asset and liability structure of the firm under certain and risky situations. The financial decision process will include and recognize the international as well as domestic aspects of financial management.

FIN 3604 INTERNATIONAL FINANCE (3)
PR: ECO 2013 or CL. Study of factors affecting international business, assessment of risks, international managerial finance; institutions and instruments of international business finance.

FIN 4303 FINANCIAL INSTITUTIONS (3)
PR: FIN 3233. A study of financial institutions and their roles in the capital market includes the savings allocation, investment, and financial decision making processes.

FIN 4414 ADVANCED CORPORATION FINANCE (3)
PR: FIN 3403. An examination of the financial policies of corporations, with special reference to dividend policy, financial structure, capital expenditures, acquisitions, mergers, and reorganization.

FIN 4443 FINANCIAL POLICIES AND STRATEGIES (3)
PR: FIN 4414. A senior seminar for majors in Finance. Primarily a case course examining financial policies and the application of financial analysis to alternative strategies.

FIN 4504 PRINCIPLES OF INVESTMENTS (3)
PR: ECO 2013 and FIN 3403. Survey of the risks and returns of investment media in relation to the investment objectives of individual and institutional investors. Includes an examination of the capital markets, information flows, and analytical techniques in terms of their impact upon the valuation process.

FIN 4524 ADVANCED INVESTMENT ANALYSIS AND MANAGEMENT (3)
PR: FIN 4504. A comprehensive survey of security analysis and portfolio management. The course will utilize a quantitative approach to investment selection and management.

FIN 4834 FEDERAL RESERVE SYSTEM AND MONETARY POLICY (3)
PR: FIN 3233 or CL. An analysis of the Federal Reserve System, with special emphasis on monetary theory and the formulation and administration of monetary policy.

FIN 4905 INDEPENDENT STUDY (1-3)
PR: CL. Specialized independent study determined by the students' needs and interests. May be repeated up to six credit hours. (S/U only.)

FIN 4915 INDEPENDENT RESEARCH (1-3)
PR: CL. Individual study contract with instructor and department chairperson. The research project will be mutually determined by the student and instructor. May be repeated up to 6 hours.

FIN 4934 SELECTED TOPICS IN FINANCE (1-3)
PR: CL. Topics to be selected by instructor and department chairperson on pertinent Finance issues.

REE 3043 PRINCIPLES OF REAL ESTATE (3)
Economics of urban land utilization and the nature of property rights. Problems of urban development and the valuation of real property in terms of the structure and operations of the real estate market.

REE 3700 REAL ESTATE LOCATION THEORY AND URBAN DEVELOPMENT (3)
PR: ECO 2023. The spatial determinants of real property demand and supply. Theoretical bases for market feasibility, risk analysis, real estate market forecasting.

REE 4103 REAL ESTATE APPRAISAL (3)
PR: REE 3043. Comprehensive coverage of the basic concepts and principles of real estate appraisal. Emphasis placed on the use of valuation tools for the appraisal of real estate with emphasis on residential property.

REE 4143 INCOME PROPERTY VALUATION (3)
PR: REE 3043 and FIN 3403. Application of general appraisal methodologies and financial analysis to the valuation of income producing properties. Focus is on the income approach to valuation.

REE 4204 REAL ESTATE FINANCE (3)
PR: REE 3043. A comprehensive analysis of the institutional and legal framework of real estate financing together with an introduction to the financing techniques which are traditionally utilized to finance real estate. Includes methods of raising debt and equity funds. Analysis of real property for financing purposes is stressed in a decision-making context and how that decision affects the real estate investment.

REE 4303 REAL ESTATE INVESTMENT ANALYSIS (3)
PR: FIN 3403, REE 3043. A comprehensive study of the determinants of the market and financial feasibility of the real estate investment decision. The development of market and site analyses, the financial framework, urban development patterns, and the role of taxation will be studied along with the application of analytical techniques for decision making. The course is not restricted to Finance majors.
RE 4313 REAL ESTATE FEASIBILITY ANALYSIS (3)
PR: REE 3700, REE 4143, and GEB 3121. A comprehensive and in-depth study of the determinants of the market and financial feasibility of the real estate investment decision.

RMI 3011 PRINCIPLES OF INSURANCE (3)
Analysis of insurable risks of both business and individuals. An examination of the characteristics of those areas of risk and uncertainty where the mechanisms of insurance are effective alternatives. The concept, contracts, and institutions involved in insurance are examined in relationship to the socio-economic environment.

RMI 4115 LIFE, HEALTH, AND DISABILITY INSURANCE (3)
PR: GEB 3121, RMI 3011. The course will analyze the use of life, health, and disability insurance contracts as a method of dealing with the risks of death, sickness, and disability. It will also include an analysis of cost determination of the various types of coverage.

RMI 4113 CASUALTY INSURANCE (3)
PR: RMI 3011. Course dealing with recognition of personal and business casualty risks and coverages which may be used in dealing with these risks. Considers the underwriting, marketing, and social problems associated with these coverages. Topics include workmen's compensation, public liability, auto liability, suretyship and crime insurances. Not limited to Finance majors.

RMI 4210 PROPERTY INSURANCE (3)
PR: RMI 3011. Course dealing with recognition of personal and business property risks, and coverages which may be used in dealing with these risks. Considers the underwriting, marketing, and social problems associated with these coverages. Topics include commercial and residential fire insurance, inland marine and transportation coverages, and multi peril contracts. Not limited to Finance majors.

GENERAL BUSINESS ADMINISTRATION

BUL 3112 BUSINESS LAW I (3)
The nature of legal institutions, essentials of binding contract, remedies granted in event of breach of contract, and rights acquired by assignment of contracts.

BUL 3122 BUSINESS LAW II (3)
PR: BUL 3112. Legal problems in marketing of goods, nature of property, sales of personal property, securing of credit granted, nature and use of negotiable instruments.

BUL 3569 THE LAW OF BUSINESS ASSOCIATIONS (3)
PR: BUL 3112. A study of the law of corporations, the law of partnerships, and the law of agency.

BUL 5565 LAW AND THE ACCOUNTANT (3)
PR: BUL 3112 or Cl. A comprehensive study of commercial law as it affects the practice of accounting.

GEB 3211 BUSINESS COMMUNICATIONS -6A (3)
Analysis and application of the principles of organizational behavior in letters, memorandums, and reports. Course is structured around a model which manifests the effective communications process.

GEB 4511 BUSINESS POLICY (3)
PR: Senior standing. The course is intended to provide a unifying, integrating, and coordinating opportunity to tie together concepts, principles, and skills learned separately in other, more specialized courses in Business Administration.

GEB 4901 INDEPENDENT STUDY (1-3)
PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated up to eight credit hours. (S/U only.)

GEB 4911 INDEPENDENT RESEARCH (1-4)
PR: Cl. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 6 hours.

GEB 4935 SELECTED TOPICS IN BUSINESS ADMINISTRATION (1-4)
The content and organization of this course will vary according to the current interests of the faculty and needs of students.

MAN 5925 CBA WORKSHOP (1-4)
Professional application workshop in various areas of finance, marketing, economics, accounting, management. May be repeated when subjects differ.

INFORMATION SYSTEMS AND DECISION SCIENCES

CGS 2000 COMPUTERS IN BUSINESS -6A (3)
A study of the use and impact of computers in all areas of business organizations. Course includes hands-on experience and the use of software packages for business analysis.

GEB 2111 BUSINESS AND ECONOMIC STATISTICS I -6A (3)
PR: MAC 2233. Description of sample data; calculation of probabilities, frequency functions of random variables, the binomial and normal distributions; sampling theory and estimation; test of hypotheses; elements of Bayesian decision theory.

GEB 3121 BUSINESS AND ECONOMIC STATISTICS II (3)
PR: MAC 2233, GEB 2111. Theory and use of statistical inference. Point and interval estimations; criteria for choosing estimators and decision rules; hypotheses tests; analysis of variance; correlation; multiple regression; and nonparametric methods.

ISM 3011 MANAGEMENT INFORMATION SYSTEMS (3)
PR: CGS 2000; ACG 2001; ACG 2011 or equivalent. The study of information management, management information requirements and information systems in modern organizations.

ISM 3111 SYSTEMS ANALYSIS (3)
Overview of the system development life cycle. Emphasis on current system documentation through the use of both classical and structured tools/techniques for describing process flows, data flows, data structures, and file designs. Discussion of the information gathering and reporting activities and of the transition from analysis to design.

ISM 3112 SYSTEMS DESIGN (3)
PR: ISM 3111; COP 3120 or equivalent. Advanced study of structured systems design. Emphasis on strategies and techniques of structured analysis and structured design for producing logical methodologies for dealing with complexity in the development of information systems.

ISM 3431 MANAGEMENT SCIENCE PRODUCTION/OPERATIONS MANAGEMENT APPLICATIONS (3)
PR: MAC 2233. Fundamentals of production operations management (POM) and fundamentals of management science (MS). The application of MS models in the solution of POM problems.

ISM 4212 DATABASE ADMINISTRATION (3)

ISM 4220 DISTRIBUTED INFORMATION SYSTEMS (3)
PR: ISM 3111, ISM 3112. Analysis, design, implementation and management of distributed information systems and networks.

ISM 4290 SENIOR SEMINAR IN INFORMATION SYSTEMS (3)
PR: ISM 3111, ISM 3112, ISM 4300. A seminar covering advanced topics in system analysis and design. Applications of these procedures to actual or hypothetical cases.

ISM 4300 MANAGING THE INFORMATION SYSTEM FUNCTION (3)
PR: ISM 3111, MAN 3025; or equivalent. An advanced study of information system management including system planning, project selection and management, and organizational information management policies.

ISM 4320 INFORMATION SYSTEMS CONTROLS (3)
PR: ISM 3111. MIS Major or Cl. A study of information systems control and its application in system design and system management.

ISM 4400 DECISION SUPPORT SYSTEMS APPLICATIONS-COMPUTER ASSISTED DECISION MAKING (3)
PR: FIN 3403, GEB 3121, and ISM 3111. Study of the principles of decision making of the human/computer alliance. Hands-on computer-assisted-decision making in an organizational environment. Case studies and/or management games using micro-computers.

MAN 4504 OPERATIONS MANAGEMENT: A SYSTEMS APPROACH (3)
PR: ISM 3431 or equivalent. Studies the problems of "operations" in
all types of enterprises in both the public and private sectors. Emphasis is placed on the application of various decision science methodologies to problem situations.

MAN 4507 OPERATION PRODUCTION SYSTEMS (3) PR: MAN 4504 or Cl. Study of closed loop production planning and control systems. Master production planning, inventory management, materials requirements planning, capacity, management, production activity. Relationship to organizational effectiveness.

ISM 4905 INDEPENDENT STUDY (1-6) Independent study as directed by designated faculty. May be repeated up to 6 credit hours. (S/U only)

ISM 4930 SELECTED TOPICS IN MIS (1-9) Selected topics in MIS.

ISM 4950 INDEPENDENT RESEARCH (1-6) PR: Cl. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor.

QMB 4600 QUANTITATIVE APPROACH FOR BUSINESS DECISIONS (3) PR: ISM 3431. The use of systematic approaches and management science tools for decision making and problem solving in an organizational setting. Emphasis is on quantitative approaches for problem identification, analysis, choice and implementation.

QMB 4703 SIMULATION AND MODELING TECHNIQUES (3) PR: ISM 5431 or Cl. A study of manual and computer simulation techniques to develop solutions to problem solving in management (behavioral and quantitative). Knowledge of a computer language and the basic tools and techniques of management science is advised.

MANAGEMENT

MAN 2932 SELECTED TOPICS IN MANAGEMENT (1-4) PR: Cl. Topics to be selected by department chairman. May be repeated if topics vary. Not available for credit to upper-level students who have been admitted to the College of Business Administration. May be repeated up to 8 credit hours.

MAN 3025 PRINCIPLES OF MANAGEMENT (3) Study of the fundamentals of management. It treats topics in organizational theory, organizational behavior, and interpersonal relations which are relevant to effective management performance.

MAN 3240 ORGANIZATIONAL BEHAVIOR ANALYSIS (3) PR: MAN 3025. The course covers research literature relevant to organizational functioning including behavioral effects of power and authority, formal organization, structural variation, leadership, motivation, and communication.

MAN 3301 PERSONNEL MANAGEMENT (3) To develop a broad exposure to new approaches, techniques, and future trends in the management of personnel. A study of the major functions in personnel including job analysis, manpower planning, selection, performance evaluation, training, and wage and salary administration.

MAN 3401 INDUSTRIAL RELATIONS (3) A conceptualization of the administrative problems arising from unionization. Emphasis on the relationship between management and employee representatives in private and public employment.

MAN 4120 MANAGERIAL BEHAVIORAL LABORATORY (3) PR: MAN 3240 or equivalent. Development of direct understanding of personal, interpersonal, and intergroup factors present in organizational interaction. Stress is on a series of experiential exercises and written application of results within a laboratory setting.

MAN 4129 THEORY AND PRACTICE OF MANAGEMENT SKILLS (3) PR: MAN 3240. This course involves the transferance of management theories into practice. It requires the active involvement of students in developing and practicing the skills needed to be a successful manager.

MAN 4280 ORGANIZATIONAL DEVELOPMENT AND CHANGE (3) PR: MAN 3240 or Cl. This course should be taken simultaneously with or after MAN 4201. A lab course where students experimentally apply behavioral science techniques in an "action-research" framework to the cycle of planned change so as to build a more effective organization.

MAN 4282 ORGANIZATIONAL ASSESSMENT (3) PR: MAN 3240. The analysis and measurement of factors which influence organizational effectiveness and the quality of work life. Data based cases will be used by students to assess managerial and supervisory skills and to measure organizational functioning and work design.

MAN 4402 EMPLOYMENT LAWS (3) Federal and state regulation of the employment relationship, including wage and hour laws; EEO; affirmative action programs; employee benefits; insurance; workers' compensation, safety, health, employee's personal rights; collective bargaining legislation.

MAN 4430 SEMINAR IN NEGOTIATIONS AND ADMINISTRATION OF LABOR AGREEMENTS (3) Case studies in contract negotiation, administration, grievance settlement, and arbitration. Assumes familiarity with industrial relations system.

MAN 4902 ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT (3) PR: ACC 2001, ACC 2021, MAR 3023, or Cl. Study of the factors involved in starting and managing a small-to medium-sized business. Emphasis on conduct of pre-business feasibility study, start-up of business, successful management of the firm, and options for succession or termination.

MAN 4904 SMALL BUSINESS MANAGEMENT COUNSELING (3) PR: MAN 4902 or Cl. Field application in small business settings by (a) analyzing an on-going small business and developing recommendations for making improvements; or (b) conducting a feasibility study for a new enterprise and developing a strategy for implementation if favorable.

MAN 4905 INDEPENDENT STUDY (1-3) PR: Cl. Specialized independent study determined by the students needs and interests. May be repeated up to 8 credit hours. (S/U only.)

MAN 4930 SELECTED TOPICS IN MANAGEMENT (1-9) PR: Topics to be selected by instructor and department chairperson for pertinent Management issues.

MAN 4931 INDEPENDENT RESEARCH (1-4) PR: Cl. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 8 hours.

MAN 5714 URBAN MANAGEMENT (3) The applicability of business management theories and practices to problem solving in the public sector. A formal theory of organization is used to compare and contrast private and public sector decision environments.

MAN 5805 ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT COUNSELING (3) Small business management consulting in an on-going firm. Field application of various aspects of business administration in analyzing strengths and weaknesses, development of recommendations for improvement, and initiation of steps to assist business principals in evaluation and implementation. Emphasis on developing management consulting skills and recognizing implications of small business owner-manager's capabilities and attitudes for success in implementing recommendations.

MARKETING

MAR 2931 SELECTED TOPICS IN MARKETING (1-4) PR: Cl. Topics to be selected by department chairman. May be repeated if topics vary. Not available for credit to upper-level students who have been admitted to the College of Business Administration. May be repeated up to 8 credit hours.

MAR 3023 BASIC MARKETING (3) PR: ACG 2001, ECO 2013, ECO 2023, or Cl. Survey of the marketing of goods and services within the economy. The integration of functional, commodity, and institutional approaches from the consumer and managerial viewpoints.

MAR 3103 PROFESSIONAL SELLING (3) PR: MAR 3023 or Cl. A study of the stages of the professional selling
process, and the role of sales in today's marketing environment. Emphasis on learning adaptive selling techniques and developing effective interpersonal communications skills. Sales careers are examined.

**MAR 3613 MARKETING RESEARCH**  
PR: GEB 3121, MAR 3023. A study of research methods and techniques applicable to problem solving in marketing. Attention is also given to defining information needs, determining the value of information, interpreting and reporting information for use in marketing decision making.

**MAR 3823 MARKETING MANAGEMENT**  
PR: MAR 3023. An applications oriented study of the marketing function at an intermediate level. Emphasis upon techniques for analysis and problem-solving. This course builds upon the principles and concepts learned in MAR 3023, and provides a strong foundation for the remaining courses in the marketing curriculum.

**MAR 4156 INTERNATIONAL MARKETING**  
PR: MAR 3023. A study of the procedures and problems associated with establishing marketing operations in foreign countries. Includes the institutions, principles and methods involved in the solution of these business problems as well as the effects of national differences on business practices and buyer behavior.

**MAR 4203 CHANNELS MANAGEMENT**  
PR: MAR 3023. A detailed study of marketing channels as a functional area of marketing management responsibility and as a part of marketing strategy. Attention is given to wholesaling and retailing and their structural, dynamic interrelationships including distribution logistics.

**MAR 4213 LOGISTICS AND PHYSICAL DISTRIBUTION MANAGEMENT**  
PR: MAR 3023 or CI. A study of logistics in the marketing of goods and services. Includes a description and analysis of the logistics environment as well as components of the physical distribution system with emphasis on information flows and the application of quantitative techniques used in establishing and controlling customer service levels.

**MAR 4231 RETAILING MANAGEMENT**  
PR: MAR 3023. A comprehensive study of the retailing structure, institutions, and environment. Includes pertinent management theories and practices in analyzing, organizing, planning and controlling retail operations, both large and small.

**MAR 4333 PROMOTION MANAGEMENT**  
PR: MAR 3023 or CI. A study of the role of promotion in the marketing program of the firm, including the promotional tools available to the marketing manager and the various types of decisions made in the promotional area. The decision making process in development of a promotional program is emphasized.

**MAR 4403 SALES MANAGEMENT**  
PR: MAR 3023 or CI. A study of sales management and strategy as a subset of marketing management. Emphasis is placed on developing the problem-solving and decision-making skills required of the sales manager in the modern market-oriented company.

**MAR 4453 INDUSTRIAL MARKETING**  
PR: MAR 3023. A study of the marketing of goods and services to the industrial and institutional sectors. Includes characteristics of the markets and channels of distribution, sales, management, research and promotional practices, marketing policies and strategies.

**MAR 4503 BUYER BEHAVIOR**  
PR: MAR 3023. A study of the basic concepts of buyer behavior, including pre- and post-purchase attitudes and behavior patterns, information processing relating to the functional areas of marketing and the buyer's decision-making process. Managerial applications to marketing are emphasized.

**MAR 4824 MARKETING MANAGEMENT PROBLEMS**  
PR: MAR 3823, MAR 3613, and two other 4000 level marketing courses, or CI. The integration of marketing knowledge applied to decision roles in managing the total marketing effort of firms, and coordination with other major functional areas on specific problems.

**MAR 4903 INDEPENDENT RESEARCH**  
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 6 credit hours.

**MAR 4905 INDEPENDENT STUDY**  
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 6 credit hours. (S/U only)

**MAR 4933 SELECTED TOPICS IN MARKETING**  
PR: CI. Topics to be selected by instructor and department chairperson.
ADULT AND VOCATIONAL EDUCATION


CHILDHOOD/LANGUAGE ARTS/READING EDUCATION


COUNSELOR EDUCATION

Chairperson: V. J. Drapela; Professors: W. K. Bott, V. J. Drapela, D. G. Ferguson, E. E. Panther; Associate Professor: C. M. Story; Assistant Professor: D. J. Anderson.

EDUCATIONAL LEADERSHIP


EDUCATIONAL MEASUREMENT AND RESEARCH


INSTRUCTIONAL COMPUTING

Chairperson: A. Troutman; Professors: C. W. Engel, A. Troutman; Associate Professor: F. D. Britt; Assistant Professor: G. W. Tubb.

MUSIC EDUCATION

Chairperson: J. J. Heller; Director: C. P. Doane; Professors: V. A. Bridges, J. J. Heller; Associate Professor: C. P. Doane; Assistant Professor: J. W. Richmond; Adjunct Instructors: L. C. Clark, C. N. Davidsen, P. L. Linder, R. G. Mousseau, M. Negrete.

PHYSICAL EDUCATION


PSYCHOLOGICAL AND SOCIAL FOUNDATIONS


SCHOOL OF LIBRARY AND INFORMATION SCIENCE


SECONDARY EDUCATION


SPECIAL EDUCATION

Chairperson: J. Paul; Professors: L. Bowers, H. F. Boyd, R. C. Dwyer, E. Guetzone, S. Klesius, C. D. Lavey, B. Lax, A. J. Mauser, S. P. Singh, D. Sisk; Research Professor Emeritus: 0. G. Johnson; Associate Professors: R. Oline, J. A. Merica, H. A. Sproles; Visiting Faculty Professors: J. Barnard, J. Platt, S. Richardson; Assistant Professors: D. R. Knego, B. E. Epanchin, D. Thomas; Other Faculty: M. Gazvoda; Courtesy Faculty: W. Rhodes.

ADULT EDUCATION

ADE 4360 METHODS OF TEACHING: ADULT EDUCATION (3) Methods, techniques, and materials for instruction.

ADE 4384 WORKING WITH THE ADULT LEARNER: ADULT EDUCATION (3) An investigation of the needs of the adult learner. Identification of principles of adult learning; physiological, psychological and social characteristics of adult learners, and corresponding implications are explored.

ADE 5160 PROGRAM MANAGEMENT: ADULT EDUCATION (3) This course examines the establishment of organizational climate and structure, assessing needs and interest, designing, operating and evaluating comprehensive adult programs.

ADE 5161 CURRICULUM CONSTRUCTION: ADULT EDUCATION (4) Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation.

ART EDUCATION

ARE 3044 EXPERIENTIAL BASIS OF ARTISTIC MIND (3) PR: Admission to College of Education. Designed to help the individual student discover and develop meanings and values in art and education with emphasis on communicative skills, both verbal and visual. Focus will be on the individual and potential alternatives in the teaching of art.

ARE 3354 ART TEACHING STRATEGIES I (3) PR: Admission to College of Education and ARE 3044. A combination of theory, philosophy and practice in both public and private learning centers to provide the student with a variety of teaching concepts and media exploration in art education and to further enable the student to understand stages of young people, three to eighteen.

