

# CONNECTICUT STATE UNIVERSITY SYSTEM 

Central Connecticut State University • New Britain<br>Eastern Connecticut State University • Willimantic

Southern Connecticut State University • New Haven<br>Western Connecticut State University • Danbury

The Connecticut State University System reaches throughout the state with major campuses in four regional centers: Central Connecticut State University in New Britain, Eastern Connecticut State University in Willimantic, Southern Connecticut State University in New Haven, and Western Connecticut State University in Danbury. It enrolls more than 33,500 students who are taught by approximately 1,100 full-time faculty members and hundreds of part-time instructors.

Origins of the Connecticut State University System date back to 1849, with the founding of a school for teachers in New Britain. During their distinguished history, the campuses have evolved from normal schools to teachers colleges to multipurpose state colleges and, finally, to universities. Today, after a century and a half of growth and development, the four campuses of the Connecticut State University System are thoroughly diversified institutions. Among their alumni are physicians, teachers, lawyers, dentists, nurses, clergy, business people, journalists, scholars, librarians, artists and a host of other professionals. The graduates of the Connecticut State University System contribute to all aspects of Connecticut's economic, social and cultural life.

The governance of the Connecticut State University System is the responsibility of a 18 -member Board of Trustees. Fourteen of the Trustees are appointed by the Governor, and four are students elected to the Board by their classmates. The Chancellor of the Connecticut State University System is responsible for the administration of the system. Each campus operates with a considerable measure of autonomy and functions under the leadership of a president.

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CONNECTICUT STATE UNIVERSITY SYSTEM • 39 Woodland Street •

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# CENTRAL CONNECTICUT STATE UNIVERSITY <br> New Britain, Connecticut 06050-4010 

## Undergraduate Catalog 1999-2001

A Campus of the Connecticut State University System<br>Board of Governors for Higher Education

The content of this catalog is provided for the information of the student. It is accurate at the time of printing, but is subject to change from time to time as deemed appropriate by Central Connecticut State University in order to fulfill its role and mission or to accommodate circumstances beyond its control. Any such changes may be implemented without prior notice and without obligation and, unless specified otherwise, are effective when made.

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FAX: (860) 832-2295; TDD: (860) 832-1958
E-mail: admissions@ccsu.ctstateu.edu
Home Page URL: http://www.ccsu.edu

## Accreditation and Memberships

The University is accredited by the New England Association of Schools and Colleges, the Connecticut Department of Higher Education, the Connecticut Department of Education (certification programs in education) and the National Council for the Accreditation of Teacher Education. Programs in chemistry are accredited by the American Chemical Society. The honors track of the computer science program is accredited by the Computing Sciences Accreditation Board. The civil engineering technology and the manufacturing engineering technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The industrial technology programs are accredited by the National Association of Industrial Technology, and the Bachelor of Science in Nursing program is accredited by the National League for Nursing. The Council on Social Work Education has accredited the baccalaureate social work program, and the Council on Accreditation of Nurse Anesthesia Programs has accredited the master's degree in biological sciences, nurse anesthesia specialization.

The University is a member of the American Council on Education, the American Association of Colleges for Teacher Education, the American Association of State Colleges and Universities, the College Board, the Council for Advancement and Support of Education, the National Commission for Cooperative Education, and many other professional organizations related to the activities of individual departments at Central Connecticut State University.
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## UNIVERSITY CALENDAR 1999-2001

## Fall Semester 1999

August 23 Academic year begins
August 30 Last day for full-time students to withdraw
August 30
August 30-
September 2
September 6
September 7
September 10
September 15
September 17

September 20
September 24 Last day to drop eight-week courses; last day for full-time students to withdraw with 40\% refund
October 22

October 25
November 19
November 23
November 29
December 1 Final day for undergraduates to apply for December 2000 graduation
December 9
Day classes end
Reading Day (make-up day if needed); no day or evening classes
December 13-17 Examinations
December 18 Semester ends; last class meeting for Saturday classes

## Winter Session 2000

December 27
January 3
January 13
January 17
January 20

First session begins
Second session begins
First session ends
Martin Luther King, Jr., Day - no classes
Second session ends