ARE 4112 EDUCATION THROUGH CRAFTS (3) An in-depth study of arts and craft media for children. Emphasis will be placed on innovative use of new materials.

ARE 4260 SEMINAR IN ART EDUCATION CLASROOM MANAGEMENT (1) PR: Admission to College of Education and ARE 3044. The concepts
and areas of skill essential to successful practice in art education management. To include understanding of how art programs are funded, art facility planning, art curriculum development, art exhibition techniques, public relations promotion and supply and equipment requirements.

ARE 4440 ART TEACHING STRATEGIES II (3)
Media and the learning process will be explored through photographic arts, cinematography and video systems. Teaching strategies and media criticism for application at elementary and secondary levels.

ARE 4443 CRAFTS WORKSHOP IN ART EDUCATION (3)
PR: Admission to College of Education and ARE 3044. The study of processes and media involved in the expression of individual ideas through crafts. Emphasis placed on crafts in a contemporary society with skills in metals, weaving, fibers, and ceramics and their application in a public school curriculum.

ARE 4642 URBAN ENVIRONMENT ARTS WORKSHOP (3)
PR: Admission to College of Education and ARE 3044. Identification, exploration, and experimentation with unique urban spaces and populations as potential new environments for teaching and learning in arts.

ARE 4905 INDEPENDENT STUDY: ART EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

ARE 4909 DIRECTED STUDY: ART EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

ARE 4936 SENIOR SEMINAR IN ART EDUCATION (2)

ARE 4940 INTERNSHIP: ART EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the internship is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

EDG 4320 INTRODUCTION TO CREATIVE DRAMA (3)
A course designed to enrich the education of pre-service teachers by providing training in the use of creative drama and related forms of improvised drama in the classroom.

THE 4722 (formerly EDG 4452) THEATRE FOR PRE-SECONDARY SCHOOLS: THE PRODUCTION PROCESS (3)
The play production process as it applies to theatre artist-in-schools programs, including development of related classroom workshops and preparation of study guides and educational program materials as well as design, direction and rehearsal of play and touring methods. May be repeated for elective credit two times; once for major credit.

THE 4723 (formerly EDG 4453) THEATRE FOR PRE-SECONDARY SCHOOLS: THE PERFORMANCE PROCESS (3)
The artistic process of performing for various school audiences and practice conducting classroom workshops following each performance. May be repeated for elective credit two times; once for major credit.

THE 4761 (formerly EDG 4454) METHODS OF TEACHING THEATRE FOR ADOLESCENTS (3)
Methods of effective drama and theatre instruction in middle school, junior and senior high schools, recreation centers, community and professional theatres.

BUSINESS AND OFFICE EDUCATION

BTE 4360 METHODS OF TEACHING: BUSINESS EDUCATION (4)
PR: Successful completion of BE competencies, or CI. Methods, techniques and materials for instruction.

BTE 4364 SPECIAL TEACHING METHODS: BUSINESS EDUCATION (4)
PR: Successful completion of BE competencies, or CI. Methods, techniques, and materials for skill development.

BTE 4905 INDEPENDENT STUDY: BUSINESS EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

BTE 4909 DIRECTED STUDY: BUSINESS EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

BTE 4936 SENIOR SEMINAR IN BUSINESS AND OFFICE EDUCATION (2)

BTE 4940 INTERNSHIP: BUSINESS EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Business Education concurrently. In special programs where the internship is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

BTE 5171 CURRICULUM CONSTRUCTION: BUSINESS EDUCATION (3)
Curriculum scope, the process of planning and organizing instructional programs with emphasis in task analysis and process evaluation.

BTE 5245 PROGRAM MANAGEMENT: BUSINESS EDUCATION (3)
Organization, coordination, and budgeting of adult, cooperative, and special programs.

OST 2100 (formerly BTE 2060) BASIC TYPEWRITING (3)
Basic keyboarding introduced during the first two weeks. Thereafter, basic keyboarding applications are emphasized. Students with keyboarding skills of 40 wpm should be enrolled in OST 3110.

OST 3110 (formerly BTE 3061) TYPEWRITING APPLICATIONS (3)
PR: OST 2100 or equivalent competencies. Advanced keyboarding applications.

OST 3324 (formerly BTE 3363) BUSINESS AND OFFICE MACHINES (3)
Instruction and practice on selected business and office machines to solve business mathematics problems.

OST 3404 (formerly BTE 3365) ADMINISTRATIVE OFFICE MANAGEMENT (3)
Functions of the business office to include systems and procedures, communications, records, management, office employee behavior, controlling the work of the office, and principles of office organization.

OST 3711 (formerly BTE 3031) OFFICE INFORMATION PROCESSING (3)
PR: OST 2100 or equivalent competencies. Application of concepts and technology of information processing to office operations. Review of the grammar, punctuation, and transcription skills needed for editing in word processing operations. Available to majors and nonmajors.

OST 3712 (formerly BTE 3032) OFFICE INFORMATION PROCESSING II (1-3)
PR: OST 3711. Programming word and information processing equipment; special applications of word and information processing functions to solve field-based problems. Available to majors; or others only with CI.

OST 4213 (formerly BTE 4151) SHORTHAND DICTATION & TRANSCRIPTION (3)
PR: OST 4272 or equivalent competency levels. Comparative symbol shorthand systems and teaching methodology in developing advanced dictation and transcription skills within a selected symbol
system. Emphasis on teaching shorthand as a language tool, development of decision making skills, and factors which affect production rate. Includes concurrent lab.

OST 4271 (formerly BTE 4063) PRINCIPLES OF SHORTHAND (4)
PR: Completion of upper level competency test or CI. Basic shorthand theory and application. Open to non-majors. Includes concurrent lab.

OST 4272 (formerly BTE 4064) INTERMEDIATE SHORTHAND (3)
PR: OST 4211 or equivalent competency to include teaching strategies for theory sequencing. Advanced course in theoretical applications with emphasis on teaching techniques for development of speed, kinesthetic chained response, and specialized pretranscription techniques. Includes concurrent lab.

OST 4402 (formerly BTE 4369) OFFICE OCCUPATIONS PROCEDURES (3)
PR: Successful completion of all basic competency exams required by the program area, or consent of program coordinator. This course is designed to integrate learnings from preceding business and office education courses.

COMPUTERS IN EDUCATION
EME 4402 INTRODUCTION TO COMPUTERS IN EDUCATION (2)
This course introduces fundamental elements of microcomputer technology and their relationship to teaching and learning. The course covers topics involving microcomputer architecture, programming, generic software tools such as word processors and database managers, and software tools for use in instructional environments.

EME 5403 MICROCOMPUTERS IN EDUCATION (3)
PR: CGS 4010 or CI. Application of computers in education, selection and evaluation of software and hardware, types of CAI, networking, computing resources. Advanced BASIC programming, including random and sequential files, sort routines, advanced graphics.

COUNSELOR EDUCATION
EGC 4001 INTRODUCTION TO GUIDANCE PROCESSES (3)
PR: Upper level standing. An introduction to the role and function of guidance, school psychology, social work and other pupil personnel services. Opportunities for increasing self awareness.

EGC 4053 INTRODUCTION TO STUDENT PERSONNEL WORK IN HIGHER EDUCATION (2)
PR: CI. Study of student personnel services in institutions of higher education. Identification of the needs of students and of the ways to respond to meet these needs. Survey of service units on a campus in terms of structure, organization, funding, etc.

EGC 4905 INDEPENDENT STUDY: GUIDANCE AND COUNSELING EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EGC 5101 HUMAN RELATIONS SKILLS IN GUIDANCE (1)
PR: EGC 4001 or CI. Introduction to the theory of human relations dynamics and development of skills required for effective interpersonal relations. Lecture sessions and laboratory training.

SLS 1101 THE UNIVERSITY EXPERIENCE (2)
An extended introduction and orientation to USF. Topics include purposes of higher education, structure and function of USF, overview of the processes of career planning and selecting a major, study skills, and managing out-of-class time.

SLS 2401 CAREER DEVELOPMENT PROCESS (2)
Students will study vocational choice theories and participate in career decision processes. Development of self-awareness and knowledge of career opportunities and requirements necessary for decision making. Available to lower level majors or non-majors.

CURRICULUM AND INSTRUCTION
EDG 1300 INTRODUCTION TO TEACHING (3)
PR: Freshman only or CI. The people with whom teachers work, the types of tasks they perform and the challenges they can anticipate. Observation of teaching at several grade levels.

EDG 4620 CURRICULUM AND INSTRUCTION (3)
An introduction to the field of curriculum and instruction. Emphasis is placed on identifying educational goals and objectives and applying instructional principles.

DISTRIBUTIVE AND MARKETING EDUCATION
DEC 4174 PROGRAM MANAGEMENT OF DISTRIBUTIVE AND MARKETING EDUCATION (3)
The study of the purposes, processes, organization, planning, directing, coordinating and evaluation of Distributive and Marketing Education Cooperative Programs.

DEC 4362 SPECIAL TEACHING METHODS: DISTRIBUTIVE EDUCATION (4)
Methods, techniques, and materials for skill development.

DEC 4382 METHODS OF TEACHING: DISTRIBUTIVE EDUCATION (3)
Methods, techniques, and materials for instruction.

DEC 4905 INDEPENDENT STUDY: DISTRIBUTIVE AND MARKETING EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

DEC 4909 DIRECTED STUDY: DISTRIBUTIVE AND MARKETING EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

DEC 4936 SENIOR SEMINAR IN DISTRIBUTIVE AND MARKETING EDUCATION (2)

DEC 4940 INTERNSHIP: DISTRIBUTIVE AND MARKETING EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Distributive and Marketing Education concurrently, in special programs where the intern experience is distributed over two or more semesters students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

DEC 4941 SUPERVISED FIELD EXPERIENCE: DISTRIBUTIVE EDUCATION (1-6)
PR: CI. Planned supervised functions in the area of specialization and coordinated with selected schools, government offices, social agencies, businesses and industries on site.

DEC 517S PROGRAM MANAGEMENT: DISTRIBUTIVE EDUCATION (3)
Organization, coordination, and budgeting of adult, cooperative, and special programs.

DEC 5185 CURRICULUM CONSTRUCTION: DISTRIBUTIVE EDUCATION (3)
Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation.

ELEMENTARY EDUCATION
ARE 4313 ART FOR THE CHILD AND YOU (3)
PR: Admission to College of Education. Art and the intellectual, creative, emotional, and aesthetic growth of children.

EDE 4301 TEACHING METHODS IN THE ELEMENTARY SCHOOL (4)
PR: EDE 4941 and EDG 4620. Techniques and strategies appropriate to instruction of children in educational settings.

EDE 4905 INDEPENDENT STUDY: ELEMENTARY EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EDE 4909 DIRECTED STUDY: ELEMENTARY EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.
MAE 4310 TEACHING ELEMENTARY SCHOOL MATHEMATICS I (3)
PR: Admission to College of Education and two college level mathematics courses. Methods for teaching number ideas, computation skills, and mathematical reasoning.

MAE 4326 TEACHING ELEMENTARY SCHOOL MATHEMATICS II (2)
PR: MAE 4310. Methods for teaching informal geometry, measurement, probability and statistics.

MAE 4545 DIAGNOSIS AND TREATMENT OF LEARNING DISABILITIES IN SCHOOL MATHEMATICS (3)
PR: MAE 4310 or equivalent. Presentation and analysis of teaching methods and models appropriate for use with students experiencing learning disabilities in mathematics; supervised conduct of a case study.

MUE 4210 MUSIC FOR THE CHILD (3)
PR: Admission to College of Education. Music fundamentals, the development of music skills and knowledge of music materials and teaching strategies for presenting music to children in the elementary school.

RED 4310 READING FOR THE CHILD (3)
PR: Admission to College of Education. Prereading, word recognition, comprehension and basic study skills and various reading approaches and reading interests.

SCE 4310 TEACHING ELEMENTARY SCHOOL SCIENCE (3)
PR: Admission to College of Education and completion of General Distribution Requirements in the Natural Science area. Techniques and materials for teaching science in the elementary school.

SSE 4313 TEACHING ELEMENTARY SCHOOL SOCIAL STUDIES (3)
PR: Admission to College of Education or CI. Methods of planning and teaching subjects related to the study of people and their relationships with other people and their environment.

ENGLISH EDUCATION

LAE 4335 METHODS OF TEACHING ENGLISH LITERATURE AND READING (3)
PR or CR: EDG 4630. A survey of materials available to adolescent readers plus an overview of organizational strategies for teaching literature and reading.

LAE 4530 READING SKILLS IN ENGLISH EDUCATION (2)
PR: RED 4360 or CC. Methods of dealing with reading problems and application of general reading concepts in English Education. (S/U only.)

LAE 4642 CURRENT TEACHING OF ENGLISH LANGUAGE AND MEDIA (3)
CR: EDG 1620 and LAE 4335. Methods of teaching language and media. Includes current findings on teaching usage, dialect, grammar, and semantics, as well as approaches to media in English.

LAE 4905 INDEPENDENT STUDY: ENGLISH LANGUAGE AND LITERATURE IN EARLY CHILDHOOD EDUCATION (1-4)
PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

LAE 4909 DIRECTED STUDY: ENGLISH LANGUAGE AND LITERATURE IN EARLY CHILDHOOD EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

LAE 4936 SENIOR SEMINAR IN ELEMENTARY EARLY CHILDHOOD EDUCATION (2)

LAE 4940 INTERNSHIP: ELEMENTARY/EARLY CHILDHOOD (10)
Teacher candidate is required to demonstrate professional competencies during one semester of full-day internship in a public or private elementary school. Concurrent enrollment in EEC 4936. (S/U only.)

HLP 4460 HEALTH AND PHYSICAL EDUCATION FOR THE CHILD (3)
PR: Admission to the College of Education. A study of the importance of movement competency and its contribution to the development of a positive self-concept in children; content and methodology for developing appropriate movement experiences for children; content and methodology for teaching elementary health science.

LAE 4314 LANGUAGE ARTS IN CHILDHOOD EDUCATION (3)
PR: Admission to the College of Education. The exploration of the content, organization and instruction of oral communication and written expression in Childhood Education.

LAE 4414 LITERATURE IN CHILDHOOD EDUCATION (3)
PR: Admission to College of Education. The selection, evaluation and use of fiction, nonfiction and poetry for instructional, informational, and recreational purposes in Childhood Education.
COLLEGE OF EDUCATION

FOREIGN LANGUAGE EDUCATION

FLE 4333 FOREIGN LANGUAGE TEACHING IN THE SECONDARY SCHOOL (3)

FLE 4334 PRACTICUM IN FOREIGN LANGUAGE TEACHING IN THE SECONDARY SCHOOL (3)
PR: FLE 4333. Research on available literature in the field of foreign language education and the psychology of language learning. Examination of the interdependence of language, culture, and geography. Extended study and practice of the sequential steps of foreign language teaching with emphasis on the audio-lingual approach.

FLE 4936 SENIOR SEMINAR IN FOREIGN LANGUAGE EDUCATION (2)

FLE 4940 INTERNSHIP: FOREIGN LANGUAGE EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the internship experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

FOUNDATIONS EDUCATION

EDF 3122 LEARNING AND THE DEVELOPING CHILD (4)
PR: General Psychology and admission to College of Education. Preadolescent child growth and development, learning theory, and behavioral analysis applied to instruction and to the organization and management of classroom.

EDF 3214 HUMAN DEVELOPMENT AND LEARNING (3)
PR: General Psychology and admission to College of Education. Application of respondent and operant learning principles to classroom learning, teaching models for different instructional goals, analysis of teacher behavior, micro-teaching.

EDF 3228 BEHAVIOR MODIFICATION TECHNIQUES (4)
PR: EDF 3214. Special techniques in behavior modification for children with learning difficulties. Minimum of two hours field experience per week required in addition to regular class hours.

EDF 3542 PHILOSOPHY OF EDUCATION (4)
PR: Upper level standing. A study of philosophy of education with an emphasis on aspects that are relevant to an understanding of the issues and problems of teaching.

EDF 3604 SOCIAL FOUNDATIONS OF EDUCATION (3)
PR: Admission to College of Education. Social, economic and political context within which schools function and the values which provide direction for our schools; the culture as a motivating influence in instruction. Should not be taken concurrently with EDF 3214.

EDF 3810 (formerly EDF 3710) CONTEMPORARY EDUCATION (3)
PR: Upper level standing. A comparison of contemporary educational systems of selected countries with that of the United States.

EDF 4131 LEARNING AND THE DEVELOPING ADOLESCENT (4)
PR: General psychology and admission to College of Education. Adolescent growth and development, learning theory, and behavioral analysis applied to instruction and to the organization and management of the classroom.

EDF 4905 INDEPENDENT STUDY: EDUCATIONAL FOUNDATIONS (1-4)
PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EDF 4909 DIRECTED STUDY: EDUCATIONAL FOUNDATIONS (1-3)
PR: Senior Standing. To extend competency in teaching field. Offered only as a scheduled class.

EDF 5136 ADOLESCENCE (4)
Study of the educational, intellectual, personality, physical, social and vocational factors in adolescence and their importance for school personnel.

EDF 5285 PROGRAMMED INSTRUCTION AND TEACHING MACHINES (3)
Principles for programming in the several academic subjects.

EDF 5672 AMERICAN DEMOCRACY AND PUBLIC EDUCATION (3)
Interdependence of the public school and democracy in the United States and the responsibility of the school in fostering and strengthening basic democratic principles.

IDS 3115 VALUES AND CHOICE (3)
An in-depth examination of values and their relationship to choices in contemporary society using historical perspective and inquiry of moral/ethical dilemmas. Available to majors or non-majors.

INDUSTRIAL AND TECHNICAL EDUCATION

EIA 4360 SPECIAL TEACHING METHODS: INDUSTRIAL ARTS (3)
PR: EIV 4360 or Cl. Equips Industrial Arts instructors with professional competencies for classroom and laboratory settings. Includes the selection of appropriate methods, planning, and delivery of instruction, along with supervision of students in laboratory areas.

EIV 4210 (formerly EVT 4234) PROGRAM MANAGEMENT: INDUSTRIAL-TECHNICAL EDUCATION (4)
PR: Cl. Planning, organizing, motivating and controlling of the learning experience in Industrial-Technical Education Classroom and Laboratories. Program standards for OSHA, program review, record keeping, and budgeting will be examined.

EIV 4314 METHODS OF TEACHING: DIVERSIFIED COOPERATIVE TRAINING (3)
Methods, techniques, and materials for instruction. This course specializes in Diversified Cooperative Training.

EIV 4360 (formerly EVT 4365) SPECIAL TEACHING METHODS: INDUSTRIAL-TECHNICAL EDUCATION (4)
PR: EIV 4360 or Cl. Instructional techniques in industrial-technical education. Vocational Industrial Clubs of America activities may be included.

EIV 5315 PROGRAM MANAGEMENT: DIVERSIFIED COOPERATIVE TRAINING (3)
Organization, coordination, and budgeting of adult, cooperative, and special programs.

EVT 3060 (formerly EVT 3063) THE TEACHER IN THE WORLD OF WORK (3)
A study of educational efforts in preparing people for work, the relationship of a job to a man's life style, and the concept of education as a life-long process.

EVT 4062C (formerly EVT 4061C) TEACHING IN INDUSTRIAL-TECHNICAL EDUCATION (1-3)
An overview of the ITE instructor's roles and responsibilities concerning students, the school and the community and a look at the organization of vocational education, liability, and professionalism.

EVT 4065 HISTORY AND PRINCIPLES OF VOCATIONAL EDUCATION (4)
An overview of current policies and principles in vocational education including their historical, sociological, and philosophical bases. Open to majors and non-majors.

EVT 4084C PROFESSIONAL DEVELOPMENT IN INDUSTRIAL-TECHNICAL EDUCATION (1-3)
Designed for the ITE teachers in forming plans of professional development. Competencies include the development of a person's education philosophy; attributes in creating harmonious school/community relationships; and desirable staff and teacher associations.

EVT 4165 (formerly EVT 4176) CURRICULUM CONSTRUCTION: INDUSTRIAL-TECHNICAL EDUCATION (4)
PR: EIV 4360 or Cl. Design, development, implementation and evaluation of effective curricular materials in industrial, technical and health related occupations; includes individualized and self-paced materials. Open to majors and non-majors.
EVT 4263 ORGANIZATION AND ADMINISTRATION OF STUDENT VOCATIONAL ORGANIZATIONS (1-4)
Includes the organization and administration of the local student vocational organization in industrial, health occupations, business and distributive education.

EVT 4312 (formerly EVT 4311) TEACHING METHODS: HEALTH OCCUPATIONS (4)
PR: EVT 4260 or CI. Equips health occupations instructors with professional competencies for classroom, laboratory and clinical settings. Includes selection of appropriate methods, planning and delivery of effective demonstrations, use of media and supervision of students in clinical areas.

EVT 4365 (formerly EVT 4364) BASIC TEACHING METHODS IN VOCATIONAL EDUCATION (4)
Examines the role of the vocational instructor in the teaching-learning process; looks at factors that promote and inhibit learning particularly for adults. Reviews a wide variety of instructional approach, techniques and methods; includes selection of techniques for situations.

EVT 4367 ASSESSING STUDENT SKILL IN INDUSTRIAL TECHNICAL EDUCATION (4)
Techniques for assessing student's mastery of skills in industrial/technical education. Focuses on specific competencies including developing and administering performance tests, monitoring student process, and others. Open to majors and non-majors.

EVT 4540 READING SKILLS IN ADULT AND VOCATIONAL EDUCATION (2)
PR: EVT 4360, or CR in EVT 4350. Students will study reading and communication skills as they relate to their particular content areas in Adult and Vocational-Technical Education. This course, along with EVT 4360, satisfies State certification requirement pertaining to secondary reading.

EVT 4815 FACILITY DESIGN AND MANAGEMENT (3)
Design and develop instructional facility floor plans consistent with modern and efficient methods of instruction as well as evaluate existing classrooms, laboratories, and shops. Selection and location of equipment. Review and prepare operational plans for the management of equipment, furniture, tools, and supplies as they relate to effective student learning.

EVT 4905 INDEPENDENT STUDY: INDUSTRIAL-TECHNICAL EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EVT 4909 DIRECTED STUDY: INDUSTRIAL-TECHNICAL EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

EVT 4936 SENIOR SEMINAR IN INDUSTRIAL-TECHNICAL EDUCATION (2)

EVT 4940 INTERNSHIP: INDUSTRIAL-TECHNICAL EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the internship experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9-12 semester hours. (S/U only.)

EVT 4946 SUPERVISED FIELD EXPERIENCE: INDUSTRIAL-TECHNICAL EDUCATION (1-6)
PR: CI. Planned supervised functions in the area of specialization and co-ordinated with selected schools, government, offices, social agencies, businesses and industries on site. (S/U only.)

EVT 5280 OCCUPATIONAL SAFETY AND HEALTH (OSHA) (3)
Planning and organizing safety and health course content to be included in occupational education programs in Florida. Content to be identified in and selected from Federal Registers, Department of Labor, Occupational Safety and Health Standards.

EVT 5369 (formerly EVT 5366) PREPARATION AND DEVELOPMENT FOR TEACHING (4)
The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.

EVT 5664 (formerly EVT 5190) SCHOOL COMMUNITY DEVELOPMENT (4)
This course is an approach to identifying, assessing, and analyzing, individual, institutional and community needs for the purpose of cooperative program planning, community involvement and public support.

MATHEDUCATION
CGS 4010 COMPUTING DEVICES IN THE EDUCATIONAL PROCESS (3)
PR: CI. Admission to the Department of Content Specializations. This course will explore the use of minicalculators, programmable calculators, and microcomputers. Characteristics of computing devices, flow charting, programming, classroom management techniques, teaching materials, and applications will be discussed.

MAE 4320 TEACHING MATHEMATICS IN THE MIDDLE GRADES (3)
PR: 18 semester hours of mathematics or CC. Techniques and materials of instruction in junior high school mathematics topics only.

MAE 4330 TEACHING SENIOR HIGH SCHOOL MATHEMATICS (3)
PR: EDG 4620 or CR in EDG 4620 and admission to teacher education program in mathematics. Techniques and materials of instruction in mathematics.

MAE 4551 READING THE LANGUAGE OF MATHEMATICS (2)
PR or CI: Reading in Secondary Content Areas, Teaching Senior High School Mathematics, Methods of teaching students to read the language of mathematics.

MAE 4905 INDEPENDENT STUDY: MATHEMATICS (1-4)
PR: Senior Standing. To extend competency in teaching field. Offered only as a scheduled class.

MAE 4909 DIRECTED STUDY: MATHEMATICS EDUCATION (1-3)
PR: Senior Standing. To extend competency in teaching field. Offered only as a scheduled class.

MAE 4936 SENIOR SEMINAR IN MATHEMATICS EDUCATION (2)

MAE 4940 INTERNSHIP: MATHEMATICS EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

MEASUREMENT AND RESEARCH
EDF 4430 MEASUREMENT FOR TEACHERS (3)
PR: Upper level standing. Concepts and skills related to planning, developing, administering, and interpreting classroom tests; interpreting standardized tests; and evaluating and reporting student progress.

MUSIC EDUCATION
MUE 2090 THEORETICAL BASES OF MUSIC EDUCATION (1)
The course is designed to investigate music education practices in schools. It provides the student with experiences and information early in his academic career which will enable him to determine his commitment to professional music education.

MUE 3421 CHORAL MATERIALS PRACTICUM (1)
PR: CI. A study of choral materials in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each semester. May be repeated for a total of 2 credit hours.
MUE 3422 BAND MATERIALS PRACTICUM (1)  
PR: CI. A study of band materials in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each semester. May be repeated for a total of 2 credit hours.

MUE 3423 ORCHESTRA MATERIALS PRACTICUM (1)  
PR: CI. A study of orchestra materials, in a laboratory setting, appropriate for elementary and secondary school music programs. Course content will change each semester. May be repeated for a total of 2 credit hours.

MUE 3450 BEGINNING WOODWIND TECHNIQUES (1)  
PR: Sophomore standing, non-woodwind major. This course introduces the fundamentals of woodwind instrument pedagogy. In addition basic techniques of woodwind performance are taught through the study of clarinet and flute.

MUE 3451 ADVANCED WOODWIND TECHNIQUES (1)  
PR: Sophomore standing, woodwind instrument major or MUE 3450. This course develops knowledge and skills dealing with advanced principles of teaching and performing on woodwind instruments.

MUE 3460 BEGINNING BRASS TECHNIQUES (1)  
PR: Sophomore standing, non-brass majors. This course introduces the fundamentals of brass wind instrument pedagogy. In addition basic techniques of brass performance are taught through the study of trombone and trumpet.

MUE 3461 ADVANCED BRASS TECHNIQUES (1)  
PR: Sophomore standing, brass instrument major or MUE 3460. This course develops knowledge and skills dealing with advanced principles of teaching and performing on all brass instruments.

MUE 4210 MUSIC FOR THE CHILD (3)  
PR: Admission to the College of Education. Music fundamentals, the development of music skills and knowledge of music materials and teaching strategies for presenting music to children in the elementary school.

MUE 4311 MUSIC IN THE ELEMENTARY SCHOOL (3)  
A study of principles, techniques, materials, and activities as they relate to a comprehensive music curriculum in Grades K-6.

MUE 4321 FOUNDATIONS OF CHORAL MUSIC (3)  
This course deals with the development of knowledge and skills needed to effectively organize and teach a choral music program for elementary and intermediate grade level students. Includes school observation and participation component. Major status or instructor permission required.

MUE 4330 CLASSROOM MUSIC IN THE SECONDARY SCHOOL (3)  
PR: CI. Development and implementation of methods and techniques for teaching music to the student not participating in secondary school music performing groups.

MUE 4331 CHORAL METHODS IN THE SECONDARY SCHOOL (3)  
PR: CI, Junior standing. Development and implementation of methods and techniques for teaching secondary school choral music.

MUE 4332 INSTRUMENTAL MUSIC IN THE SECONDARY SCHOOL (3)  
PR: CI, Junior standing. Development and implementation of methods and techniques for teaching secondary school instrumental music.

MUE 4352 FOUNDATIONS OF INSTRUMENTAL MUSIC (3)  
PR: CI, Junior standing. Introduction to the foundations of instrumental music instruction in the elementary and middle school.

MUE 4905 INDEPENDENT STUDY: MUSIC EDUCATION (1-4)  
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

MUE 4909 DIRECTED STUDY: MUSIC EDUCATION (1-3)  
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

MUE 4936 SENIOR SEMINAR IN MUSIC EDUCATION (2)  

MUE 4940 INTERNSHIP: MUSIC EDUCATION (1-12)  
One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

MUE 4941 INTERNSHIP (1-4)  
Part-time internship in an accredited public or private school to be taken concurrently with departmental requirements and will include beginning of the year experiences when taken in fall semester. (S/U only.)

MUE 4942 INTERNSHIP (1-2)  
PR: Admission to the College of Education and/or departmental approval. Internship in an accredited public or private school which will include the end of an academic year or program closing. (S/U only.)

PHYSICAL EDUCATION-ELECTIVE

HLP 3081 PERSONAL WELLNESS: A LIFETIME COMMITMENT (3)  
An examination of the bases for adopting a positive health lifestyle with a major emphasis on diet, weight management, physical fitness, stress management, and substance-abuse management.

PEL 1121 GOLFI (2)  
Introductory experience in the sport of golf. Fundamental skills, information, strategy, and participation. (S/U only.)

PEL 1341 TENNISI (2)  
Introductory experiences in the sport of tennis. Basic skills, playing strategies, lecture, demonstration, and participation. (S/U only.)

PEL 1346 BADMINTON (2)  
Progressive experiences in badminton, fundamental skills, strategy, information and participation. (S/U only.)

PEL 2122 GOLFI (2)  
Continuation of PEL 1121. Emphasis on course play and refinement of strokes. (S/U only.)

PEL 2231 VOLLEYBALL (2)  
Review and refinement of fundamental skills, presentation and practice of the various offensive strategies. (S/U only.)

PEL 2342 TENNIS II (2)  
Continuation of PEL 1341. Refinement of basic skills, supplementary strokes, greater emphasis on tactics and playing strategies. (S/U only.)

PEL 2441 RACKETBALL (2)  
Development and refinement of the skills and strategies of Racketball with opportunity for competition and tournament play. (S/U only.)

PEL 2511 SOCCER (2)  
A course designed to present essential knowledge of the game of soccer. Instruction and practice of basic skills, rules, team play, and conditioning. (S/U only.)

PEL 2621 BASKETBALL (2)  
Review and refinement of fundamental skills, presentation and practice of the various offensive and defensive strategies. (S/U only.)

PEM 1201 GYMNASTICS I (5)  
Introductory experiences in the various gymnastics events. Opportunities to specialize in areas of personal interests. (S/U only.)

PEM 1461 FOIL FENCING (2)  
Progressive experiences in the sport of Foil Fencing, fundamental skills, strategy, information, and participation. (S/U only.)

PEM 2101 SPECIAL CONDITIONING (2)  
Varied activities designed to increase the functional ability of the different aspects of physical fitness. (S/U only.)

PEM 2111 INDIVIDUAL PROGRAMMING (2)  
Individually prescribed and performed conditioning activities. (S/U only.)

PEM 2116 FIGURE DEVELOPMENT (2)  
Varied activities designed to effect changes in body configuration and functional ability. (S/U only.)

PEM 2131 WEIGHT TRAINING (2)  
Knowledge and techniques necessary for increasing muscle function. Assessment of status and development of a personal program (S/U only.)
PEM 2141 AEROBICS (2)
Introduction to the knowledge and techniques necessary for increasing cardiorespiratory efficiency. Assessment of status and development of a personal program. (S/U only.)

PEM 2202 GYMNASTICS II (2)
Continuation of PEM 1201. Extended opportunities to master the various gymnastics events. Competition and individual routines. (S/U only.)

PEM 2376 BACKPACKING (2)
Introductory experiences designed to develop the physical skills and the mental attitude necessary to travel safely, efficiently, and considerably in the wilderness setting. (S/U only.)

PEM 2441 KARATE (2)
Introductory experiences in the sport of Karate. Fundamental skills, strategy, information, and participation. (S/U only.)

PEM 2930 SELECTED ACTIVITIES (1-2)
Activities offered are selected to reflect student need and faculty interest. May be repeated up to 6 credit hours. (S/U only.)

PET 1121 SWIMMING I (2)
Development and refinement of the essential skills and information necessary for enjoying swimming. Emphasis on personal safety. (S/U only.)

PET 2113 LIFESAVING (2)
PR: PEN 2172 or equivalent. Knowledge and skills necessary for saving one's life or others in the event of aquatic emergency. ARC certification offered. (S/U only.)

PET 2172 SWIMMING II (2)
PR: PEN 1121 or equivalent. Continuation of PEN 1121. Special emphasis on development of endurance and efficient stroking. (S/U only.)

PET 2136 SKIN & SCUBA DIVING (2)
PR: PEN 2172 or equivalent. Development of the essential skills and knowledge necessary for enjoying the sport of Skin & Scuba Diving. Correct utilization and care of equipment; emphasis on personal safety. (S/U only.)

PET 2251 CANOEING (2)
PR: PEN 1121 or equivalent. Development and refinement of the skills necessary for enjoying canoeing. Skills, safety techniques and trips. (S/U only.)

PET 3115 WATER SAFETY INSTRUCTION (2)
PR: PEN 2113. Examination of the various swimming strokes leading to identification of appropriate methods and techniques for instructing others. ARC certification offered. (S/U only.)

PET 2300C HUMAN KINESIOLOGY I (2)
An introduction to the structure and function of the skeletal and neuromuscular systems in reference to their support of vigorous human movement. (S/U only.)

PET 2382 INTRODUCTION TO EXERCISE THEORY (2)
An introduction to the basic principles underlying exercise techniques for improving cardiovascular endurance, strength, flexibility, and weight control. Examination and critique of popular fitness programs, fads and fallacies.

PET 3931 SELECTED TOPICS (1-3)
Topics offered are selected to reflect student need and faculty interest. May be repeated up to 9 credit hours.

PHYSICAL EDUCATION FOR TEACHERS

HSC 2400 FIRST AID (2)
Meets the American Red Cross certification requirements in standard and advanced first aid.

PEP 4941 WELLNESS INTERNSHIP (15)
PR: CC. Completion of all curriculum requirements. Supervised performance in adult fitness and/or wellness programs. Full semester on-site. Open to Wellness Leadership Physical Education Majors only. (S/U only.)

PEQ 3101 AQUATICS (2)
PR: Red Cross beginning swimmer's skills or equivalent. Includes analysis of swimming skills, teaching methodology, conducting class activities, and organizing and conducting aquatic programs.

PEQ 3170 AQUATIC EXERCISE (2)
PR: CC. An instructor training course in aquatic exercise. Focuses on teaching aerobic, strength, flexibility, and weight control exercises performed in swimming pools. Open to non-majors.

PET 2000 INTRODUCTION TO PHYSICAL EDUCATION IN TODAY'S SOCIETY (3)
PR: CI. An overview of the field of physical education, including the role of the physical education teacher and non-teaching career options. The role of play, sport, and physical education in today's society is emphasized and the competencies necessary to careers in physical education. (S/U only.)

PET 3012 PERSONAL/PROFESSIONAL DEVELOPMENT SEMINAR (3)
PR: CC. Identification of personal and professional knowledge, skills, and attitudes necessary for successful professional practice of physical educators. Introduction to career opportunities and the historical, philosophical, and sociological foundations of the profession. Development of a personal-professional development plan. Field work required. Majors only.

PET 3031 MOTOR DEVELOPMENT AND ASSESSMENT (3)
PR: CC. Study of the assessment, evaluation and motor development performance of children and adolescents and application of principles of motor skills acquisition in physical education instruction. Open to non-majors.

PET 3080 SURVEY OF WELLNESS PROGRAM (3)
PR: CC. An analysis of various types of wellness programs in the public and private sector including community-based programs, commercial health and fitness enterprises, government-based programs, corporate-based programs, and hospital health and fitness centers.

PET 3310 KINESIOLOGY (3)
PR: CC. A study of the structure and function of the skeletal and muscular systems and of mechanical principles related to psychomotor performance. Open to non-majors.

PET 3351 EXERCISE PHYSIOLOGY I (3)
PR: CC. A study of the effects of physical activity on the body. Topics include acute and chronic adaptation of the cardiovascular, muscular, metabolic, hormonal, and energy systems to exercise. Open to non-majors.

PET 3421 CURRICULUM AND INSTRUCTION IN PHYSICAL EDUCATION (3)
PR: CC. Development of knowledge and skills related to the instruction process of physical education. Preparation of materials and planning instruction.

PET 3422 INSTRUCTIONAL DESIGN AND CONTENT: MOVEMENT EXPERIENCES (3)
PR: CC. This course develops a variety of motor skills and includes the study of systems for analyzing movement. It prepares students to plan and conduct movement experiences in a wide variety of educational settings.

PET 3441 INSTRUCTIONAL DESIGN AND CONTENT: MIDDLE SCHOOL PHYSICAL EDUCATION (3)
PR: CC. The development of physical education content and instructional practices for middle school students. The focus is upon matching appropriate content and learning experiences to the unique needs of the pre- and early adolescent learner.

PET 3640 ADAPTED PHYSICAL EDUCATION (3)
PR: CC. A study of characteristics, programming needs and teaching of physical education for handicapped students.

PET 3799 CAREER DECISION-MAKING AND PROFESSIONAL ETHICS (1)
PR: CC. Teacher certification career decision-making activities. Monitor and continue personal-professional development plan developed in previous semester. Ethical practices for teachers. Taken concurrently with PET 3943.

PET 3943 PHYSICAL EDUCATION INTERNSHIP: MIDDLE SCHOOL (4)
PR: CC. A part-time internship in middle school physical education. Focus on the relationship of physical education to the needs of the pre- and early adolescent learner, the organization and purpose of
the middle school, and application appropriate content and meth-

odologies.

**PET 4141 TRENDS AND TASKS - ELEMENTARY**

**PHYSICAL EDUCATION**

PR: CC. Current trends are evaluated from a historical and phi-

losophical perspective. Non-teaching tasks are identified as part of

the professional role. Evaluate and continue personal-professional
development plan developed in previous semesters. Taken concur-

rently with Physical Education Internship: Elementary. Physical

Education Majors only.

**PET 4142 TRENDS AND TASKS - SECONDARY**

**PHYSICAL EDUCATION**

PR: CC. Current trends are evaluated from a historical and phi-

losophical perspective. Non-teaching tasks are identified as part of

the professional role. Evaluate and continue personal-professional
development plan developed in previous semesters. Taken concur-

rently with Physical Education Internship: Secondary. Physical

Education Majors only.

**PET 4304 PRINCIPLES AND ISSUES IN COACHING**

The application of principles from philosophy, psychology, sociol-

ogy, and physiology to competitive athletics and coaching.

**PET 4353 EXERCISE PHYSIOLOGY II**

PR: CC & PET 3352. A study of Exercise Physiology focusing on the

adult. Includes specific populations such as the obese, heart pa-
tients, arthritics, elderly, and high performance athletes. Open to

non-majors.

**PET 4384 HEALTH-FITNESS APPRAISAL & EXERCISE PRESCRIPTION**

PR: CC & PET 3352. Techniques in conducting health-fitness test and

exercise prescription for adults. Includes cardiovascular strength, flexi-

bility, body composition, health risk testing, exercise prescribing, and

monitoring. Open to non-majors.

**PET 4401 ORGANIZATION & ADMINISTRATION OF SECONDARY PHYSICAL EDUCATION PROGRAMS**

PR: CC. A study of organizational and administrative procedures for

secondary school physical education programs. Includes schedul-

ing, budget, facilities, extra-curricular programs, and the selection

and supervision of staff.

**PET 4404 ORGANIZATION & ADMINISTRATION OF WELLNESS PROGRAMS**

PR: CC. Design and implementation of various types of wellness

programs with emphasis on assessment and evaluation manage-

ment, staffing, participant adherence, program design, budgeting and

marketing.

**PET 4432 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION ELEMENTARY**

PR: CC. This is the second of a three-course sequence in which

students study movement forms and instructional processes suit-

able for elementary age students.

**PET 4433 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION ELEMENTARY II**

This course prepares students to select, plan, conduct complex move-

ment experiences for students K-6.

**PET 4442 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION SECONDARY**

PR: CC. Development of knowledge and skills related to the

teaching of selected movement activities such as team sports,
gymnastics, and physical fitness. Focus is on understanding me-

chanical principles utilized within those activities as well as on

instructional progression and the preparation of materials for in-

struction at the secondary school level.

**PET 4443 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION SECONDARY II**

PR: CC. In this course, students are prepared to plan, conduct, and

evaluate complex movement experiences in games, dance, gym-

nastics and physical fitness appropriate for students K-6.

**PET 4622 CARE AND PREVENTION OF PHYSICAL INJURIES**

Principles and techniques of conditioning athletes for competition;

prevention and care of injuries in physical education and athletic

activities.

**PET 4905 INDEPENDENT STUDY: PROFESSIONAL PHYSICAL EDUCATION**

PR: CI. Specialized independent study determined by the student's

needs and interests. May be repeated when subjects vary. (S/U

only.)

**PET 4909 DIRECTED STUDY: PROFESSIONAL PHYSICAL EDUCATION**

PR: Senior standing. To extend competency in teaching field.

Offered only as a scheduled class.

**PET 4933 SENIOR SEMINAR IN SECONDARY PHYSICAL EDUCATION**

PR: CC. Synthesis of teacher candidate's courses in complete

college program. Reflective evaluation of teaching experience.

Required concurrently with Associate Teaching in Physical Educa-

tion: Secondary. Physical Education Majors only.

**PET 4934 SENIOR SEMINAR IN ELEMENTARY PHYSICAL EDUCATION**

PR: CC. Synthesis of teacher candidate's course in complete col-

gle program. Reflective evaluation of teaching experience. Re-

quired concurrently with Associate Teaching in Physical Educa-

tion: Elementary. Physical Education Majors only.

**PET 4942 PHYSICAL EDUCATION INTERNSHIP: ELEMENTARY**

PR: CC. A part-time internship in elementary school physical educa-

tion. Focus on the nature of the total elementary school curriculum,

characteristics of students, and application of appropriate content

and instructional competencies. (S/U only.)

**PET 4944 PHYSICAL EDUCATION INTERNSHIP: SECONDARY**

PR: CC. A part-time internship in high school level physical educa-

tion with focus on the relationship of physical education to the needs

of the early adolescent and the implementation of appropriate

content and methodology. (S/U only.)

**PET 4946 ASSOCIATE TEACHING PHYSICAL EDUCATION: ELEMENTARY**

PR: CC. A full-time internship in the elementary school in which the

student undertakes the full range of teaching responsibilities in

elementary physical education. May not be repeated. (S/U only.)

**PET 4947 ASSOCIATE TEACHING PHYSICAL EDUCATION: SECONDARY**

PR: CC. A full-day internship in middle, junior or senior high school

physical education programs with focus on the implementation of

appropriate content and methodology to meet the needs of sec-

ondary students. (S/U only.)

**PET 4947 ATHLETIC TRAINING PRACTICUM**

PR: PET 4622. A ten-week training room practicum on skills in

preventive strapping and review first aid and rehabilitation tech-

iques, followed by a five-week practicum with local high schools or

professional teams. Enrollment in these courses requires admission
to the Physical Education program.

**READING EDUCATION**

**RED 4310 READING FOR THE CHILD**

PR: Admission to college of Education. Prereading, word recogni-

tion, comprehension and basic study skills and various reading

approaches and reading interests.

**RED 4337 READING IN THE SECONDARY SCHOOL**

Basic course in Reading for Secondary school personnel.

**RED 4360 READING IN SECONDARY CONTENT AREAS**

Provides basic instruction on phonics, word recognition, readabil-

ity, interests, corrective procedures, reading behaviors, compre-

hension, etc. Offered only in conjunction with special content read-

ing courses.