## Spring Semester 2000

January 24-27

January 31

February 4

February 11

February 14

February 17
February 18-21
February 22

## March 1

March 17

March 18
March 27

April 14
April 21-22
May 1

May 10
May 11-12
May 15-19
May 18
May 20

May 20

Add/Drop period; last day to change from part-time to full-time status
Last day for part-time students to drop with $100 \%$ refund
Last day for full-time students to withdraw with $60 \%$ refund
Last day to declare Pass/Fail and Audit options; last day to change from full-time to part-time status
Last day for part-time students to drop with $50 \%$ refund
Last day to drop first eight-week courses Lincoln's/Washington's Birthday weekend - Holidays - no classes
Last day for full-time students to withdraw with $40 \%$ refund
Final day for graduate students to apply for May and August 2000 degrees
Midterm; last day to drop full-semester courses; first eight-week courses end Spring Recess begins 1:30 p.m.
Spring Recess ends 8 a.m.; second eightweek courses begin
Last day to drop second eight-week courses Holiday - no classes
Final day for undergraduates to apply for May 2001 graduation
Day classes end
Reading Days (make-up days if needed) no classes
Examinations
Graduate Commencement
Semester ends; last class meeting for
Saturday classes
Undergraduate Commencement

## Summer Session 2000

May 30

June 29
July 3
July 4
July 20
August 3
August 7
August 24

First five-week session begins; eight-week session begins
First five-week session ends
Second five-week session begins
Independence Day - Holiday - no classes
Eight-week session ends
Second five-week session ends
Three-week post session begins
Three-week post session ends

## Fall Semester 2000

| August 28 | Academic year begins |
| :--- | :--- |
| September 4 | Labor Day - Holiday |
| September 6 | Last day for full-time students to withdraw <br> with $100 \%$ refund |

September 6
September 6-8, 11 Add/Drop period; last day to change from part-time to full-time status
September 12
September 15
September 19
September 26

October 3

October 24

October 25
November 21

November 27
December 1
December 15
December 18
December 23

## Winter Session 2001

December 27
January 1
January 15
January 18
Classes begin
New Year's Day - Holiday - no classes
Martin L. King, Jr., Day - no classes Classes end Thanksgiving recess ends $8 \mathrm{a} . \mathrm{m}$. Last day for undergraduates to apply for December 2001 graduation
Day classes end
Examinations
Semester ends; last class meeting for Saturday classes
23 rd

## Spring Semester 2001

| January 16 | Academic semester begins <br> Last day for full-time students to withdraw <br> with $100 \%$ refund |
| :--- | :--- |
| January 22 | Classes begin 8 a.m. |
| January 22-25 | Add/Drop period; last day to change from <br> part-time to full-time status <br> Last day for part-time students to drop <br> with 100\% refund |
| January 29 | Last day for full-time students to withdraw <br> with 60\% refund |
| February 2 | Last day to declare Pass/Fail and Audit <br> options; last day to change from full-time to <br> part-time status |
| February 9 February 16-19 12 | Last day for part-time students to drop with <br> $50 \%$ refund <br> Lincoln's/Washington's Birthday weekend - |
| Holidays - no classes |  |

February 20

March 1

March 16
March 17
March 26

April 13-14
April 20
May 1

May 9
May 10-11
May 14-18
May 17
May 19

May 19

Summer Session 2001

May 29
June 28
July 2
July 4
July 19
August 2
August 6
August 23

Last day for full-time students to withdraw with $40 \%$ refund; last day to drop first eightweek courses
Final day for graduate students to apply for May and August 2001 degrees
Midterm; last day to drop full-semester courses
Spring Recess begins 1:30 p.m.
Spring Recess ends 8 a.m.; second eight-week courses begin
Holiday - no classes
Last day to drop second eight-week courses
Final day for undergraduates to apply for
May 2002 graduation
Day classes end
Reading Days (make-up days if needed) no classes
Examinations
Graduate Commencement
Semester ends; last class meeting for
Saturday classes
Undergraduate Commencement Last day for full-time students to withdraw with $100 \%$ refund Classes begin 8 a.m. Add/Drop period; last day to change from part-time to full-time status Last day for part-time students to drop with $100 \%$ refund
February 2 Last day for full-time students to withdraw with $60 \%$ refund
February 9 Last day to declare Pass/Fail and Audit options; last day to change from full-time to part-time status
February 12 Last day for part-time students to drop with 50\% refund
February 16-19 Lincoln's/Washington's Birthday weekend Holidays - no classes

First five-week session begins; eight-week session begins
First five-week session ends
Second five-week session begins
Independence Day - Holiday - no classes
Eight-week session ends
Second five-week session ends
Three-week post session begins
Three-week post session ends

## The University

Central Connecticut State University (CCSU) is a regional, comprehensive public university dedicated to learning in the liberal arts and sciences and to education for the professions. CCSU offers Connecticut citizens access to academic programs of high quality. The University is also a responsive and creative intellectual resource for the people and institutions of our state's capital region. CCSU's many international programs and contacts uniquely position the University to provide students and business interests with opportunities to grow and prosper in the emerging global community.