**RED 4515 CORRECTIVE READING FOR THE CHILD**

PR: RED 4310 or equivalent. Procedures for meeting individual

differences through diagnosis of needs, differentiated instruction,

selected use of materials, and classroom organization.
### SCHOOL OF LIBRARY AND INFORMATION SCIENCE

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIS 2001</td>
<td>USE OF THE LIBRARY</td>
<td>2</td>
<td>An introduction to the resources of the University of South Florida Library. Emphasis will be placed on library materials germane to the course work of the undergraduate. (S/U only.)</td>
</tr>
<tr>
<td>LIS 4302</td>
<td>PRODUCING AUDIOVISUAL MATERIALS</td>
<td>2</td>
<td>PR: Upper level standing or Cl. Basic skills in designing and preparing audiovisual materials for wide variety of instructional and communicative purposes.</td>
</tr>
<tr>
<td>LIS 4503</td>
<td>INSTRUCTIONAL TECHNOLOGY</td>
<td>3</td>
<td>PR: Upper level standing or Cl. Provides basic skills in selecting, utilizing, presenting, and evaluating: 1) various types of audiovisual media and 2) computers and computer software for use with students in a variety of classroom and learning situations.</td>
</tr>
<tr>
<td>LIS 5315</td>
<td>INSTRUCTIONAL GRAPHICS</td>
<td>3</td>
<td>PR: Cl. Theoretical aspects, planning and production of instructional graphic material. The Theory of graphic communications. Interpreting needs for instructional materials appropriate for given behavioral objectives.</td>
</tr>
<tr>
<td>LIS 5333</td>
<td>TV IN SCHOOL AND LIBRARIES</td>
<td>3</td>
<td>Small format video tape recordings and the utilization of open and closed broadcasts in schools and libraries.</td>
</tr>
<tr>
<td>LIS 5404</td>
<td>FOUNDATIONS OF LIBRARIANSHIP</td>
<td>2</td>
<td>Overview of the introduction to the study of library service; history; organization; specialized literature; outstanding leaders; current trends, issues, and problems. Place of the library in society with its contributions to that society.</td>
</tr>
<tr>
<td>LIS 5434</td>
<td>COMMUNITY COLLEGE LIBRARIANSHIP</td>
<td>3</td>
<td>Introduction to the community college concept, examination of the basic elements, functions, purposes, directions, programs, etc. inherent in both the community college and the library resources center which serves it.</td>
</tr>
<tr>
<td>LSE 5377</td>
<td>SELECTED TOPICS IN LIBRARY STUDIES</td>
<td>1-4</td>
<td>PR: Cl. Covers a variety of topics in such areas as collection development, reference services, technical services, and administration.</td>
</tr>
</tbody>
</table>

### SCIENCE EDUCATION

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>SCE 4305</td>
<td>COMMUNICATION SKILLS IN THE SCIENCE CLASSROOM</td>
<td>2</td>
<td>Reading and communication skills important in understanding scientific literature and communicating findings to others.</td>
</tr>
<tr>
<td>SCE 4320</td>
<td>TEACHING METHODS IN MIDDLE GRADE SCIENCE</td>
<td>3</td>
<td>PR: Completion of 25 semester hours of Science or CC. Survey techniques and materials unique to science, grades 5-9. Not designed for high school certification purposes.</td>
</tr>
<tr>
<td>SCE 4330</td>
<td>TEACHING METHODS IN THE SECONDARY SCHOOL-SCIENCES</td>
<td>3</td>
<td>PR: Completion of 6 hours in approved science areas, EDG 4620 (or CR), and CC. Techniques and materials of instruction in secondary school sciences.</td>
</tr>
<tr>
<td>SCE 4630</td>
<td>NEW TRENDS IN TEACHING THE PHYSICAL SCIENCES</td>
<td>3</td>
<td>Physical Science Education Committee Physics, Chemical Education Materials Study, and other new approaches to the teaching of the physical sciences. Recommended for teachers of Physics, Chemistry, and Earth Sciences.</td>
</tr>
<tr>
<td>SCE 4936</td>
<td>SENIOR SEMINAR IN SCIENCE EDUCATION</td>
<td>2</td>
<td>PR: Senior standing. Synthesis of teacher candidate's courses in complete college program. Required concurrently with internship.</td>
</tr>
<tr>
<td>SCE 4940</td>
<td>INTERNSHIP: SCIENCE EDUCATION</td>
<td>1-12</td>
<td>One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. (S/U only.)</td>
</tr>
<tr>
<td>SCE 5937</td>
<td>SELECTED TOPICS IN SCIENCE EDUCATION</td>
<td>1-4</td>
<td>May be repeated when topics are not duplicated.</td>
</tr>
</tbody>
</table>

### SOCIAL SCIENCE EDUCATION

<table>
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<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>SSE 4333</td>
<td>TEACHING MIDDLE AND SECONDARY GRADE SOCIAL SCIENCE</td>
<td>3</td>
<td>This introductory course is concerned with the identification of the major content areas selected from the various social sciences. Topics related to selecting, organizing, and sequencing teaching materials and methods related to the unique problems of teaching these social sciences.</td>
</tr>
<tr>
<td>SSE 4334</td>
<td>SECONDARY SOCIAL SCIENCE EDUCATION</td>
<td>3</td>
<td>PR: SSE 4333. This course is designed to identify and study selected techniques and strategies used in social science education instruction. Emphasis is placed upon the learner's ability to demonstrate skill in selecting methods, techniques, materials, and evaluative forms. Field work is a requirement.</td>
</tr>
<tr>
<td>SSE 4840</td>
<td>COMMUNICATION SKILLS IN THE SOCIAL STUDIES</td>
<td>2</td>
<td>PR: CC. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)</td>
</tr>
<tr>
<td>SSE 4936</td>
<td>SENIOR SEMINAR IN SOCIAL SCIENCE EDUCATION</td>
<td>1-12</td>
<td>One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 Semester hours. (S/U only.)</td>
</tr>
</tbody>
</table>

### SPECIAL EDUCATION

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<tr>
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</tr>
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<tbody>
<tr>
<td>EED 4011</td>
<td>INTRODUCTION TO BEHAVIOR DISORDERS</td>
<td>3</td>
<td>PR: EEX 3010, or equivalent or Cl. Survey of emotional and social disorders in children and youth. History of the field, definitions, classifications, theoretical approaches, intervention techniques, classroom management, service delivery models, trends and issues.</td>
</tr>
<tr>
<td>EED 4321</td>
<td>EDUCATIONAL PROCEDURES FOR STUDENTS WITH BEHAVIOR DISORDERS</td>
<td>3</td>
<td>PR: EEX 3010, EED 4011, or equivalent or Cl. Methods, materials and instructional techniques; development and implementation of individualized education programs; classroom organization and curriculum for students with behavior disorders.</td>
</tr>
<tr>
<td>EED 4905</td>
<td>INDEPENDENT STUDY: BEHAVIOR DISORDERS</td>
<td>1-3</td>
<td>PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated up to 3 credit hours when subjects vary. (S/U only.)</td>
</tr>
<tr>
<td>EED 4909</td>
<td>DIRECTED STUDY: BEHAVIOR DISORDERS</td>
<td>1-3</td>
<td>PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.</td>
</tr>
<tr>
<td>EED 4941</td>
<td>UNDERGRADUATE SUPERVISED PRACTICUM IN BEHAVIOR DISORDERS</td>
<td>1-6</td>
<td>PR: Cl. Field experience in classroom management, behavior modification, precision teaching, and educational programming in behavior disorders. (S/U only.) Repeatable up to 6 credit hours.</td>
</tr>
<tr>
<td>EEX 3010</td>
<td>INTRODUCTION TO SPECIAL EDUCATION</td>
<td>3</td>
<td>Characteristics and needs of Specific Learning Disabilities, Emotional Disturbance and Socially Maladjusted, Gifted, Hearing Impaired, Mentally Retarded, Physically Handicapped, Speech Impaired, and Visually Limited.</td>
</tr>
<tr>
<td>EEX 4070</td>
<td>INTEGRATING EXCEPTIONAL STUDENTS IN THE REGULAR CLASSROOM</td>
<td>2-3</td>
<td>Designed for non-special education majors. Includes basic identification techniques and strategies to promote academic and social</td>
</tr>
</tbody>
</table>
integration and interaction of "mainstreamed" exceptional students. Concurrent field experience projects are included. No credit for department majors.

**EEX 4221 EDUCATIONAL ASSESSMENT OF EXCEPTIONAL STUDENTS**

PR: EDF 3214, EEX 3010, EMR 3011, EED 4011 or ELD 4011, and an Exceptional Child Education major. Introduction to and familiarization with formal and informal techniques used to measure and evaluate all exceptional students. The interpretation of information so derived for utilization in educational programming and individualization of instruction. Lec.-Lab.

**EEX 4243 EDUCATION OF THE EXCEPTIONAL ADOLESCENT AND ADULT**

PR: EEX 3010 or equivalent or Cl. Procedures for implementing educational programs for exceptional adolescents and adults. Topics include service delivery, curriculum, academic remediation, advocacy, utilization of ancillary services, alternative programs, and community resources. Field experience linkage.

**EEX 4905 INDEPENDENT STUDY: EXCEPTIONAL STUDENT EDUCATION**

PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated up to 3 credit hours when subjects vary. (S/U only.)

**EEX 4909 DIRECTED STUDY: EXCEPTIONAL STUDENT EDUCATION**

PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class. Repeatable up to 3 credit hours.

**EEX 4936 SENIOR SEMINAR IN EXCEPTIONAL STUDENT EDUCATION**


**EEX 4940 INTERNSHIP: EXCEPTIONAL STUDENT EDUCATION**

One full semester of internship in an accredited public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

**EEX 5705 SEMINAR IN PRESCHOOL HANDICAPPED**

PR: Cl. Seminar intended to familiarize the education student with the wide range of needs and services of the preschool handicapped child and their families and how they coordinate with educational services. May be repeated up to 6 credit hours.

**EGI 4941 UNDERGRADUATE SUPERVISED PRACTICUM IN GIFTED STUDENT EDUCATION**

Organized, supervised experiences with gifted children. Specific experiences may be either a combination of observation and assistance with gifted children or individualized projects.

**EGI 5051 NATURE AND NEEDS OF THE GIFTED**

Characteristics and educational needs of gifted children and youth. Emphasis is on five types of giftedness as defined by National Department of Education (1) intellectual giftedness, (2) specific academic aptitude, (3) visual and performing arts, (4) leadership and (5) kinesthetic.

**EGI 5325 CREATIVE PROBLEM SOLVING FOR THE CHILD**

Exploration of the concept of creativity, its factors, measurement, and application to education. Opportunities are given to work with children in a laboratory setting and to prepare materials to be used with small groups of children.

**ELD 4011 INTRODUCTION TO SPECIFIC LEARNING DISABILITIES**

PR: EEX 3010 or Cl. Characteristics, needs and abilities of children with specific learning disabilities. Emphasis is on theories, issues, trends, and philosophy of problems for such children.

**ELD 4110 EDUCATIONAL PROCEDURES FOR SPECIFIC LEARNING DISABILITIES**

PR: ELD 4011, EEX 4221, or Cl. Curriculum organization, materials selection/design based on diagnostic findings for students with specific learning disabilities.

**ELD 4905 INDEPENDENT STUDY: SPECIFIC LEARNING DISABILITIES**

PR: Cl. Specialized independent study determined by student's needs and interests. May be repeated up to 3 credit hours when subjects vary. (S/U only.)

**ELD 4909 DIRECTED STUDY: SPECIFIC LEARNING DISABILITIES**

PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

**ELD 4941 UNDERGRADUATE SUPERVISED PRACTICUM IN SPECIFIC LEARNING DISABILITIES**

PR: EEX 3010, ELD 4011, ELD 4110 and major in Specific Learning Disabilities. Supervised practicum experiences in classes for children with specific learning disabilities. Repeatable up to a total of 6 hours. (S/U only.)

**EMR 3011 INTRODUCTION TO MENTAL RETARDATION**

PR: EEX 3010. Introduction to the classification, diagnosis, characteristics, and treatment of the mentally retarded.

**EMR 4320 EDUCATING THE SEVERELY/PROFOUNDLY HANDICAPPED**

PR: EMR 3011 or Cl. Emphasis on educational methods and materials for teaching the severely/profoundly handicapped. Practicum/field experience linkage.

**EMR 4310 EDUCATIONAL PROCEDURES FOR ELEMENTARY AGE EDUCABLE MENTALLY RETARDED CHILDREN**

PR: EMR 3011, RED 4310, EMR 4941 either previously or concurrently. Special class organization, curriculum development, procedures and materials for elementary aged educable mentally retarded children.

**EMR 4905 INDEPENDENT STUDY: MENTAL RETARDATION**

PR: Cl. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

**EMR 4909 DIRECTED STUDY: MENTAL RETARDATION**

PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

**EMR 4941 UNDERGRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION**

PR: EMR 3011 and major in Mental Retardation. Supervised Practicum experiences in the educational, social and vocational programming for mentally retarded individuals. A one hour per week seminar is required concurrently. Repeatable up to a total of 6 hours credit. (S/U only.)

**EPH 5051 ADVANCED THEORIES IN MOTOR AND PHYSICAL DISABILITIES**

PR: EEX 3010 or Cl. Biological and functional aspects of motor and physical health disabilities, including dysfunctions in central nervous system covering motor, sensory, language and psychological disorders.

**EPH 5321 EDUCATIONAL STRATEGIES FOR PHYSICALLY AND MULTIHANDICAPPED STUDENTS**

PR: EPH 5051. Educational management of students with cerebral palsy, motor disabilities and multihandicapped conditions including rehabilitation and other community services.

**EVI 5311 THE VISUALLY HANDICAPPED IN THE CLASSROOM**

PR: EEX 3010 or Cl. The visually handicapped in the classroom, structure, hygiene and educational implications.
COLLEGE OF ENGINEERING

CHEMICAL ENGINEERING

Professors: J. C. Busot, J. A. Llewellyn, C. A. Smith; Associate Professors: L. H. Garcia-Rubio, R. A. Gilbert, A. K. Sunol; Assistant Professors: V. R. Bhethanabotla, S. W. Campbell, W. E. Lee, III; Courtesy Faculty: R. S. Braman, J. E. Fernandez, P. B. Hildebrand, K. B. Seilest

CIVIL ENGINEERING AND MECHANICS


COMPUTER SCIENCE AND ENGINEERING


ELECTRICAL ENGINEERING


INDUSTRIAL AND MANAGEMENT SYSTEMS ENGINEERING

Professors: J. L. Brown, P. E. Givens, L. A. Weaver, R. J. Wimmer; Associate Professor: S. K. Khator; Assistant Professors: A. J. G. Babu, D. V. Kunak, W. A. Miller, W. S. Snyder; Visiting Faculty: R. J. Diaz.

MECHANICAL ENGINEERING


ENGINEERING TECHNOLOGY

Associate Professor: D. C. E. Naehrings; Instructor: D. K. Gooding.

BASIC AND INTERDISCIPLINARY ENGINEERING

EGN 1002 ENGINEERING ORIENTATION
The role of engineering in society, characteristics of different fields of engineering, requirements prepared for engineering careers, techniques and approaches used in engineering. (S/U only.)

EGN 1115L INTRODUCTION TO DESIGN GRAPHICS
An introduction to the basic principles of engineering design. The course will include the graphic projective systems used in engineering drawing and design. Methods of graphic communication and graphic analysis of engineering design problems will be investigated.

EGN 2200 ENGINEERING WITH COMPUTERS
PR: EGN 2210. Fundamental concepts in engineering and computer applications. Examples chosen from various areas of engineering to illustrate design modelling and analysis with computer assistance. Some topics involve laboratory.

EGN 2210 FORTRAN FOR ENGINEERS
PR: MAC 3281 FORTRAN programming for engineers. Solving engineering type problems using the computer; introduction to programming algorithms used by the practicing engineer.

EGN 3313 STATICS

EGN 3321 DYNAMICS
PR: EGN 3313. Dynamics of discrete particles; kinematics and kinetics for rigid bodies. Lec.

EGN 3331 MECHANICS OF MATERIALS
PR: EGN 3313. Stress, strain, Hookes Law; torsion, beam, column analysis; combined stresses, inelastic effects, limit design. Lec.

EGN 3331L MECHANICS OF MATERIALS LABORATORY

EGN 3334 THERMODYNAMICS I

EGN 3354C BASIC FLUID MECHANICS

EGN 3365L MATERIALS ENGINEERING I
PR: CHM 2046, EGN 3313. Structure and property relationships in engineering materials, i.e., metal, ceramic and polymer systems. Environmental effects are also treated.

EGN 3373 INTRODUCTION TO ELECTRICAL SYSTEMS I

EGN 3374 INTRODUCTION TO ELECTRICAL SYSTEMS II
PR: EGN 3373. Continuation of EGN 3373.

EGN 3375 INTRODUCTION TO ELECTRICAL SYSTEMS III
PR: EGN 3373. Continuation of EGN 3373 or EGN 3374.

EGN 3433L SYSTEM DYNAMICS
PR: PHY 3049, EGN 4450. Dynamic analysis of electrical, mechanical, hydraulic and thermal systems; LaPlace transforms; numerical method; use of computers in dynamic systems.

EGN 3441 ENGINEERING STATISTICS I
PR: MAC 2923. An introduction to the basic concepts of statistical analysis with special emphasis on engineering applications.

EGN 3613 ENGINEERING ECONOMY I
A study in analyzing the economic limitations imposed on engineering activities using basic models which consider the time value of money.

EGN 4355 COMPRESSIBLE FLOW
PR: EGN 3354C. Fundamental and experimental concepts in compressible flow theory of fluids.

EGN 4366 MATERIALS ENGINEERING II
PR: 3365L. Applications and structure property relationships of commonly used engineering materials. Steel, nonferrous alloys and their welding, heat treatment and processing. Introduction to ceramic and polymeric materials.

EGN 4420 NUMERICAL METHODS OF ANALYSIS

EGN 4450 INTRODUCTION TO LINEAR SYSTEMS
PR: MAP 4302. Study and application of matrix algebra, differential equations and calculus of finite differences.

EGN 4905 INDEPENDENT STUDY
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)
CHEMICAL ENGINEERING

ECH 3264 TRANSPORT PROCESSES I

ECH 3264TL TRANSPORT PROCESS LAB I
PR or CR: ECH 3264C or CI. Engineering laboratory experiments in fluid flow and heat transfer. Formal oral and written presentations.

ECH 4265 TRANSPORT PROCESS LAB II
PR or CR: ECH 4265C or CI. Engineering laboratory experiments in mass transfer and separation processes. Formal oral and written presentations.

ECH 4403 TRANSPORT PROCESSES II
PR: ECH 4265C. Principles and analogy of momentum, heat and mass transport phenomena. Emphasis is given to the description of these phenomena from a microscopic point-of-view.

ECH 4415 REACTING SYSTEMS
PR: ECH 4123, CHM 4412. CR: EMC 4522L. Equilibrium and rate phenomena in reacting systems. Description of homogeneous chemical reactors for design and control. Lecture/labatory.

ECH 4415L REACTING SYSTEMS LAB
PR or CR: ECH 4415 or CI. Engineering laboratory experiments in reacting systems. Formal oral and written presentations.

ECH 4522L CHEMICAL ENGINEERING LABORATORY II
PR: EMC 3303, EMC 3301, ECH 3264L, ECH 4123L, ECH 4265Cl. Engineering laboratory experiments in Chemical Engineering Processes: fluid flow, heat transfer, phase and chemical equilibria, and reacting systems.

ECH 4605C PROCESS ECONOMICS AND OPTIMIZATION
Methods of economic analysis to determine profitability of process investments; replacement and alternative analysis. Single and multivariable optimization using analytical and numerical methods. Process and equipment design under risk and uncertainty.

ECH 4615 PLANT DESIGN AND ECONOMICS
PR: ECH 4413, ECH 4415 or CI. Methods of cost estimation and profitability measures. Analysis and synthesis of optimal chemical processing routes. Design of chemical process equipment. Introduction to computer-aided design. Case studies.

ECH 4711 ENVIRONMENTAL & REGULATORY ASPECTS OF BIOTECHNOLOGY
PR: Senior standing in engineering or CI. Consideration of environmental aspects of the biotechnology workplace such as worker health & safety and sanitary & sterilization practices. Also will discuss legal and regulatory aspects, quality control, and product testing and certification.

ECH 4745 THEORY AND DESIGN OF BIOPROCESSES
PR: Senior standing in engineering or CI. Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems. Open to majors and non-majors with CI.

ECH 4905 INDEPENDENT STUDY
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 9 credit hours.

ECH 4930 SPECIAL TOPICS IN CHEMICAL ENGINEERING I
PR: CC. May be repeated up to 9 credit hours.

ECH 4931 SPECIAL TOPICS IN CHEMICAL ENGINEERING II
PR: CI. May be repeated up to 9 credit hours.

ECH 515B SEMINAR IN THE PHILOSOPHY OF THERMODYNAMICS
PR: CI. Philosophical and technical aspects of contemporary thermodynamics, including entropy, time, irreversible processes, complex structures, and analysis of biological systems. Includes topics in philosophy of science. Open to majors and non-majors.

ECH 5746 INTRODUCTION TO BIOMEDICAL ENGINEERING
PR: Senior standing in engineering or CI. Introduction to biomedical engineering, including transport phenomena in biomedical systems, biomaterials, biomedical instrumentation, prosthetic devices, and clinical engineering. Open to non-engineering students with CI.

ECH 5747 SELECTED TOPICS IN CHEMICAL ENGINEERING BIOTECHNOLOGY
PR: Senior standing in engineering or CI. Selected topics in chemical engineering biotechnology, including pharmaceutical engineering, immobilized enzyme technology, food engineering, and fermentation. Open to majors and non-majors with CI. May be repeated for credit as subjects vary.

ECH 5748 SELECTED TOPICS IN BIOMEDICAL ENGINEERING
PR: CI. Selected topics in biomedical engineering, including biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems. May be taken by non-engineering students with CI. May be repeated for credit as subjects vary.

ECH 5930 SPECIAL TOPICS III
PR: CI. May be repeated up to 9 credit hours.

ECH 5931 SPECIAL TOPICS IV
PR: CI. May be repeated up to 9 credit hours.

EMC 3103 THERMODYNAMICS II
PR: EGN 3343. Mass and energy balances on steady and unsteady state systems with and without chemical reactions. Combustion processes, power and refrigeration cycles.

EMC 3301 INSTRUMENT SYSTEMS

EMC 4314 AUTOMATIC CONTROLS I
PR: ECH 4265C. Analysis of devices for measurement and control and factors affecting process dynamics. Block diagram representation of control systems. Modes of control for single loops and stability requirements. Lecture/labatory.

EMC 4322L CHEMICAL AND MECHANICAL ENGINEERING LABORATORY II
PR: EMC 3303L. Continuation of EMC 3303L with emphasis on material and energy balances of chemical and mechanical systems and processes. Lab. The Team-Project-Time Approach.
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<tr>
<td>EMC 5115</td>
<td>PROCESS HEAT TRANSFER</td>
<td>(3)</td>
<td>PR: EMC 4118. Selection and sizing of common process heat transfer equipment. Single and multiple convection in shell and tube, flat plate and spiral plate exchangers. Combined heat and mass transfer in partial condensers, spray dryers and cooling towers.</td>
</tr>
<tr>
<td>EMC 5191C</td>
<td>HEAT TRANSFER PROJECTS</td>
<td>(3)</td>
<td>PR: Cl. Industrial design projects in the heat transfer field. Varies each term. May be repeated once for credit.</td>
</tr>
<tr>
<td>EMC 5510</td>
<td>MOTOR SELECTION AND CONTROL</td>
<td>(3)</td>
<td>PR: EGN 3373, EGN 3433. Standard electrical voltages; power wiring in industrial plants; NEMA motor designs, techniques for estimating motor starting times and temperature rise; motor selection; starting and operating safety interlocks; conventional motor starting and control systems; direct digital (programmable) controls; electrical code requirements for conductors and protective devices.</td>
</tr>
<tr>
<td>EMC 5930</td>
<td>SPECIAL TOPICS II</td>
<td>(1-4)</td>
<td>PR: CC.</td>
</tr>
<tr>
<td>EMC 5931</td>
<td>SPECIAL TOPICS IV</td>
<td>(1-4)</td>
<td>PR: CC.</td>
</tr>
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</table>

### CIVIL ENGINEERING AND MECHANICS

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<tr>
<td>CEG 4011</td>
<td>SOIL MECHANICS I</td>
<td>(3)</td>
<td>PR: EGN 3354C. Fundamental and experimental concepts in soil mechanics with emphasis on soil properties, soil moisture, soil structure, and shearing strength.</td>
</tr>
<tr>
<td>CEG 4012</td>
<td>SOIL MECHANICS II</td>
<td>(3)</td>
<td>PR: CEG 4011. Design of retaining walls, earth slopes, foundations to control settlement, soil stabilization and foundations subjected to dynamic loads. Computer applications to soil mechanics will be covered.</td>
</tr>
<tr>
<td>CEG 4801</td>
<td>GEOTECHNICAL DESIGN</td>
<td>(2)</td>
<td>PR: CEG 4011. Design of geotechnical systems including bases, foundations, embankments, and dams.</td>
</tr>
<tr>
<td>CEG 5115</td>
<td>FOUNDATION ENGINEERING</td>
<td>(3)</td>
<td>PR: CEG 4011 or Cl. Design of shallow foundations, cantilevered and anchored retaining walls, piling, drilled piers and special foundations. Computer applications to geotechnical engineering are covered.</td>
</tr>
<tr>
<td>CEG 5205</td>
<td>LABORATORY TESTING FOR GEOTECHNICAL ENGINEERS</td>
<td>(3)</td>
<td>PR: CEG 4011 or Cl. Both routine and advanced forms of soil testing are covered. Emphasis is placed on procedures and application of results to design.</td>
</tr>
<tr>
<td>CES 3102</td>
<td>STRUCTURES I</td>
<td>(3)</td>
<td>PR: EGN 3331. Analysis of simple structural systems, both determinate and indeterminate. Introduction to the use of energy methods in indeterminate structures.</td>
</tr>
<tr>
<td>CES 4104</td>
<td>ADVANCED MECHANICS OF MATERIALS</td>
<td>(3)</td>
<td>PR: EGN 3331, MAP 4302. Analytical analysis of the mechanical behavior of deformable solids; special topics in beam theory, elastic and inelastic methods, plastic limit analysis flexure and torsion of beams; introduction to finite element computer methods.</td>
</tr>
<tr>
<td>CES 4141</td>
<td>MATRIX STRUCTURAL ANALYSIS</td>
<td>(3)</td>
<td>PR: CES 3102, EGN 4450. Analysis of structures by use of matrix techniques and the digital computer. An introduction to finite analysis techniques.</td>
</tr>
<tr>
<td>CEG 4581</td>
<td>COMPUTER AIDED STRUCTURAL DESIGN</td>
<td>(2)</td>
<td>PR: CEG 4414. Computer aided structural analysis and design using existing finite element program, static dynamic loading.</td>
</tr>
<tr>
<td>CEG 4605</td>
<td>CONCEPTS OF STEEL DESIGN</td>
<td>(3)</td>
<td>PR: CEG 3102. Introduction to steel design and AISC Manual of Steel Construction: Design of tension members; compression members; beams; beam columns; and bolted, welded, and riveted connections.</td>
</tr>
<tr>
<td>CEG 4618</td>
<td>STRUCTURAL DESIGN STEEL</td>
<td>(2)</td>
<td>PR: CEG 4605. Design of structures made of steel.</td>
</tr>
<tr>
<td>CEG 4702</td>
<td>CONCEPTS OF CONCRETE DESIGN</td>
<td>(3)</td>
<td>PR: CEG 3102. Introduction to concrete design and the ACI Building Code Requirements for reinforced concrete: Design of flexural reinforcement in beams and slabs, design of shear reinforcement, design of concrete columns.</td>
</tr>
</tbody>
</table>

### COURSES NOT INCLUDED IN CATALOG

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>CES 4820</td>
<td>TIMBER AND MASONRY DESIGN</td>
<td>PR: EGN 3331, CES 3102, CES 4702. Fundamentals of timber design including beams, columns, connections and formwork. Introduction to masonry design including design of beams, walls, columns, and pilasters.</td>
</tr>
<tr>
<td>CES 5104</td>
<td>ADVANCED MECHANICS OF MATERIALS I</td>
<td>PR: EGN 3331, MAP 4302. Analytical study of the mechanical behavior of deformable solids. Basic concepts, stress and strain transformations, special topics in beams, introduction to theories of elasticity, and bending of thin plates.</td>
</tr>
<tr>
<td>CES 5209</td>
<td>STRUCTURAL DYNAMICS</td>
<td>PR: CES 3102. Behavior of structural components and systems when subjected to periodic dynamic loads.</td>
</tr>
<tr>
<td>CES 5715</td>
<td>PRESTRESSED CONCRETE</td>
<td>PR: Cl. Fundamental principles of prestressing; calculation of losses; stress analysis and design of simple beams for flexure and shear. Examples of prestress applications.</td>
</tr>
<tr>
<td>CGN 3001</td>
<td>DESIGN AND PRACTICES</td>
<td>PR: EGN 3354C, EGN 3365L, EGN 3331 Methodology of the design process in civil engineering. Includes problem definition, criteria, data collection and analysis, information sources, planning, specifications, and presentation of technical information.</td>
</tr>
<tr>
<td>CGN 4122</td>
<td>ENGINEERING CONTRACTS, SPECIFICATIONS AND ETHICS</td>
<td>(3)</td>
</tr>
<tr>
<td>CGN 4851</td>
<td>CEMENT AND CONCRETE DESIGN</td>
<td>PR: EGN 3365L. Classification and production of cements. Design and testing of concrete mixes to produce desired properties.</td>
</tr>
<tr>
<td>CGN 4905</td>
<td>INDEPENDENT STUDY</td>
<td>(1-5)</td>
</tr>
<tr>
<td>CGN 4911</td>
<td>RESEARCH IN CIVIL ENGINEERING AND MECHANICS</td>
<td>(1-4)</td>
</tr>
<tr>
<td>CGN 4914</td>
<td>SENIOR PROJECT</td>
<td>(2)</td>
</tr>
<tr>
<td>CGN 4933</td>
<td>SPECIAL TOPICS IN CIVIL ENGINEERING AND MECHANICS</td>
<td>(1-5)</td>
</tr>
<tr>
<td>CGN 5939</td>
<td>SPECIAL TOPICS IN CIVIL ENGINEERING AND MECHANICS</td>
<td>(1-5)</td>
</tr>
<tr>
<td>CWR 4103</td>
<td>WATER RESOURCES ENGINEERING</td>
<td>(3)</td>
</tr>
<tr>
<td>CWR 4202</td>
<td>HYDRAULICS</td>
<td>(3)</td>
</tr>
<tr>
<td>CWR 4810</td>
<td>HYDRAULIC DESIGN</td>
<td>(2)</td>
</tr>
</tbody>
</table>
drainage, water supply, and flood control.

**EES 5203 WATER QUALITY FOR ENGINEERS I**
- PR: CI. An introduction to the form, structure, and chemical activities of the important processes which are essential to treatment of domestic, and industrial wastewater.

**EMA 4324 CORROSION OF ENGINEERING MATERIALS I**
- PR: EGN 3365L. Principles of electrochemical corrosion and the representation of corrosion processes by polarization diagrams. Origin and prevention of the localized forms of corrosion and approaches to corrosion control.

**EMA 4325 CORROSION CONTROL SYSTEM DESIGN**
- PR: EMA 4324. Design of corrosion prevention systems and prediction of the behavior of materials in various corrosive environments.

**EMA 4404 PROCESSES IN MATERIALS ENGINEERING**
- PR: EGN 3365L. Introduction to the basic theories of solidification and ultrapurification of materials, and discussion of the primary methods of shaping and forming materials.

**EMA 4703 FAILURE ANALYSIS AND PREVENTION**

**EMA 4704 SELECTION AND APPLICATION OF ENGINEERING MATERIALS**
- PR: EGN 3365L. Determination of the property requirements for the utilization of materials in specific applications, comparison of properties of metals, plastics, and ceramics, the effect of heat treatment, etc., on materials, property limitations.

**ENV 3001 ENVIRONMENTAL ENGINEERING**
- CR: EGN 3354. An introduction to various aspects of environmental problems faced by today's society. Topics covered are: air pollution, water pollution, noise pollution, solid waste management, ionizing radiation, disease transmission, and food protection.

**ENV 4117 WATER QUALITY AND TREATMENT**
- PR: EGN 3354C. Behavior and effects of atmospheric contaminants and the principles of making measurements in the air environment. Basic concepts of meteorology and control technology are discussed. Regulatory aspects and air pollution standards are covered.

**ENV 4402 ENVIRONMENTAL ENGINEERING LABORATORY**
- PR: CHEM 3200. Laboratory experience in the measuring of environmental parameters.

**ENV 4417 WATER QUALITY AND TREATMENT**
- PR: CWR 4420. An introduction to municipal water supply and waste water treatment. Topics include water requirements and waste volumes, water quality, physical and chemical treatment processes, and advanced wastewater treatment processes.

**ENV 4432 WATER SYSTEMS DESIGN**
- PR: EGN 3354C. Corequisite ENV 4503. A design oriented course which utilizes the theory obtained in the Unit Operations course to design both industrial and domestic water treatment and water transport systems. It emphasizes the design procedures normally used in engineering practice.

**ENV 4502 ENVIRONMENTAL UNIT OPERATIONS**
- PR: EGN 3343, EGN 3354C. CR: The theory and the design of unit operations normally used in the practice of environmental engineering, such as agitation and mixing of liquids, filtration, leaching, gas absorption, sedimentation and clarification, drying, and evaporation.

**ENV 4503 ENVIRONMENTAL UNIT PROCESSES**
- PR: EMC 3001, ENV 4502. The theory and design of unit processes normally used in environmental engineering such as coagulation of colloidal materials, water stabilization, water softening and neutralization, ion exchange, adsorption and oxidation processes for removal of iron and magnesium.

**ENV 4531 WASTE WATER SYSTEMS DESIGN**
- PR: ENV 4503. Emphasis is placed upon design practice and economics for a comprehensive design of a waste water system and a collection system.

**ENV 4552 ENVIRONMENTAL UNIT OPERATIONS AND PROCESSES LABORATORY**
- PR: EGN 3354C. CR: ENV 4012. Experimental work of the theory and design practices learned in Unit Operations and Unit Processes lecture courses. It provides the student familiarity with the development of bench and pilot plant processes and operations used in environmental engineering.

**ENV 5105 AIR RESOURCE MANAGEMENT**
- PR: CI. Air pollution source impacts on ambient air quality, modeling, regulatory approaches, source strategic controls and surveillance.

**ENV 5345 SOLID AND HAZARDOUS WASTE CONTROL**
- PR: CI. Treatment practices and design of waste handling systems to include: land treatment, pre-treatment, incineration, resource recovery, recycle, waste elimination.

**ENV 5438 URBAN WATER TREATMENT THEORY AND DESIGN**
- PR: ENV 4417 and CI. A study of the theory of water treatment and the relation of theory to analysis and design practice. Emphasis is given to unit processes. The course is devoted to the design and analysis of specific water treatment facilities.

**ENV 5539 URBAN WASTEWATER TREATMENT THEORY AND DESIGN**
- PR: ENV 4417, CI. A study of the theory of wastewater and the relation of theory to analysis and design practice. Emphasis is given to unit processes. The course is devoted to the design and analysis of specific wastewater treatment works.

**ENV 5614 ENVIRONMENTAL RISK ANALYSIS**
- PR: CI. Study of comprehensive application of risk analysis techniques for environmental control and protection purposes.

**SUR 3140C ENGINEERING LAND SURVEYING**
- Principles of land surveying for engineering practice. Traverses, levels, boundary surveys, route surveys, coordinate geometry, and mapping.

**TTE 4004 TRANSPORTATION ENGINEERING I**
- PR: EGN 3331. Principles of surface transportation system development, design, and operations; administration, modal characteristics, capacities, and functional classifications; vehicle kinematics, human factors and minimum design standards; traffic flow theory and queuing, capacity and signalization; transportation planning and economics.

**TTE 4006 TRANSPORTATION ENGINEERING II**
- PR: TTE 4004, SUR 3140. Techniques for the geometric route design of surface transportation systems; horizontal and vertical alignments. Spiral curves, superelevations and earthwork analysis; design of roads, rails, and rigid and flexible pavement design; right-of-way acquisition and Environmental Impacts; site layout & design, and operation of alternate models including bus, air, rail, water, and pipeline facilities and terminals.

**TTE 4821 TRANSPORTATION SYSTEMS DESIGN**
- PR: TTE 4005. Comprehensive surface transportation design laboratory experience involving function design, traffic and facility sizing, complete alignments, site surveying & layout plan and quantity preparation with computerized designed applications.

**COMPUTER SCIENCE AND ENGINEERING**

**CAP 5400 DIGITAL IMAGE PROCESSING**
- PR: EEL 4851 Data Structures, or Graduate Standing. Image formation, sources of image degradation, image enhancement techniques, edge detection operators, and threshold selection, low-level processing algorithms for vision, image data compression.

**CAP 5500 INTRODUCTION TO ARTIFICIAL INTELLIGENCE**
- PR: EEL 4851C. Basic concepts, tools and techniques used to produce and study intelligent behavior. Organizing knowledge, exploiting constraints, searching spaces, understanding natural languages, problem solving strategies, etc.

**CAP 5682 EXPERT AND INTELLIGENT SYSTEMS**
- Basic concepts, techniques and tools for the design and implementation of expert and intelligent systems. Knowledge representation,
CDA 4103 MINICOMPUTER (3) PR: COP 4020. The properties of functional and applicative languages; comparison with conventional languages, features and examples of applicative languages, LISP, KR and Forth. Implications to computer architecture.

CDA 4103 MINICOMPUTER LABORATORY (1) CR: CDA 4103. Minicomputer organization and programming.


CDA 4500 MODELING COMPUTER SYSTEM PERFORMANCE I (3) PR: Knowledge of basic calculus and probability theory. Ability to program computers in a higher level language. Development of models based on queueing theory for evaluation of computer systems performance. Analysis of open and closed network of queues. Operational analysis. Asymptotic bounds analysis.


CGS 2062 COMPUTERS AND SOCIETY (3) This computer literacy course covers the fundamentals of hardware, software, and programming languages, presents a broad overview of data processing concepts, problems and applications for students with little or no computing background. (For non-engineering majors only.)

CIS 4321 DATA PROCESSING APPLICATIONS (3) PR: EEL 4851C. An introduction to principles of information processing and applications. Fundamentals of systems for management and control.

CIS 4610 INFORMATION ENGINEERING AND APPLIED SYSTEMS TECHNOLOGIES (3) PR: COP 4400. The principles of information engineering using current emerging computer systems technologies and information theory will be presented and applied. This would include point-to-point, local-area/ wide-area networks, advanced generation integrated software facilities and artificial intelligence/knowledge based systems.

CIS 4900 INDEPENDENT STUDY IN COMPUTER SCIENCE (1-5) PR: CI. Specialized independent study determined by the needs and interests of the student. May be repeated up to 10 credit hours. (S/Uny.)

CIS 4910 COMPUTER SCIENCE PROJECT (2) Projects intended to develop individual interests and abilities in computer science involving either computer hardware or software aspects of a well defined proposal.

CIS 4930 SPECIAL TOPICS IN COMPUTER SCIENCE I (1-4) PR: CC

CIS 4935 COMPUTER SCIENCE AND ENGINEERING SEMINAR (2) PR: CC. This is a seminar course for majors in Computer Science and Engineering. May be repeated up to 4 credit hours.

COP 3000L COMPUTER SCIENCE LABORATORY (1) CR: COP 3002. Laboratory for implementation of algorithms in a general purpose computer language.

COP 3002 INTRODUCTION TO COMPUTER SCIENCE (3) PR: EGN 2210. CR: COP 3000L. Introduction to the concepts of algorithmic formulation of problems for computer solution and the general abstract operations used in these formulations.

COP 4020 PROGRAMMING LANGUAGES (3) PR: EEL 4851C and COP 4400. An introduction to programming languages, survey of language types and design of translators and interpreters.

COP 4025 COMPARISON OF PROGRAMMING LANGUAGES (3) PR: EEL 4851C. A comparative study of procedural and nonprocedural computer languages, emphasizing the fundamental differences in information binding, string and data structures manipulation, control and I/O structures in different languages.

COP 4400 COMPUTER SYSTEMS (3) PR: COP 3002, COP 3000L and MAC 3283 or CC. Principles of computer organization, machine and assembly language programming.

COT 4200 INTRODUCTION TO SYSTEMS PROGRAMMING (3) PR: EEL 4851C, COP 4400. Introduction to systems programming. Design of operating systems. Concurrent processing, synchronization, and storage management policies.

COT 4000 COMPUTER SCIENCE FOR ENGINEERS I (3) PR: MAC 3271 or equivalent. Introduction to set algebra, propositional calculus and finite algebraic structures as they apply to computer systems.

COT 4210 INTRODUCTION TO AUTOMATA THEORY AND FORMAL LANGUAGES (3) PR: EEL 4851C, COT 3100, or CC. Introduction to the theory and application of various types of computing devices and languages they recognize.

EEL 4705 LOGIC LABORATORY (1) CR: EEL 4705.

EEL 4743L MICROPROCESSOR LABORATORY (1) CR: EEL 4757. Laboratory for Microprocessor use and evaluation.


EEL 4746 MICROPROCESSOR-BASED SYSTEM DESIGN AND APPLICATION (3) PR: EEL 4757, EEL 4743L. Study of techniques for design of microprocessor-based systems used in various applications. Includes a project on development of an experimental application system.

EEL 4860C PROGRAMMING METHODOLOGY (3) PR: Senior standing in Computer Science or CC: COP 3002, COP 3000L, COP 4400. Methods of designing and developing effective and efficient computer programs. Top-down design, structured programming, debugging and program analysis are addressed.

EEL 4851C DATA STRUCTURES (3) PR: COP 3002, COP 3000L. Fundamentals of data organization for purposes of program efficiency, clarity and simplicity will be addressed.

EEL 4852C DATA BASE SYSTEMS (3) PR: COP 4400 and EEL 4851C. Fundamentals of data base management systems. CODASYL, network, hierarchical, and relational data base systems are analyzed, and typical applications are presented.

EEL 4718C DISTRIBUTED PROCESSING AND COMPUTER NETWORKS (3) PR: COP 4600, COP 3002. Design and analysis of distributed processing systems. Covers communication hardware and software, network operating systems, and reliability enhancement techniques.
EEL 5706 TESTING AND FAULT TOLERANCE (3)
PR: CDA 4101, COT 4130, or graduate standing. Reliability concepts, fault analysis and diagnosis in digital circuits, fault modeling, fault tolerant design, CMOS testability, self-checking circuits, design for testability, fault masking techniques, and fault simulation.

EEL 5771 INTRODUCTION TO COMPUTER GRAPHICS I (3)
PR: CC. An introduction to the evolution of computer graphics including point-plotting, line drawing, two-dimensional transformations and graphics software packages.

ELECTRICAL ENGINEERING

EEL 3100 NETWORK ANALYSIS AND DESIGN (3)

EEL 3302 ELECTRONICS I (3)
PR: EGN 3373. A course in the physical principles of electronic devices with emphasis on semi-conductor electronics. Includes the analysis and design of amplifiers and switching circuits.

EEL 3410, 4411 FIELDS AND WAVES I, II (3-3)
PR: MAP 4302, PHY 3049, PHY 3049L. A basic introduction to electromagnetic field theory, including static and dynamic electromagnetic fields.

EEL 4102 LINEAR SYSTEMS ANALYSIS (3)
PR: EEL 3100. Provides further study in the analysis of linear networks and systems. Includes time and frequency domain of view. Laplace, Fourier and superposition integrals.

EEL 4108 DISTRIBUTED NETWORKS (3)
PR: EEL 3410, EEL 3100. Transmission lines, standing waves, impedance, waveguides.

EEL 4163 COMPUTER AIDED DESIGN AND ANALYSIS (2)
PR: EEL 3300. The emphasis is upon applications and how to use the major CADA programs as effective tools to solve a wide variety of engineering problems. The coverage includes solid state design, systems analysis, digital logic, transfer function solutions and concludes with a brief look at thermal and mechanical systems analysis. The programs used include SUPER*SCEPTRE, SPICE 2, NASAP, and others.

EEL 4305 ELECTRONICS II (3)
PR: EEL 3302. Provides further study in electronic circuits. Includes feedback and frequency response techniques in amplifier design. EEL 4351C SEMICONDUCTOR DEVICES (3)
PR: EEL 3302. An introduction to the fundamentals of semiconductor materials and semiconductor device operation.

EEL 4411 See EEL 3410

EEL 4511 COMMUNICATION ENGINEERING (2)
PR: EEL 4512. Analog telephone network; digitalization. Digital transmission and multiplexing. Digital switching; space division switching, time-division switching, space-time switching; analog environment. Broadcasting and recording (audio and video); television systems, cable and satellite TV.

EEL 4511L COMMUNICATIONS LABORATORY (1)

EEL 4512 INTRODUCTION TO COMMUNICATION SYSTEMS (3)
PR: EEL 3100. Signals and Fourier transforms in communication systems; measure of information in signals. AM, FM, and PM modulation and demodulation systems. Sampling, quantization and PCM. Data communication; terminals, and modems; repeaters, timing circuits, and interfaces. Local networks.

EEL 4567 ELECTRO-OPTICS (2)
PR: EEL 3301L, EEL 3302L, EEL 3410. An introduction to the field of electro-optics, including visible and infra-red sources and detectors, radiometry, optical and electronic components, and fiber optics.

EEL 4567L ELECTRO-OPTICS LABORATORY (1)
CR: EEL 4567. Experiments in electro-optics, including sources, detectors, radiometry, optical and electronic components, and fiber optic systems.

EEL 4572 LOCAL AREA NETWORKS AND INTERFACING (3)
PR: EEL 4512. Network components: Communication terminals. PC's telephone, etc. Basics of LAN's, Tw media topologies, access methods, and LAN characteristics. Interfacing of terminals and PC's to LAN's, NAU's and other interfacing devices; interface selection. LAN design issues, repeaters, timing circuits, gateways.

EEL 4575 LINEAR CONTROL SYSTEMS (3)

EEL 4705 LOGIC DESIGN (3)
PR: EGN 3373. Non-majors may enroll with CI. Binary number system; truth functions; Boolean algebra; canonical forms; minimization of combinational logic circuits; logic circuits in computers.

EEL 4705L LOGIC LABORATORY (1)
CR: EEL 4705.