Connecticut's oldest publicly-supported institution of higher education was founded in 1849 as the New Britain Normal School, a teacher training facility. The school was moved to the present campus in 1922. It became Teachers College of Connecticut in 1933 when it began offering four-year baccalaureate degrees. After extensive growth and expansion, including the ability to grant degrees in the liberal arts, the school evolved into Central Connecticut State College in 1959. The present name and status - Central Connecticut State University - were conferred in 1983 in recognition of the institution's change in commitment, mission, strategy and aspiration. Now the University offers undergraduate and graduate degrees.

The largest of four comprehensive Universities within the Connecticut State University System, CCSU enrolls approximately 6,500 full-time students and over 5,000 part-time students, and offers undergraduate and graduate programs through the Master's and sixth-year levels. The University has a full-time faculty of over 350 members, more than 400 parttime lecturers, and approximately 500 administrators and staff.

CCSU continues to grow, adding land, buildings and resources that place it among the finest state educational institutions in Connecticut. A growing network of overseas study opportunities, educational initiatives and exchange programs have helped CCSU become the state's public international university.

## Our Mission

Central Connecticut State University is a community of learners dedicated to teaching and to scholarship. We encourage the development and application of knowledge and ideas through research and outreach activities. We prepare students to be thoughtful, responsible and successful citizens.

Central Connecticut State University is, above all else, about teaching undergraduate and graduate students. Our research endeavors to improve us as teachers and expose our students to methods of inquiry. The public service expected of all members of our community benefits our society - local and global - and builds our sense of citizenship.

We value the development of knowledge and its application in an environment of intellectual integrity and open discourse. We expect that members of the University will engage in activities ranging from basic research and the creation of original works, to helping individuals and organizations achieve success in purely practical endeavors. All these activities enrich our community of learners.

As a public university, we receive support from the State of Connecticut. We have two designated Centers of Excellence and many nationally accredited programs. We take very seriously our commitment to provide access to higher education for all citizens in this State who can benefit from our offerings. Our high expectations for ourselves contribute to the fine quality and continuous improvement of our undergraduate and graduate programs. We believe that quality and access are compatible and simultaneously achievable; our objective is to provide the support needed for our students to reach their full potential.

We also believe that higher education should promote the personal and social growth of our students, as well as their intellectual achievement and professional competence. We provide various opportunities for students to engage in activities or to join organizations and clubs where they develop leadership and other social skills. We foster a welcoming environment in which all members of our diverse
community receive encouragement, feel safe and acquire self-confidence.

Central Connecticut State University aspires to be the premier public comprehensive university in Connecticut, with teaching as its primary focus, enhanced by the dynamic scholarship of its faculty; be highly regarded by its many constituents; be a significant resource contributing to the cultural economic development of Connecticut; be global in its perspective and outreach; and be widely respected as a university dedicated to innovative, activity-based, life-long and learner-centered higher education.

## Affirmative Action Policy

Central Connecticut State University is committed to a policy of non-discrimination, equal opportunity and affirmative action for all persons regardless of race, color, religion, sex, sexual orientation, age, national origin, marital or veteran status or disability. This policy is applicable to all employment practices, admission of students, programs and services to students, faculty, staff and the community.

The University's affirmative action policy seeks to include persons of color, women, veterans and persons with disabilities in its educational programs and in all job groups of its work force. Further information is available from the University Office of Human Relations/Affirmative Action, located in Davidson Hall 106 (832-3025).

## Resources

Central Connecticut State University is situated approximately two hour's driving time from Boston, New York City and southern Vermont. The campus, just 15 minutes from downtown Hartford, can be reached from state Routes $9,71,72$ and 175 , and Interstates 84 and 91 . It is approximately 25 miles south of Bradley International Airport which serves Hartford and Springfield, Massachusetts.

## Advising

Each student is assigned an academic adviser for consultation on course selection and approval of each semester's program of
studies. Students who are considering changing majors should contact the Advising Center for help in making this decision. For more information on the Advising Center, see page 12. The academic deans, as well as faculty advisers, assist students in a wide range of academic matters. The Office of Registrar helps resolve problems concerning transfer credits, program changes and schedule conflicts.

## Alumni Association

The CCSU Alumni Association sponsors programs and services for students, alumni and current members of the university community, including an affinity credit card and group rate insurance programs. The Alumni Association also sponsors Homecoming, Alumni Day, Class Reunions and other social programs for its over 48,000 members. The Association offers its members access to the campus computing facilities (for two semesters following graduation), career and library services, discount tickets to athletic events and exciting travel opportunities. The Alumni Association is governed by a Board of Directors consisting of alumni who volunteer their time to enhance the programs of the Association and its relationship with the University community. For more information contact the Alumni Affairs Office (832-1740).