EEL 4905 INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

EEL 4906 DESIGN PROJECT (2)
PR: Senior standing. An individual or team project involving the design of an electrical component system. Required of all electrical seniors.

EEL 4925, 4936, 4937 SPECIAL ELECTRICAL TOPICS I, II, III (1-4 each)

EEL 5250 POWER SYSTEMS ANALYSIS (2)
PR: CC. Analysis techniques for AC power systems.

EEL 5253 COMPUTER ANALYSIS OF POWER SYSTEMS (2)
PR: CC. Review of Fortran programming, matrix algebra, network formulation, short circuit studies, simulation of algebraic equations, load flow studies, numerical solution of differential equations, transient stability studies. Strong emphasis on techniques adaptable to digital computer studies, programs will be written and run on the IBM 360/65.

EEL 5344 DIGITAL CMOS/VLSI DESIGN (3)
PR: EEL 4705 or CC. Design, layout, simulation, and test of custom digital CMOS/VLSI chips, a CMOS cell library and state-of-the-art CAD tools. Digital CMOS static and dynamic gates, flip flops CMOS array structures commonly used in digital systems. Top down design example of a bit slice processor.

EEL 5356 INTEGRATED CIRCUIT PROCESSING (3)
PR: EEL 4351 or CI. Physics and Chemistry of integrated circuit and discrete device fabrication, materials limitations, processing schemes, failure and yield analysis. A laboratory is integral to the course.

EEL 5357 ANALOG CMOS/VLSI DESIGN (3)

EEL 5389 LOW NOISE ELECTRICAL CIRCUITS (3)
PR: EEL 3302. Noise sources, circuit noise representations, noise in diodes, bipolar transistors, field-effect transistors and sensors, low noise circuit design and noise measurements.

EEL 5437 MICROWAVE ENGINEERING (3)
PR: EEL 4411, 4102, or CC. Introduction to passive and active components, devices, and circuits, including transmission lines and waveguides, employed in microwave integrated circuits and systems.

EEL 5462 ANTENNA THEORY (3)
PR: EEL 4411 or CC. Antenna theory beginning with fundamental parameter definitions and continuing with mathematical concepts, elemental antennas and arrays.

EEL 5534 COMMUNICATION SYSTEMS I (3)
### COLLEGE OF ENGINEERING

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<tbody>
<tr>
<td>EEL 5620</td>
<td>NONLINEAR CONTROL SYSTEMS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EEL 4657, Principles of state-variables, phase-plane and describing functions.</td>
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<tr>
<td>EEL 5831</td>
<td>DIGITAL CONTROL SYSTEMS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EEL 4657, Sample data and digital control processes.</td>
<td></td>
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</tr>
<tr>
<td>EEL 5705</td>
<td>ADVANCED LOGIC SYSTEMS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EEL 4705 or Graduate Standing</td>
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<tr>
<td>EEL 5706</td>
<td>TESTING &amp; FAULT TOLERANCE IN DIGITAL SYSTEMS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: CDA 4101, COT 4130, or graduate standing. Reliability concepts, fault analysis &amp; diagnosis in digital circuits, fault modeling, fault tolerant design, CMOS testability, self-checking circuits, design for testability, fault masking techniques, and fault simulation.</td>
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<tr>
<td>EEL 5754</td>
<td>MICROPROCESSOR BASED DIGITAL SIGNAL PROCESSING</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EEL 4705 or CC. Arithmetic systems, processing structures, efficient algorithms. DSP hardware, TI, NEC and other DSP microprocessors; multiprocessing hardware and software. System development. Application to telecommunications and voice processing.</td>
<td></td>
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</tr>
<tr>
<td>EEL 5755</td>
<td>DIGITAL SIGNAL PROCESSING I</td>
<td>(3)</td>
</tr>
<tr>
<td>EEL 5820</td>
<td>IMAGE PROCESSING</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EEL 5755 or CC. Two-dimensional signal processing 2-D, random fields. Image data compression; image enhancement, and object detection. Image processing by computers, applications of image processing.</td>
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<tr>
<td>EEL 5935, 5936, 5937 SPECIAL ELECTRICAL TOPICS I, II, III</td>
<td>(1-3 each)</td>
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<tr>
<td>PR: CC.</td>
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<tr>
<td>ELR 3301L</td>
<td>LABORATORY 1</td>
<td>(1)</td>
</tr>
<tr>
<td>PR: EIN 3373, EIN 4334 or Equivalent. Design and use of inventory systems and control models, system design.</td>
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<tr>
<td>ELR 3302L</td>
<td>LABORATORY 2</td>
<td>(1)</td>
</tr>
<tr>
<td>PR: ELR 3301L and EEL 3302. CR: EEL 4305.</td>
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<tr>
<td>ELR 4306L</td>
<td>LABORATORY 4</td>
<td>(1)</td>
</tr>
<tr>
<td>PR: ELR 3301L. Design and modification of equipment control models, design of control systems, and facility design.</td>
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### ENGINEERING TECHNOLOGY

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ETG 4931L</td>
<td>SPECIAL TOPICS IN TECHNOLOGY I</td>
<td>(1-5)</td>
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<tr>
<td>PR: CC.</td>
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<tr>
<td>ETG 4932L</td>
<td>SPECIAL TOPICS IN TECHNOLOGY II</td>
<td>(1-5)</td>
</tr>
<tr>
<td>PR: CC.</td>
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<tr>
<td>ETI 3101</td>
<td>INDUSTRIAL STATISTICS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: ETL classification. Industrial applications of probability, testing of hypotheses, regression techniques and analysis of variance. (No credit for engineering majors.)</td>
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<tr>
<td>ETI 4600</td>
<td>INTRODUCTION TO INDUSTRIAL SYSTEMS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: ETL classification. or CC. Introduction to organizational planning and control functions in industrial systems.</td>
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<tr>
<td>ETI 4614</td>
<td>PRINCIPLES OF INDUSTRIAL OPERATIONS I</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: ETL classification. or CC. Techniques of work measurement and methods design; principles of production control and inventory control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETI 4661</td>
<td>PRINCIPLES OF INDUSTRIAL OPERATIONS II</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: ETI 4600, ETI 4614, or CC. Application of techniques developed to the operation of an industrial firm through special projects.</td>
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### INDUSTRIAL AND MANAGEMENT SYSTEMS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EIN 4251C</td>
<td>AUTOMATION AND ROBOTICS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 4304L. Introduction to the practices and concepts of automation as applied to material handling, inventory storage, material transfer, industrial processes and quality control. Economic justification of automated activities.</td>
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</tr>
<tr>
<td>EIN 4304C</td>
<td>INTRODUCTION TO INDUSTRIAL ENGINEERING</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 4304L. History of industrial engineering. Introduction to basic industrial processes and controls. Students research specific industries and visit local industrial plants.</td>
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</tr>
<tr>
<td>EIN 4312L</td>
<td>WORK ANALYSIS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 4312L. Operation analysis and workspace design, work measurement, standard data, ergonomics, and labor relations.</td>
<td></td>
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<tr>
<td>EIN 4313L</td>
<td>HUMAN FACTORS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 4313L. Design of man-machine systems, by taking into consideration both human and machine capabilities and limitations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 4334</td>
<td>PRODUCTION CONTROL</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EGN 3443. Activity forecasting models and control. Design and use of inventory control models, both deterministic and probabilistic. Analysis of resource requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 4364L</td>
<td>PLANT FACILITIES DESIGN I</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 4364L. Design and modification of industrial production and material handling facilities. Basic analysis techniques, use of computer programs, automated warehousing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 4395L</td>
<td>MANUFACTURING PROCESSES</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 4395L. The study of basic manufacturing processes. CAD/CAM and precision assembly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 4933</td>
<td>SPECIAL TOPICS IN INDUSTRIAL ENGINEERING</td>
<td>(1-5)</td>
</tr>
<tr>
<td>PR: EIN 4933. Special topics related to economic analysis, optimization, human factors, manufacturing and automation aspect of industrial systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5101C</td>
<td>ARBITRATION OF INDUSTRIAL ENGINEERING DISPUTES</td>
<td>(3)</td>
</tr>
<tr>
<td>Case studies in the arbitration of technical disputes involving job evaluation and classification, labor standards, wage incentives, crew size, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5218</td>
<td>HAZARDS CONTROL ENGINEERING</td>
<td>(3)</td>
</tr>
<tr>
<td>EIN 5245</td>
<td>WORK PHYSIOLOGY AND BIOMECHANICS</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 5245. Study of the human physiological limitations encountered in the design, analysis and evaluation of man-machine systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5253</td>
<td>HUMAN PROBLEMS IN AUTOMATION</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 5253. The study of analysis of combined human operations, automated processes, and robotics in industrial environments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5301C</td>
<td>INDUSTRIAL ENGINEERING CONCEPTS</td>
<td>(3)</td>
</tr>
<tr>
<td>Survey of industrial and management engineering methodology. Work measurement, methods, production and inventory control, and facility design.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5322</td>
<td>PRINCIPLES OF ENGINEERING MANAGEMENT</td>
<td>(3)</td>
</tr>
<tr>
<td>Introduction to the fundamentals of accounting, finance, management, and marketing as needed by engineers, scientists, and other professionals in managerial positions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5345</td>
<td>INVENTORY CONTROL</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 5345. Properties of inventory systems and fundamentals of deterministic and probabilistic inventory models. Principles and concepts of material requirements planning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5353</td>
<td>ENGINEERING VALUE ANALYSIS</td>
<td>(3)</td>
</tr>
<tr>
<td>EIN 5381C</td>
<td>LOGISTICS ENGINEERING</td>
<td>(3)</td>
</tr>
<tr>
<td>PR: EIN 5381C. Principles and practices of Logistics Engineering are covered. System requirements, logistics support analysis, test and evaluation are considered.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EIN 5388</td>
<td>TECHNOLOGY FORECASTING</td>
<td>(3)</td>
</tr>
<tr>
<td>Introduction to forecasting techniques used to plan and schedule production and inventory control functions. Smoothing and decomposition time-series methods, regression methods, and autorgressive/moving average methods are presented. Integrating forecasting and planning into the engineering organization is discussed.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EIN 5914, 5915, 5916 SPECIAL INDUSTRIAL PROJECTS I, II, III (1-3 each) PR: CC.

ESI 4118 COMPUTERS IN INDUSTRIAL ENGINEERING (3) PR: EGN 2210. Use of micro and mini computer systems for industrial engineering applications. Review of available software packages. Use of computers for CAD/CAM System.

ESI 4221 INDUSTRIAL STATISTICS AND QUALITY CONTROL (3) PR: EGN 3443. Application of statistical techniques to the control of industrial processes. Control charts, acceptance sampling, design of experiments, analysis of variance and regression.

ESI 4244 DESIGN OF EXPERIMENTS I (3) PR: EGN 3443. Activity forecasting models and control. Design and use of inventory control models, both designs applicable to engineering analyses. Analysis of variance and regression.

ESI 4314 DETERMINISTIC O.R. (3) PR: EGN 4450. An introduction to operations research techniques with particular emphasis on determinstic models. Linear programming, dynamic programming, goal programming, integer programming, and PERT/CPM networks are considered.

ESI 4315 PROBABILISTIC O. R. (3) PR: EGN 3443. A continuation of ESI 4314 with emphasis given to probabilistic models in Operations Research. Discrete and continuous time processes, queueing models, inventory models, simulation models, Markovian decision process and decision analysis.

ESI 4521 INDUSTRIAL SYSTEMS SIMULATION (3) PR: ESI 4315. A study of the development and analysis of computer simulation models: Monte Carlo, time-slice, and next-event. Introduction to special purpose simulation languages.

ESI 4573 NUMERICAL METHODS (3) PR: EGN 2210, one calculus course or CI. Numerical algorithms and methods for applications to engineering problems. Applications using FORTRAN language.

ESI 4605 INDEPENDENT STUDY (1-5) PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 15 credit hours. (S/U only.)

ESI 4911 SENIOR PROJECT (2) PR: EIN 4312, ESI 4314, EGN 3443. Analysis and design of systems in a directed project format. Individual or group work consisting of project proposal, project activities, and final report. Student projects are directed by faculty, with chairman's approval.

ESI 5219 STATISTICAL METHODS FOR ENGINEERING MANAGERS (3) Study of statistical methods applied to engineering management problems involving estimation and prediction under conditions of uncertainty. Not open to students who have had EGN 3443.

ESI 5233 RELIABILITY ENGINEERING (3) PR: EGN 3443 or equivalent. Fundamental concepts of reliability, estimation of reliability of systems and components. Measures of availability, maintainability and reliability.

ESI 5306 OPERATIONS RESEARCH FOR ENGINEERING MANAGEMENT (3) Linear programming, non-linear programming, queuing, inventory, network analysis. Not open to students who have had ESI 4315.

ESI 5470 MANUFACTURING SYSTEMS ANALYSIS (3) PR: CC. The study of systems of manufacturing entities such as machine tools, robots, and materials handlers. Emphasis is on mathematical description of integrated systems and system optimization.

ESI 5522 COMPUTER SIMULATION II (3) PR: ESI 4521 or equivalent. Design of discrete and continuous simulation models. Model validation and verification. Statistical analysis of simulation model output.

### COMPUTER SERVICE COURSES

No credit for Engineering Majors

CDA 3100 SC INTRODUCTION TO COMPUTERS II (3) PR: CGS 3060. Number systems, internal representation of data and instructions, algorithms and flowcharting. Introduction to machine and assembler language and higher level language.

CDA 3101 SC INTRODUCTION TO COMPUTERS III (3) PR: CDA 3100. Continuation of CDA 3100. Introduction to large computer systems assembly language and applications.

CGS 3060 SC INTRODUCTION TO COMPUTERS AND PROGRAMMING IN BASIC-6A (3) An overview of computer systems and their role in society. Survey of the evolution of computer software and hardware technology with emphasis on current applications. Introduction to programming using the BASIC language.

CGS 3425 SC APL PROGRAMMING (3) PR: COP 3170. The use of the APL language as an interactive mode to solve business and scientific programs.

CGS 3462 SC PASCAL PROGRAMMING (3) PR: COP 3170. Structured programming implemented with the PASCAL language. Emphasis on program structure and data manipulation.

CGS 3463 SC GPSS SIMULATION (3) PR: COP 3200. The development and execution of discrete event simulation models of real world systems using the GPSS language.

CGS 3464 SC SIMSCRIPT SIMULATION (3) PR: CGS 3463. The use of the Simscript language in discrete event simulation. Development of simulation models of real world systems.

CGS 4120 SC COMPUTER APPLICATIONS (3) PR: COP 3200. Applications of various high level languages to current scientific and engineering problems.

CGS 4260 SC MINI-COMPUTER APPLICATIONS (3) PR: CGS 4465. Study of mini-computer system components, I-O devices, theory of computer operation.

CGS 4465 SC DATA REPRESENTATION AND MANIPULATION (3) PR: CDA 3100. Study of the internal representations of data, data storage and retrieval, and data manipulations.

CGS 5540 SC COMPUTERS FOR RESEARCH I (3) PR: Graduate student status. The use of the FORTRAN language in solving research problems.

COP 3200 SC FORTRAN PROGRAMMING (3) PR: COP 3170. Solution of scientifically oriented problems using the FORTRAN language. Particular emphasis is placed on file manipulation and system libraries.


COP 3121 SC COBOL PROGRAMMING II (3) PR: COP 3120. Advanced applications of ANSI Standard COBOL Development of subroutines, relative I-O and data base applications as used in a comprehensive data processing environment.


### MECHANICAL ENGINEERING

EAS 4121 HYDRO AND AERODYNAMICS (3) PR: EGN 3354, MAP 4302. Advanced fluid dynamics, ideal and viscous flows, applications to flow around immersed bodies.

EAS 5100 AERODYNAMICS (3) PR: EGN 4355, and CI. Fundamentals of aerodynamic flow and flight including potential theory, circulatory theory, viscosity considerations, wing theory and design.


EMC 4314 AUTOMATIC CONTROLS I (3) PR: EGN 3433, EMC 3103, EMC 4116; CR: EMC 4411. Analysis of
EMC 5115 PROCESS HEAT TRANSFER
PR: EML 4142. Selection and sizing of common process heat transfer equipment. Single and multiple convection in shell and tube, flat plate and spiral plate exchangers. Combined heat and mass transfer in partial condensers, spray dryers and cooling towers.

EMC 5191C HEAT TRANSFER PROJECTS
PR: Cl. Industrial design projects in the heat transfer field. Varies each term. May be repeated once for credit.

EMC 5195 MOTOR SELECTION AND CONTROL
PR: EGN 3373, EGN 3433. Standard electrical voltages; power wiring in industrial plants; NEMA motor designs, techniques for estimating motor starting times and temperature rise; motor selection; starting and operating safety interlocks; conventional motor starting and control systems; direct digital (programmable) controls; electrical code requirements for conductors and protective devices.

EML 3033 MEASUREMENTS LABORATORY

EML 3264 KINEMATICS AND DYNAMICS OF MACHINERY
PR: MAC 3282, PHY 3048. Kinematics of machines and mechanisms; position, velocity, and acceleration analysis of mechanisms; cams; gear trains; inertia forces in mechanisms; flywheels; balancing of rotating masses.

EML 3500 MACHINE ANALYSIS AND DESIGN I
PR: EGN 3313. Stress and deflection analysis of machine parts, variable loads, endurance limits, fasteners, bearings, power transmission, code consideration of pressure and vacuum vessels, elements of design.

EML 4041 COMPUTER SIMULATION I
PR: EGN 2210, EGN 4450. Techniques to solve engineering problems using numerical methods and digital computers. Topics include roots of equations, simultaneous linear equations, numerical integration and differentiation, and curve fitting.

EML 4106C THERMAL SYSTEMS AND ECONOMICS
PR: EGN 3343. Power and Refrigeration Cycles; fuels and combustion; internal combustion engine cycles; co-generation; nuclear energy; methods of economic analysis.

EML 4142 HEAT TRANSFER I
PR: EML 3126. Conduction, convection and radiant heat transfer; thermal properties of materials; role of fluid flow in convective heat transfer; design and selection of heat exchangers.

EML 4302 MECHANICAL ENGINEERING LABORATORY
PR: EML 3033. Continuation of EML 3033 with emphasis on material and energy balances, stress analysis and vibrations. Lab. The Team-Project-Time Approach.

EML 4419 PROPULSION I
PR: EMC 3117, EML 3500 or Cl. Introduction to the design of propulsion systems. Basic analysis of internal combustion, jet and rocket engines. Application to ground and air transportation. Advanced propulsion concepts. Special topics for class discussion.

EML 4503 MACHINE ANALYSIS AND DESIGN II
PR: EML 3500, EML 3284. Continuation of EML 3500. Antifriction bearings, journal bearings, power transmission, shafting.

EML 4513 POWER PLANT ANALYSIS AND DESIGN
COLLEGE OF FINE ARTS

ART

DANCE

MUSIC

MUSIC EDUCATION
Director: C. P. Doane; Professors: V. A. Bridges, J. J. Heller; Associate Professor: C. P. Doane; Assistant Professor: J. W. Richmond; Adjunct Instructors: L. Clark, C. Davidsen, P. Linder, G. Mousseau, M. Negrete.

THEATRE

ART
ARH 3000 INTRODUCTION TO ART-6A
An expanded introductory treatment of basic concepts. For art majors and non-art majors.

ARH 4100 PREHISTORIC AND ANCIENT ART
A comprehensive study of Paleolithic, Neolithic, Egyptian, Assyrian, and Mesopotamian painting, sculpture, and architecture.

ARH 4170 GREEK AND ROMAN ART
A comprehensive study of Aegean, Mycenaean, Etruscan, Greek and Roman painting, sculpture, and architecture.

ARH 4200 MEDIEVAL ART
A comprehensive study of early Christian, Byzantine and Medieval painting, sculpture, architecture, and manuscript illumination.

ARH 4301 RENAISSANCE ART
A comprehensive study of Renaissance and Mannerist painting, sculpture and architecture in Italy and Northern Europe.

ARH 4350 BAROQUE AND ROCOCO ART
A comprehensive study of the painting, sculpture and architecture in France, Italy, Spain and the Netherlands in the seventeenth and early eighteenth centuries.

ARH 4430 NINETEENTH CENTURY ART
A comprehensive study of nineteenth century painting, sculpture and architecture in France and England.

ARH 4450 TWENTIETH CENTURY ART
Comprehensive study of painting, sculpture and architecture from Cezanne to the present in Europe and the United States. Required of all art majors.

ARH 4530 ORIENTAL ART
An introduction to concepts of the arts of China, Japan and other Far Eastern countries.

ARH 4790 SELECTED TOPICS IN THE HISTORY OF FILM
In-depth investigation of a selected period, development, or school in the history of film as art. May be repeated.

ARH 4796 CRITICAL STUDIES IN ART HISTORY-6A
PR: CI. Specialized intensive studies in art history. Specific subject matter varies. To be announced at each course offering. May be repeated for different topics only.

ARH 4937 SEMINAR IN THE HISTORY OF ART HISTORY
PR: Four courses in Art History at the 4000 level. CI. An examination of the origins of Art History as a discipline and changing nature of Art History from Vasari to the present.

ARH 5333 CULTURAL AND INTELLECTUAL HISTORY OF RENAISSANCE AND BAROQUE ART
A course in which Renaissance and Baroque theories of art are treated as part of general cultural and intellectual history.

ARH 5451 CULTURAL AND INTELLECTUAL HISTORY OF MODERN ART
A course in which theories of modern artists, and of critics and historians of Modernism are treated as a part of general Culture and Intellectual History.

ARH 5795 METHODS OF ART HISTORY
This course introduces students to various methods which art historians have used to analyze the form and content of individual works of art, and to various modes of historical explanation. (Must be taken during the student's first two semesters in the program.)

ART 2202C VISUAL CONCEPTS I
Studio problems supplemented by reading and discussion. Consideration of spatial organization of the two-dimensional surface.

ART 2203C VISUAL CONCEPTS II
Studio problems supplemented by reading and discussion. Consideration of the three-dimensional organization of space and mass.

ART 3110C CERAMICS I

ART 3301C DRAWING I

ART 3420 LITHOGRAPHY I
PR: Visual Concepts I. Introduction to Art and Drawing I. Intermediate problems in lithography with emphasis on the exploration of methods and media and development of individual concepts.

ART 3470 INTAGLIO I
PR: Visual Concepts I. Introduction to Art and Drawing I. Intermediate problems in intaglio with emphasis on the exploration of methods and media and the development of individual concepts.

ART 3510C PAINTING I

ART 3701C SCULPTURE I
PR: Visual Concepts II and Introduction to Art. Intermediate problems in sculpture with emphasis on the exploration of materials and media and the development of individual concepts.

ART 3935 STUDIO TECHNIQUES: SELECTED PROJECTS
PR: Visual Concepts I, II and Introduction to Art and CI. Concentration in specialized technical data and process. May be repeated for credit for different topics only.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credit Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 4111C</td>
<td>CERAMICS II</td>
<td>4</td>
<td>PR: ART 3110C. Continued problems in ceramics. May be repeated.</td>
</tr>
<tr>
<td>ART 4320C</td>
<td>DRAWING II</td>
<td>4</td>
<td>PR: ART 3301C. Continued problems in drawing. May be repeated.</td>
</tr>
<tr>
<td>ART 4471C</td>
<td>LITHOGRAPHY II</td>
<td>4</td>
<td>PR: ART 3420. Continued problems in lithography. May be repeated.</td>
</tr>
<tr>
<td>ART 4701C</td>
<td>SCULPTURE II</td>
<td>4</td>
<td>PR: ART 3701C. Continued problems in sculpture. May be repeated.</td>
</tr>
<tr>
<td>ART 4900</td>
<td>DIRECTED READING</td>
<td>1-4</td>
<td>PR: CI and CC. A course of reading and study in an area of special concern governed by student demand, instructor interest and/or departmental requirements. Registration by contract only. May be repeated for credit for different study areas only.</td>
</tr>
<tr>
<td>ART 4905</td>
<td>DIRECTED STUDY</td>
<td>1-4</td>
<td>PR: CC. Independent studies in the various areas of Visual Arts. Course of study and credits must be assigned prior to registration. May be repeated.</td>
</tr>
<tr>
<td>ART 5125C</td>
<td>CERAMICS</td>
<td>4</td>
<td>PR: ART 4111C. Advanced problems in the various ceramic techniques, including throwing and glaze calculation. May be repeated.</td>
</tr>
<tr>
<td>ART 5340C</td>
<td>DRAWING</td>
<td>4</td>
<td>PR: ART 4320C. Advanced problems in various drawing techniques. Emphasis on personal creative expression. May be repeated.</td>
</tr>
<tr>
<td>ART 5422C</td>
<td>LITHOGRAPHY</td>
<td>4</td>
<td>PR: ART 4421C. Advanced problems in various lithographic techniques. Emphasis on personal creative expression. May be repeated.</td>
</tr>
<tr>
<td>ART 5472C</td>
<td>INTAGLIO</td>
<td>4</td>
<td>PR: ART 4471C. Investigations into more complex intaglio processes including photoengraving and color printing procedures. Emphasis on personal conceptual development in graphic media. May be repeated.</td>
</tr>
<tr>
<td>ART 5532C</td>
<td>PAINTING</td>
<td>4</td>
<td>PR: ART 4520C. Advanced problems in the various painting techniques. Emphasis on personal creative expression. May be repeated.</td>
</tr>
<tr>
<td>ART 5730C</td>
<td>SCULPTURE</td>
<td>4</td>
<td>PR: ART 4702C. Advanced problems in the various techniques of sculpture. Emphasis on personal creative expression. May be repeated.</td>
</tr>
<tr>
<td>ART 5797</td>
<td>GALLERY AND MUSEUM INTERNSHIP</td>
<td>2-6</td>
<td>By working in Bay area museums or galleries students will become familiar with various museological operations. Internships vary owing to the work at hand in particular museums, but possible areas of work include registration, installation, conservation, writing of grants or museum education. (Students are eligible after completing one semester in the program.) May be repeated up to 8 credit hours. (S/U Only.)</td>
</tr>
<tr>
<td>ART 5910</td>
<td>RESEARCH</td>
<td>1-4</td>
<td>PR: CC. May be repeated.</td>
</tr>
<tr>
<td>ART 5936</td>
<td>STUDIO TECHNIQUES: SELECTED PROJECTS</td>
<td>2</td>
<td>PR: Visual Concepts I, II and Introduction to Art, the topic techniques-related 3000-4000 level studio sequence and CI. Concentration in specialized technical data and process. May be repeated for credit for different topics only.</td>
</tr>
<tr>
<td>FIL 3001</td>
<td>FILM: THE LANGUAGE OF VISION-6A</td>
<td>4</td>
<td>Open to both majors and non-majors. Exploration of the history of creative filmmaking from its beginnings to the present time. May not be repeated.</td>
</tr>
<tr>
<td>PGY 3410C</td>
<td>PHOTOGRAPHY I</td>
<td>4</td>
<td>PR: Visual Concepts I and Introduction to Art. Intermediate problems in photography with emphasis on the exploration of materials and media and the development of individual concepts.</td>
</tr>
<tr>
<td>PGY 4410C</td>
<td>PHOTOGRAPHY II</td>
<td>4</td>
<td>PR: PGY 3410C. Continued problems in photography. May be repeated.</td>
</tr>
<tr>
<td>PGY 4520C</td>
<td>CINEMATOGRAPHY II</td>
<td>4</td>
<td>PR: PGY 3510C. Continued problems in cinematography. May be repeated.</td>
</tr>
<tr>
<td>PGY 4550C</td>
<td>SOUND TECHNIQUES</td>
<td>4</td>
<td>PR: PGY 3510C. The recording and editing of sound for film. Collaboration with other departments, particularly Music and Theatre, is encouraged. To be taken concurrently with PGY 4520C or PGY 5420C whenever possible.</td>
</tr>
<tr>
<td>PGY 6420C</td>
<td>PHOTOGRAPHY</td>
<td>4</td>
<td>PR: CI. Advanced work in photography and related media leading to development of personal/expressive statements. May be repeated.</td>
</tr>
<tr>
<td>PGY 5530C</td>
<td>CINEMATOGRAPHY</td>
<td>4</td>
<td>PR: PGY 4520C. Advanced studio work using black and white, color and sound as technical and aesthetic factors in visual, artistic productions. May be repeated.</td>
</tr>
</tbody>
</table>

**DANCE**

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>DAA 2000</td>
<td>THEATRE DANCE STYLES</td>
<td>2</td>
<td>PR: DAA 2100 or DAA 2200. CI. Development of technical skills in social and historical dance forms frequently stylized for use by dance choreographers. Forms to be studied will include polka, clogging, waltz, folk, tap dancing, etc. May be repeated up to 4 credit hours.</td>
</tr>
<tr>
<td>DAA 2100</td>
<td>FUNDAMENTALS OF MODERN DANCE I</td>
<td>2</td>
<td>To acquaint beginning modern dance students with fundamentals of dance vocabulary, movement, rhythm and alignment. May be repeated.</td>
</tr>
<tr>
<td>DAA 2160</td>
<td>MODERN DANCE II</td>
<td>3</td>
<td>PR: Admission by audition. Study of principles of modern dance technique. Practical work in exercises and movement phrases, utilizing changing rhythms and dynamics. Concert and performance attendance required. May be repeated. (Ballet requirement)</td>
</tr>
<tr>
<td>DAA 2200</td>
<td>FUNDAMENTALS OF BALLET I</td>
<td>2</td>
<td>To acquaint beginning ballet dance students with fundamentals of vocabulary, movement, rhythm and alignment.</td>
</tr>
<tr>
<td>DAA 2201</td>
<td>BALLET II</td>
<td>3</td>
<td>PR: Admission by placement audition. Positions and barre exercises. Emphasis on correct alignment of the body and the application of simple step combinations in centre work. The use of ballet vocabulary (French terms). Material is covered almost totally as practical work in class with a few outside projects. Concert and performance attendance required. May be repeated. (Modern requirement)</td>
</tr>
<tr>
<td>DAA 2500</td>
<td>FUNDAMENTALS OF JAZZ DANCE</td>
<td>2</td>
<td>A basic movement course in Jazz Dance involving dance vocabulary, alignment, style and simple rhythmic movement patterns. May be repeated up to 8 credit hours.</td>
</tr>
<tr>
<td>DAA 2702</td>
<td>CHOREOGRAPHY III</td>
<td>2</td>
<td>PR: DAA 3701 or CI. Work directed toward duets and group dances. The students will submit choreographic ideas for instructor's approval, then proceed with rehearsals. The best dances will be submitted for performance.</td>
</tr>
</tbody>
</table>
performed and fully produced under supervision of student choreographers. Lec-lab., reading. Rehearsal hours to be arranged. May be repeated.

DAA 208 DANCE IMPROVISATIONS
PR: DAA 2100; DAA 2200 or CI. For majors and non-majors. Exploring various methods of spontaneously creating dance movement in individual and group situations. Structured and unstructured approaches will be explored. May be repeated up to 4 credit hours.

DAA 3060 SPECIALIZED STUDY IN MOVEMENT THEORY AND BODY ALIGNMENT
PR: DAA 2100 or DAA 2200 or CI. Analysis of scientific basis of movement for the dancer through the study of body alignment and movement theories related to theatre dance techniques.

DAA 3161 MODERN DANCE III
PR: Admission by placement audition. Continuation of DAA 2160. Further emphasis on style and phrasing. Work in projecting mood and quality by dancing and rehearsing in more advanced choreography, leading to performance. Rehearsal hours to be arranged. May be repeated.

DAA 3202 BALLET III
PR: Admission by placement audition. Intensification of barre exercises for the development of strength and form. Most of the ballet steps are introduced. Application of phrasing and movement. Material covered as practical work in class for concerts and performances. Rehearsal hours to be arranged. May be repeated.

DAA 3220 BALLET VARIATIONS
PR: DAA 3202. This course provides instruction in various forms of ballet. Semester courses include: Pointe technique, Men's Class, Character Dance, Spanish Dance and Partnering. Ballet majors are required to complete two semester hours. May be repeated.

DAA 3340 PERFORMANCE
PR: Admission by audition or CC. Open to all university students proficient in dance techniques. Rehearsal and performance of works presented by the department. May be repeated up to 10 credit hours.

DAA 3502 JAZZ DANCE
PR: Admission by placement audition, DAA 2201 or 2160. A technique class for the intermediate level dancer to become acquainted with the dance styles and forms of musical theatre and concert jazz dance. Emphasis is on highly stylized movement on a strong rhythmic base. May be repeated.

DAA 3503 JAZZ THEATRE DANCE
PR: Admission by placement audition and DAA 3502. Continuation of DAA 2502. Further emphasis on projection, phrasing, rhythmic patterns and dynamics. Solo and ensemble studies leading to performance. May be repeated.

DAA 3700 CHOREOGRAPHY I
Study and execution for basic principles of composition. Preparation of studies in theme and variations, breath phrases and metric phrases. May be repeated.

DAA 3701 CHOREOGRAPHY II
PR: DAA 3700, DAN 2611, or CI. Preparation of studies in rhythm, dynamics, form and motivation, culminating in a solo. May be repeated.

DAA 4162 MODERN DANCE IV
PR: Admission by placement audition or CC. Intensive work on the growth of personal performance styles. Equal emphasis will be given to training the body in the development of technical excellence. Rehearsal hours to be arranged. May be repeated.

DAA 4203 BALLET IV
PR: Admission by placement audition or CC. Perfecting the execution of barre work. Intensification of centre work. More stress on aesthetic quality of movement and phrasing. Students expected to be proficient in pointe work. Outside projects, concerts, and performances are required. Rehearsal hours to be arranged. May be repeated.

DAA 4703 CHOREOGRAPHY IV
PR: DAA 4702. The student will prepare studies based on free form, minimal art, and chance methods. Lec-lab., reading. May be repeated.

DAA 4790 SENIOR PROJECT
PR: senior Major, CI, CC. The creation of an original group work and solo within the senior's major concentration-ballet or modern. To be performed and presented with the concurrence of a faculty advisor.

DAA 4929 DANCE STUDIES
PR: CI and CC. Dance Major status. Individual study to extended competency in technique and performance of Dance through participation in special workshops. May be repeated up to 4 credit hours.

DAA 4300 THE TEACHING OF DANCE: THEORY AND PRACTICE
PR: CI, CC. Designed to provide prospective dance teachers with opportunities to develop concepts of pedagogy based on principles of teaching - learning in dance techniques and choreography. For majors and non-majors. May be repeated up to 9 credit hours.

DAN 2111 INTRODUCTION TO DANCE-6A
For majors and non-dance majors, a study of the art and language of dance through lectures, discussions, concert attendance, and studio practice. Designed to develop awareness and insight of this art form through discussion, observation, writing (70%), and movement experience (30%). Applies toward meeting: Gordon Rule, General Distribution or Special 6 hr. College of Fine Arts Requirement.

DAN 2610 MUSIC FOR DANCE I
Development of practical music skills in relation to dance. Emphasis on rhythm and the relationship of music forms to dance. May be repeated up to 4 credit hours.

DAN 2611 MUSIC FOR DANCE II
PR: DAN 2610 or CI. Elements within historical context. Continued problems in rhythmic materials.

DAN 3590 PRACTICUM IN DANCE PRODUCTION I
PR: Senior major status, CI, CC. A practicum in mounting dance concerts with shop work and backstage participation. Intended for students working in costume, set preparation, light presentation, stage management and production crew. Dance majors must have at least 2 credits for graduation accumulated in two different semesters.

DAN 3710 REPERTORY
The development and performance of solo and/or group dances. Open to all University students by audition. May be repeated.

DAN 4120 SURVEY HISTORIY OF DANCE-6A
Survey history of dance. Study of development of dance from its inception through 18th Century. Social and theatrical dance forms, dance in literature, music and painting included.

DAN 4151 19TH AND 20TH CENTURY DANCE
Survey history of dance. Study of development of dance from 19th Century through 20th Century. Theatrical and other expressive forms included. Reading, lecture and visual aids.

DAN 4170 DANCE SENIOR SEMINAR
PR: Senior major status, CI, CC. A study of career opportunities in performance, teaching, research, design, and choreography. To aid majors in self-appraisal as artists and develop methods to further their potential in the professional world. Discussion, critical evaluation and projects.

DAN 4905 DIRECTED READING
PR: CI and CC. Readings in topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different topics only.

DAN 4906 DIRECTED STUDY
PR: CI. CC. Independent studies in the various areas of Dance. Course of study may be used to fulfill Junior Project. Must receive approval prior to registration.

DAN 4930 SELECTED TOPICS IN DANCE
PR: CI and CC. The content of the course will be governed by student demand and instructor interest. May be repeated for credit for different topics only.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUC 2201</td>
<td>COMPOSITION</td>
<td>(3)</td>
<td>Required of composition majors. May be repeated for three semesters.</td>
</tr>
<tr>
<td>MUC 2301</td>
<td>INTRODUCTION TO ELECTRONIC MUSIC</td>
<td>(2)</td>
<td>History and repertory of electronic music; standard sound studio techniques; basic electronics as applied in electronic sound synthesis; mathematics for music, composition and electronic music.</td>
</tr>
<tr>
<td>MUC 3202</td>
<td>COMPOSITION</td>
<td>(3)</td>
<td>Required of composition majors. May be repeated for three semesters.</td>
</tr>
<tr>
<td>MUC 3401, 3402</td>
<td>ELECTRONIC MUSIC-ANALOG SYNTHESIS</td>
<td>(3,3)</td>
<td>PR: Necessary competency at MUC 2201 level determined by faculty jury. Private instruction in original composition. Required of composition majors. May be repeated for three semesters.</td>
</tr>
<tr>
<td>MUC 3441, 3442</td>
<td>ELECTRONIC MUSIC-DIGITAL SYNTHESIS</td>
<td>(3,3)</td>
<td>Computer assisted composition for conventional instruments; composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.</td>
</tr>
<tr>
<td>MUC 3601, 3602</td>
<td>CONTEMPORARY TECHNIQUES OF COMPOSITION</td>
<td>(3,3)</td>
<td>PR: Necessary competency at MUC 2301 and CI. Composition for tape medium with analog synthesizers; use of sound recording studio; repertory or analog music synthesis; technical basis of analog systems design and construction.</td>
</tr>
<tr>
<td>MUC 4203</td>
<td>COMPOSITION</td>
<td>(3)</td>
<td>Composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.</td>
</tr>
<tr>
<td>MUC 4403, 4404 (formerly MUC 4405, 4406)</td>
<td>ELECTRONIC MUSIC-REAL-TIME PERFORMANCE</td>
<td>(3,3)</td>
<td>PR: Necessary competency at MUC 3402 and MUC 3442 or equivalent. Composition for analog/digital equipment, performance applications; sound synthesis, interfacing electronics with conventional instruments.</td>
</tr>
<tr>
<td>MUC 4501</td>
<td>SEMINAR IN NEW MUSICAL SYSTEMS</td>
<td>(3)</td>
<td>PR: Subject placement and repertoire style.</td>
</tr>
<tr>
<td>MUG 3101</td>
<td>BASIC CONDUCTING</td>
<td>(3)</td>
<td>PR: Necessary competency at MUC 3202 level determined by faculty jury. Private instruction in original composition. Required of composition majors. May be repeated for credit.</td>
</tr>
<tr>
<td>MUG 4202 (formerly MUG 4201)</td>
<td>CHORAL CONDUCTING</td>
<td>(2)</td>
<td>PR: Necessary competency at MUC 3101 and CI. Practical application of conducting techniques to choral works, score study, performance practices, and rehearsal techniques. Class serves as performing group.</td>
</tr>
<tr>
<td>MUG 4302 (formerly MUG 4301)</td>
<td>INSTRUMENTAL CONDUCTING</td>
<td>(2)</td>
<td>PR: Necessary competency at MUC 3101 and CI. A study of those techniques of conducting unique to instrumental music ensembles: baton technique, score reading, terminology, rehearsal management.</td>
</tr>
<tr>
<td>MUN 3019</td>
<td>HISTORY OF POPULAR MUSIC</td>
<td>(2)</td>
<td>PR: Necessary competency at MUC 3202 level determined by faculty jury. Private instruction in original composition. Required of composition majors. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3401</td>
<td>HISTORY OF JAZZ</td>
<td>(3)</td>
<td>A study of the historical development of Jazz, including the representative musical literature and sociological implications.</td>
</tr>
<tr>
<td>MUN 3300</td>
<td>MUSIC HISTORY / MEDIEVAL AND RENAISSANCE</td>
<td>(2)</td>
<td>PR: Necessary competency at MUC 3202 level determined by faculty jury. Private instruction in original composition. Required of composition majors. May be repeated for credit.</td>
</tr>
</tbody>
</table>

**Major Performing Ensembles**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUN 2120</td>
<td>UNIVERSITY BAND</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3140</td>
<td>WIND ENSEMBLE</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3210</td>
<td>UNIVERSITY ORCHESTRA</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3310</td>
<td>UNIVERSITY SINGERS</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3380</td>
<td>UNIVERSITY-COMMUNITY CHORUS</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3450 (formerly MUN 3451)</td>
<td>PIANO ENSEMBLE</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3710</td>
<td>JAZZ ENSEMBLE</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3501</td>
<td>OPERA WORKSHOP</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
</tbody>
</table>

**General Music Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUN 3440</td>
<td>PERCUSSION</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3441</td>
<td>MARIMBA ENSEMBLE</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3470</td>
<td>COLLEGIUM MUSICUM</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3711</td>
<td>JAZZ CHAMBER ENSEMBLE</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUN 3492</td>
<td>CLASSICAL GUITAR ENSEMBLE</td>
<td>(1)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUS 3001</td>
<td>RECITAL ATTENDANCE</td>
<td>(0)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
<tr>
<td>MUS 4900</td>
<td>DIRECTED READING</td>
<td>(1-3)</td>
<td>PR: Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.</td>
</tr>
</tbody>
</table>
MUS 4905 DIRECTED STUDY (1-4)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUS 3940 NEW MUSIC ENSEMBLE (1)

MUS 4930 SELECTED TOPICS IN MUSIC (1-4)
PR: CI and CC. The content of the course will be governed by student demand and instructor interest. May be repeated for credit for different topics only.

MUS 4931 SELECTED STUDIO TOPICS IN MUSIC (1-4)
PR: CI. The content of the study will be governed by individual student demand and instructor interest with an emphasis on individual instruction.

MUS 4935 MUSIC SENIOR SEMINAR (1)
PR: CI. To aid majors to understand, appraise and perfect their own art through critical and aesthetic judgments of their colleagues. (S/U only.)

MUS 5905 DIRECTED STUDY (1-4)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUSIC WORKSHOP COURSES (below)
PR: CI. Intensive study in the specialized areas indicated below; open to teachers, University students, and secondary students; credit available to qualified students.

MUS 5927 ORCHESTRA WORKSHOP (1-2)

MUT 1001 RUDIMENTS OF MUSIC (2)
Open to non-music majors; development of skills in hearing and performing music and in basic notation. Will not count as degree credit for music majors.

MUT 1111, 1112 MUSIC THEORY (3,3)
PR: CI. Required of music majors; development of skills in perceiving and writing music through the use of aural and visual analysis and examples from all historical periods of music literature.

MUT 1214, 1242 AURAL THEORY (1,1)
PR: CI. Course designed to begin training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUT 1111, 1112.

MUT 2116, 2117 MUSIC THEORY (3,3)
PR: MUT 1112. Required of music majors, continuation of MUT 1111 and 1112.

MUT 2246, 2247 ADVANCED AURAL THEORY (1,1)
PR: MUT 1242. Course designed to continue training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUT 2116, 2117.

MUT 3353 JAZZ COMPOSITION AND ARRANGING I (3)
PR: MUT 1112 and CI. Course designed to develop arranging and/or compositional skills in the jazz idiom through the study of jazz orchestration, harmonic, and melodic practices.

MUT 3554 JAZZ COMPOSITION AND ARRANGING II (3)
PR: MUT 1112 and CI. Course designed to develop arranging and/or compositional skills in the jazz idiom through the study of jazz orchestration, harmonic and melodic practices.

MUT 3641 JAZZ THEORY AND IMPROVISATION I (2)
PR: MUT 1112 and/or CI. A study of jazz improvisational techniques and related jazz theory.

MUT 3642 JAZZ THEORY AND IMPROVISATION II (2)
PR: MUT 3641 or CI. A study of jazz improvisational techniques and related jazz theory.

MUT 3663 JAZZ STYLES AND ANALYSIS I (2)
PR: MUT 3642 or CI. A studio course study of the Improvised solos of the major innovators in jazz. Oriented toward the continuing development of the students own soloing ability. Students are required to enroll in Jazz Chamber Ensemble as a lab. Open to majors and non-majors.

MUT 3664 JAZZ STYLES AND ANALYSIS II (2)
PR: Jazz Styles and Analysis I or CI. A continuation of Jazz Styles and Analysis I with the emphasis on contemporary jazz artists. Students are required to enroll in Jazz Chamber Ensemble as a lab. Open to majors and non-majors.

MUT 4311, 4312 ORCHESTRATION (2,2)
PR: CI. Intensive study and practice in scoring music for various combinations of instruments, including symphony orchestra, band, and smaller ensembles of string, woodwind, brass, and percussion instruments.

MUT 4411 SIXTEENTH CENTURY PRACTICE (3)
PR: MUT 2117. A study of the music of the 16th century from a theoretical standpoint; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUT 4421 EIGHTEENTH CENTURY PRACTICE (3)
PR: MUT 2117. An intensive study of the contrapuntal practice of the 18th century; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUT 4571 TWENTIETH CENTURY PRACTICE (3)
PR: MUT 2117. A study of 20th century theoretical concepts; development of skills in perceiving and writing music in contemporary styles through the use of aural and visual analysis.

MUT 5051 GRADUATE REVIEW OF MUSIC THEORY (1-4)
A graduate level review of basic theoretical concepts with emphasis on the common practice period. The course serves to satisfy deficiencies in music theory and as such does not count toward the graduate degree requirements.

MVW 2000 FOREIGN LANGUAGE DICTION FOR SINGERS (2)
Required of, but not limited to all voice majors in the Bachelor of Music program. A one semester course covering singing diction in French, German and Italian. Should be completed in the Freshman or Sophomore year of voice.

SECONDARY APPLIED MUSIC COURSES (below)
PR: CI. One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of nonmusic majors who have had prior musical training. Course is open by audition only.

MVW 1201 APPLIED TRUMPET (1)
MVW 1212 APPLIED FRENCH HORN (1)
MVW 1213 APPLIED TROMBONE (1)
MVW 1214 APPLIED BARITONE (1)
MVW 1215 APPLIED TUBA (1)
MVK 1211 APPLIED PIANO (1)
MVP 1211 APPLIED PERCUSSION (1)
MVS 1211 APPLIED VIOLIN (1)
MVS 1212 APPLIED VIOLA (1)
MVS 1213 APPLIED VIOLONCELLO (1)
MVS 1214 APPLIED DOUBLE BASS (1)
MVS 1215 APPLIED HARP (1)
MVS 1216 APPLIED CLASSICAL GUITAR (1)
MVW 1211 APPLIED VOICE (1)
MVW 1211 APPLIED FLUTE (1)
MVW 1212 APPLIED OBOE (1)
MVW 1213 APPLIED CLARINET (1)
MVW 1214 APPLIED BASSOON (1)
MVW 1215 APPLIED SAXOPHONE (1)

CLASS PIANO COURSES (below)
PR: CI. Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

MKV 1111 KEYBOARD SKILLS I (2)
MKV 1121 KEYBOARD SKILLS II (2)
MKV 2111 KEYBOARD SKILLS III (2)
MKV 2121 KEYBOARD SKILLS IV (2)
COLLEGE OF FINE ARTS

MVK 3311 MUSIC MAJORS, LEVEL V
MVK 1811 BEGINNING PIANO I
MVK 1821 BEGINNING PIANO II
MVK 2811 INTERMEDIATE PIANO
MVK 2821 INTERMEDIATE PIANO

APPLIED MUSIC COURSES PRINCIPAL (below)
PR: C. Required of all music education and composition majors; open to a limited number of non-major by audition only. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. May be repeated for credit. Applied music courses are NOT available on S/U basis.

MVB 1311 TRUMPET PRINCIPAL
MVB 1312 FRENCH HORN PRINCIPAL
MVB 1313 TROMBONE PRINCIPAL
MVB 1314 EUPHONIUM PRINCIPAL
MVB 1315 TUBA PRINCIPAL
MVB 1311 PIANO PRINCIPAL
MVB 1313 ORGAN PRINCIPAL
MVP 1311 PERCUSSION PRINCIPAL
MVS 1311 VIOLIN PRINCIPAL
MVS 1312 VIOLA PRINCIPAL
MVS 1313 VIOLONCELLO PRINCIPAL
MVS 1314 DOUBLE BASS PRINCIPAL
MVS 1315 HARP PRINCIPAL
MVS 1316 CLASSICAL GUITAR PRINCIPAL
MVV 1311 VOICE PRINCIPAL
MVW 1311 FLUTE PRINCIPAL
MVW 1312 OBOE PRINCIPAL
MVW 1313 CLARINET PRINCIPAL
MVW 1314 VIOLONCELLO PRINCIPAL
MVW 1315 BASSOON PRINCIPAL
MVW 1316 SAXOPHONE PRINCIPAL

APPLIED MUSIC COURSES PRINCIPAL (below)
PR: C. Required of all music education and composition majors; open to a limited number of non-major by audition only. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. May be repeated for credit. Applied music courses are NOT available on S/U basis.

MVW 1321 TRUMPET PRINCIPAL
MVW 1322 FRENCH HORN PRINCIPAL
MVW 1323 TROMBONE PRINCIPAL
MVW 1324 EUPHONIUM PRINCIPAL
MVW 1325 TUBA PRINCIPAL
MVW 1321 PIANO PRINCIPAL
MVW 1323 ORGAN PRINCIPAL
MVP 1321 PERCUSSION PRINCIPAL
MVS 1321 VIOLIN PRINCIPAL
MVS 1322 VIOLA PRINCIPAL
MVS 1323 VIOLONCELLO PRINCIPAL
MVS 1324 DOUBLE BASS PRINCIPAL
MVS 1325 HARP PRINCIPAL
MVS 1326 CLASSICAL GUITAR PRINCIPAL
MVV 1321 VOICE PRINCIPAL
MW 1321 FLUTE PRINCIPAL
MW 1322 OBOE PRINCIPAL
MW 1323 CLARINET PRINCIPAL
MW 1324 VIOLONCELLO PRINCIPAL
MW 1325 BASSOON PRINCIPAL
MW 1326 SAXOPHONE PRINCIPAL

APPLIED MUSIC COURSES PRINCIPAL (below)
PR: C. Required of all music education and composition majors; open to a limited number of non-major by audition only. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. May be repeated for credit. Applied music courses are NOT available on S/U basis.

MVW 2321 TRUMPET MAJOR
MVW 2322 FRENCH HORN MAJOR
MVW 2323 TROMBONE MAJOR
MVW 2324 EUPHONIUM MAJOR
MVW 2325 TUBA MAJOR
MVW 2321 PIANO MAJOR
MVW 2323 ORGAN MAJOR
MVP 2321 PERCUSSION MAJOR
MVS 2321 VIOLIN MAJOR
MVS 2322 VIOLA MAJOR
MVS 2323 VIOLONCELLO MAJOR
MVS 2324 DOUBLE BASS MAJOR
MVS 2325 HARP MAJOR
MVS 2326 CLASSICAL GUITAR MAJOR
MVV 2321 VOICE MAJOR
MW 2321 FLUTE MAJOR
MW 2322 OBOE MAJOR
MW 2323 CLARINET MAJOR
MW 2324 VIOLONCELLO MAJOR
MW 2325 BASSOON MAJOR
MW 2326 SAXOPHONE MAJOR

MWB 3331 TRUMPET MAJOR
MWB 3332 FRENCH HORN MAJOR
MWB 3333 TROMBONE MAJOR
MWB 3334 EUPHONIUM MAJOR
MWB 3335 TUBA MAJOR
MWB 3331 PIANO MAJOR
MWB 3333 ORGAN MAJOR
MVP 3331 PERCUSSION MAJOR
MVS 3331 VIOLIN MAJOR
MVS 3332 VIOLA MAJOR
MVS 3333 VIOLONCELLO MAJOR
MVS 3334 DOUBLE BASS MAJOR
MVS 3335 HARP MAJOR
MVS 3336 CLASSICAL GUITAR MAJOR
MVV 3331 VOICE MAJOR
MW 3331 FLUTE MAJOR
MW 3332 OBOE MAJOR
MW 3333 CLARINET MAJOR
MW 3334 BASSOON MAJOR
MW 3335 SAXOPHONE MAJOR

MWB 4341 TRUMPET MAJOR
MWB 4342 FRENCH HORN MAJOR
MWB 4343 TROMBONE MAJOR
MWB 4344 EUPHONIUM MAJOR
MWB 4345 TUBA MAJOR
MWB 4346 VIOLIN MAJOR
MWB 4347 VIOLA MAJOR
MWB 4349 CLARINET MAJOR
MWB 4350 BASSOON MAJOR
MWB 4351 ORGAN MAJOR
MWB 4352 PERCUSSION MAJOR
MWB 4353 VIOLONCELLO MAJOR
MWB 4354 DOUBLE BASS MAJOR
MWB 4355 HARP MAJOR
MWB 4356 CLASSICAL GUITAR MAJOR
MVV 4341 VOICE MAJOR
MVW 4341 FLUTE MAJOR
MVW 4342 OBOE MAJOR
MVW 4343 CLARINET MAJOR
MVW 4344 BASSOON MAJOR
MVW 4345 SAXOPHONE MAJOR

MWB 1411 TRUMPET MAJOR
MWB 1412 FRENCH HORN MAJOR
MWB 1413 TROMBONE MAJOR
MWB 1414 EUPHONIUM MAJOR
MWB 1415 TUBA MAJOR
MWB 1411 PIANO MAJOR
MWB 1413 ORGAN MAJOR
MVP 1411 PERCUSSION MAJOR
MVS 1411 VIOLIN MAJOR
MVS 1412 VIOLA MAJOR
MVS 1413 CELLO MAJOR
MVS 1414 DOUBLE BASS MAJOR
MVS 1415 HARP MAJOR
MVS 1416 CLASSICAL GUITAR MAJOR
MVV 1411 VOICE MAJOR
MVV 1411 FLUTE MAJOR
MVW 1412 OBOE MAJOR
MVW 1413 CLARINET MAJOR
MVW 1414 BASSOON MAJOR
MVW 1415 SAXOPHONE MAJOR

APPLIED MUSIC COURSES (below)
PR: C. Required of all applied music majors; open to a limited number of non-major by audition only. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. May be repeated for credit. Applied music courses are NOT available on S/U basis.
### Applied Music Courses

**APPLIED MUSIC COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVB 2421</td>
<td>TRUMPET MAJOR</td>
<td>4</td>
</tr>
<tr>
<td>MVB 2422</td>
<td>FRENCH HORN MAJOR</td>
<td>4</td>
</tr>
<tr>
<td>MVB 2423</td>
<td>TROMBONE MAJOR</td>
<td>4</td>
</tr>
<tr>
<td>MVB 2424</td>
<td>EUPHONIUM MAJOR</td>
<td>4</td>
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<tr>
<td>MVB 2425</td>
<td>Tuba MAJOR</td>
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<td>MK 2421</td>
<td>PIANO MAJOR</td>
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<td>MK 2423</td>
<td>ORGAN MAJOR</td>
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<td>MVP 2421</td>
<td>PERCUSSION MAJOR</td>
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<td>MVS 2421</td>
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<td>MVS 2422</td>
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<tr>
<td>MVS 2423</td>
<td>CELLO MAJOR</td>
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<td>MVS 2424</td>
<td>DOUBLE BASS MAJOR</td>
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<td>MVS 2425</td>
<td>HARP MAJOR</td>
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<td>MVS 2426</td>
<td>CLASSICAL GUITAR MAJOR</td>
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<tr>
<td>MVW 2421</td>
<td>VOICE MAJOR</td>
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<tr>
<td>MW 2421</td>
<td>FLUTE MAJOR</td>
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<td>MWV 2422</td>
<td>OBOE MAJOR</td>
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<td>MWV 2423</td>
<td>CLARINET MAJOR</td>
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<td>MWV 2424</td>
<td>BASSOON MAJOR</td>
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<td>MWV 2425</td>
<td>SAXOPHONE MAJOR</td>
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**APPLIED MUSIC COURSES (below)**

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<th>Course Title</th>
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<td>MVS 2421</td>
<td>TRUMPET MAJOR</td>
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<td>MVS 2422</td>
<td>FRENCH HORN MAJOR</td>
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<td>MVS 2423</td>
<td>TROMBONE MAJOR</td>
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<td>EUPHONIUM MAJOR</td>
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<td>MVS 2425</td>
<td>Tuba MAJOR</td>
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<td>MVS 2426</td>
<td>VIOLIN MAJOR</td>
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<td>MVS 2427</td>
<td>VIOL A MAJOR</td>
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<td>MVS 2428</td>
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<td>MVS 2429</td>
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<td>MVS 2430</td>
<td>HARP MAJOR</td>
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<td>MVS 2431</td>
<td>CLASSICAL GUITAR MAJOR</td>
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<td>MVW 2431</td>
<td>VOICE MAJOR</td>
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<td>MW 2431</td>
<td>FLUTE MAJOR</td>
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<td>MWV 2432</td>
<td>OBOE MAJOR</td>
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<td>CLARINET MAJOR</td>
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<td>MWV 2434</td>
<td>BASSOON MAJOR</td>
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<td>MWV 2435</td>
<td>SAXOPHONE MAJOR</td>
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**MUSIC STUDIO PEDAGOGY COURSES**

**MUSIC EDUCATION**

**MUE 2090 THEORETICAL BASES OF MUSIC EDUCATION**

The course is designed to investigate music education practices in the schools. It provides the student with experience and information early in his academic career which will enable him to determine his commitment to professional music education.

**MUE 3421 CHORAL MATERIALS PRACTICUM**

PR: CI. A study of choral materials in a laboratory setting appropriate to elementary and secondary school music programs. Course content will change each semester. May be repeated for a total of 2 credit hours.

**MUE 3422 BAND MATERIALS PRACTICUM**

PR: CI. A study of band materials in a laboratory setting appropriate to elementary and secondary school music programs. Course content will change each semester. May be repeated for a total of 2 credit hours.

**MUE 3423 ORCHESTRA MATERIALS PRACTICUM**

PR: CI. A study of orchestra materials, in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each semester. May be repeated for a total of 2 credit hours.

**MUE 3450 BEGINNING WOODWIND TECHNIQUES**

PR: Sophomore standing, non-woodwind major. The course introduces the fundamentals of woodwind instrument pedagogy. In addition basic techniques of woodwind performance are taught through the study of clarinet and flute.

**MUE 3451 ADVANCED WOODWIND TECHNIQUES**

PR: Sophomore standing, woodwind instrument major or MUE 3450. The course develops knowledge and skills dealing with advanced principles of teaching and performing on woodwind instruments.

**MUE 3460 BEGINNING BRASS TECHNIQUES**

PR: Sophomore standing, non-brass major. The course introduces the fundamentals of brass wind instrument pedagogy. In addition, basic techniques of brass performance are taught through the study of trombone and trumpet.

**MUE 3461 ADVANCED BRASS TECHNIQUES**

PR: Sophomore standing, brass instrument major or MUE 3460. The course develops knowledge and skills dealing with advanced principles of teaching and performing on all brass instruments.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUE 4210</td>
<td>MUSIC FOR THE CHILD</td>
<td>PR: Admission to the College of Education. Music fundamentals, the development of music skills and knowledge of music materials and teaching strategies for presenting music to children in the elementary school.</td>
<td>3</td>
</tr>
<tr>
<td>MUE 4311</td>
<td>MUSIC IN THE ELEMENTARY SCHOOL</td>
<td>PR: CI. A study of principles, techniques, materials, and activities as they relate to a comprehensive music curriculum in Grades K-6.</td>
<td>3</td>
</tr>
<tr>
<td>MUE 4321</td>
<td>FOUNDATIONS OF CHORAL MUSIC</td>
<td>PR: CI. This course deals with the development of knowledge and skills needed to effectively organize and teach a choral music program for elementary and intermediate grade level students. Include school observation and participation component. Major status or instructor permission required.</td>
<td>3</td>
</tr>
<tr>
<td>MUE 4330</td>
<td>CLASSROOM MUSIC IN THE SECONDARY SCHOOL</td>
<td>PR: CI. Development and implementation of methods and techniques for teaching music to the student not participating in secondary school music performing groups.</td>
<td>3</td>
</tr>
<tr>
<td>MUE 4331</td>
<td>CHORAL METHODS IN THE SECONDARY SCHOOL</td>
<td>PR: CI. Junior standing. Development and implementation of methods techniques for teaching secondary school choral music.</td>
<td>3</td>
</tr>
<tr>
<td>MUE 4352</td>
<td>FOUNDATIONS OF INSTRUMENTAL MUSIC</td>
<td>PR: CI. MUE 3450, MUE 3460, MVP 1211. Junior standing. Introduction to the foundation of instrumental music instruction in the elementary and middle school.</td>
<td>3</td>
</tr>
<tr>
<td>MUE 4480</td>
<td>MARCHING BAND TECHNIQUES</td>
<td>PR: Junior standing. This course is required of instrumental music education majors. It will provide the student with the needed skills in creating for and teaching the public school marching band.</td>
<td>2</td>
</tr>
<tr>
<td>MUE 4909</td>
<td>DIRECTED STUDY: MUSIC EDUCATION</td>
<td>PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.</td>
<td>1-3</td>
</tr>
<tr>
<td>MUE 4936</td>
<td>SENIOR SEMINAR IN MUSIC</td>
<td>CR 4940. Synthesis of teacher candidate's courses in complete college program. Required concurrently with internship.</td>
<td>2</td>
</tr>
<tr>
<td>MUE 4940</td>
<td>INTERNSHIP: MUSIC EDUCATION</td>
<td>One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9-12 semester hours. (S/U only.)</td>
<td>1-12</td>
</tr>
<tr>
<td>MUE 4941</td>
<td>INTERNSHIP</td>
<td>Part-time internship in an accredited public or private school. To be taken concurrently with departmental requirements and will include beginning of the year experiences when taken in Fall Semester. (S/U only.)</td>
<td>1-4</td>
</tr>
<tr>
<td>MUE 4942</td>
<td>INTERNSHIP</td>
<td>PR: Admission to the College of Education and/or departmental approval. Internship in an accredited public or private school which will include the end of the academic year or program closing. (S/U only.)</td>
<td>1-2</td>
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</table>

**THEATRE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>THE 2020</td>
<td>THEATRE FUNDAMENTALS</td>
<td>An introduction to the means and materials of theatre, the nature of theatre forms, the concepts of Total Theatre, and the basic issues in American theatre today. This course open to non-majors and theatre majors should take this course concurrently with their first registration in the group of courses TPA 2200, TPA 2223, TPA 2232, TPA 2311. Required of all theatre majors.</td>
<td>2</td>
</tr>
<tr>
<td>THE 3080C</td>
<td>MODERN THEATRE PRACTICE -6A</td>
<td>Initial readings and exercises in theatre; play analysis, performance, and technical theatre for non-theatre majors.</td>
<td>4</td>
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<tr>
<td>THE 3110</td>
<td>THEATRE HISTORY</td>
<td>A survey of all facets of theatrical performance in selected periods of theatre history from the 5th Century B.C. to the present. Normally ten plays will be read. Required of all theatre majors. Open to non-majors.</td>
<td>4</td>
</tr>
<tr>
<td>THE 3925</td>
<td>PERFORMANCE</td>
<td>The rehearsal, construction, production of major theatrical works. THE 4927 or this course is required of all majors and minors. Assignments are made contractually at the time of registration. Open to non-majors on a credit or noncredit basis. May be repeated.</td>
<td>1</td>
</tr>
<tr>
<td>THE 4180</td>
<td>THEATRE ORIGINS</td>
<td>PR: Completion of first three years as a theatre major and one from the following: THE 4320, THE 4330, THE 4370, THE 4401, THE 4442, THE 4480; or CI. An analysis of the development of theatre out of myth, ritual, and liturgy. Emphasis placed on what attempts to understand the resulting phenomena can teach us about the nature of our art. Either THE 4180 or THE 4562 is required of all theatre majors. Open to senior non-majors with CI.</td>
<td>3</td>
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<tr>
<td>THE 4264</td>
<td>HISTORY OF COSTUME</td>
<td>A survey of clothing and dress from Ancient Egypt to the 20th Century with an emphasis on cultural and social influences. (A requirement in the design track/costume.) Open to upper level non-majors with CI.</td>
<td>3</td>
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<tr>
<td>THE 4266</td>
<td>ARCHITECTURE AND DECOR</td>
<td>The survey of architectural and furniture from ancient Egypt to the 20th Century. (A requirement in the design track/scene.) Open to upper level non-majors with CI.</td>
<td>3</td>
</tr>
<tr>
<td>THE 4320</td>
<td>THE THEATRE OF MYTH AND RITUAL/NORTHERN EUROPEAN (950-1600) AND ORIENTAL (400-1200)</td>
<td>PR: THE 3110. An investigation into the interrelationship of myth, ritual, and theatre. Considers northern European liturgical and secular plays as compared with Hindu, Chinese, and Japanese drama. Open to non-majors with CI.</td>
<td>3</td>
</tr>
<tr>
<td>THE 4330</td>
<td>SHAKESPEARE FOR THE THEATRE</td>
<td>PR: THE 3110. A close study of selected plays with special emphasis on their performance values. Open to non-majors with CI.</td>
<td>3</td>
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<tr>
<td>THE 4370</td>
<td>THE 19TH CENTURY THEATRE REVOLUTION</td>
<td>PR: Through the study of selected plays, an understanding of the romantic realism of the commercial stage and its effect on subsequent theatre activity. Open to non-majors with CI.</td>
<td>3</td>
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<tr>
<td>THE 4401</td>
<td>O'NEILL AND AFTER</td>
<td>PR: THE 3110. A course in the function of the script for the theatre artist treating materials in the American Theatre from 1915 to 1964. Open to non-majors with CI.</td>
<td>3</td>
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<tr>
<td>THE 4442</td>
<td>THE COMEDY OF THE CLASSIC AND NEO-CLASSIC STAGE</td>
<td>PR: THE 3110. A study of comic function in scripts from Greek and Roman, Restoration and French Neoclassic of the late 17th century and other plays from the late 18th and late 19th centuries which reflect similar characteristics. Open to non-majors with CI.</td>
<td>3</td>
</tr>
<tr>
<td>THE 4480</td>
<td>DRAMA-SPECIAL TOPICS</td>
<td>PR: THE 3110. A study of a significant playwright or grouping of playwrights, e.g. Molieres, Brecht, recent American dramatists. Open to non-majors with CI.</td>
<td>3</td>
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<tr>
<td>THE 4562</td>
<td>SENIOR COLLOQUIUM IN THEATRICAL CREATIVITY</td>
<td>PR: Completion of first three years as a theatre major and one from the following: THE 4200, THE 4330, THE 4370, THE 4401, THE 4442, THE 4480; or CI. A colloquium in the nature of the synthesized theatre object. Either THE 4180 or THE 4562 is required of all theatre majors. Open to senior non-majors with CI.</td>
<td>3</td>
</tr>
<tr>
<td>THE 4593</td>
<td>HONORS SEMINAR</td>
<td>Investigatory and/or theoretical preparation for Theatre Honors Practicum. Enrollment limited to upper level majors who have been formally admitted to the department honors program. Not available S/U. May not be repeated except under special and unusual circumstances.</td>
<td>2</td>
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<tr>
<td>THE 4594</td>
<td>HONORS PRACTICUM</td>
<td>PR: THE 4593. Practice, production and/or performance appropriate to the specialties of the visiting artists brought to campus specifically for this course sequence. May not be repeated except</td>
<td>3</td>
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