## Campus Ministry

The campus ministers are available for personal counseling and participation in classroom discussion. They also sponsor retreats and provide a variety of social, spiritual, educational and community programs. Students are encouraged to contact the Ministry Office (Seth North Hall) for further information concerning programs and services of the Protestant, Jewish, Catholic and Islamic Campus Ministries, and the religious student organizations, including Christian Students at Central (CSAC), Hillel Jewish Student Organization, Newman Club, Revival and Upside Down Club.

## Community and Extension Services

The Office of Continuing Education works in cooperation with the Human Resource Development Center located at

185 Main St., our downtown New Britain campus, to expand its programs and services to meet the unique and changing needs of students. Individual credit and non-credit courses, workshops and seminars are available to students, community groups, civic organizations, businesses and industries.

Non-credit courses and certificate programs in the areas of personal improvement, leisure activities and professional growth and development are also offered. For more information, contact the downtown center (827-4409).

## Copernicus Science Computing

## Laboratory

The Copernicus Science Computing Laboratory, located in the Francis J. Rio Interdisciplinary Science Center (Copernicus 227), serves the faculty and students in the natural and physical sciences. The Computing Lab houses 20 networked PCs and Macintoshes as well as two laser printers, two inkjet printers, a scanner and a multimedia projector.

## Cultural Opportunities

Many cultural opportunities are available to students, both on campus and in the New Britain and Hartford areas.

On campus, the Samuel S. T. Chen Art Center features an array of international, national and regional artists in exhibits of fine arts, design and scholastic arts. The Theatre Department facilities include one of the best equipped, flexible experimental stages in the region.
Students may take advantage of concerts, theatre, choral performances and dance presentations by student groups, faculty and professional companies from around the world.

The Student Center Program Council Arts Committee is committed to presenting a variety of visual and performing arts. Interested students should contact the Program Council in the Student Activities Office of the Student Center.

Locally, students will find two nationally-known art museums, the New Britain Museum of American Art and the Wadsworth Atheneum in Hartford. Area theatres, including the Hartford Stage Company, the New Britain Repertory Theatre, The Hole in the Wall, the

## Goodspeed Opera House in East

 Haddam and the Bushnell Memorial Auditorium in Hartford, offer a variety of music, drama and dance. The New Britain Symphony Orchestra performs four times per year in Welte Hall on the CCSU campus.
## Elihu Burritt Library

The Elihu Burritt Library holds nearly 600,000 volumes, subscribes to over 3,000 periodical titles and seats 1,800 . Its extensive microfiche and microfilm collections provide access to periodicals, newspapers, ERIC documents, corporate annual reports and specialized research collections. The Library serves as a partial federal documents depository and houses a $14,500-$ volume Polish Heritage Collection, a rare book collection of 16,000 volumes and an extensive curriculum laboratory. Access to research materials is facilitated through CONSULS, the Library's on-line catalog, as well as through searching on-line and CD-ROM databases.

## Information Services

Information Services (Henry Barnard Hall) coordinates computer facilities for student use in education, research and other academic pursuits.

The Microcomputer Lab (Marcus White Annex) is the primary location for student access to computers. The lab contains over 200 networked Windows and Macintosh personal computers, all of which can connect to CCSU's mainframe computer and the Internet. The lab also houses several specialized workstations for scientific computing, several scanners and a large number of laser printers. The networked computers offer a variety of current educational and commercial software. The microcomputer lab is open more than 100 hours per week during the school year. Information Services also operates a small lab in Maria Sanford Hall which has terminals to the campus mainframe and a few networked computers. This facility is available 24 hours a day. In addition, there is a small lab within F. Don James Hall which has more restricted hours.

All students must complete mandatory training classes before being granted access to the labs. Training classes are given at the beginning of each semester
and computer-aided instruction is also available to supplement or substitute for the training classes. Information Services also offers a large number of free training classes throughout the year on the use of PC, Macintosh and mainframe software packages. Self-paced training is also available for many of these packages.

Students are encouraged to apply for an account on the university mainframe, which gives them an e-mail address, on the Internet, the "Information Superhighway" as it is referred to in the news media. Using e-mail, students can communicate with research centers, commercial enterprises, other universities and individuals throughout the world.

## Learning Center

The Learning Center (TLC) helps students reach their academic potential. Students who wish to establish a strong grade point average are encouraged to visit TLC early in their college experience for assistance with collegiate study skills, time management and exam preparation. The Learning Center provides study skills tutorials, individual and small group study sessions, a nine-week study skills program called Methods of Inquiry, The Mathematics Center, learning styles and study skills assessment, and a computerbased Praxis I practice program for students applying for teacher certification. TLC is located in Copernicus, Room 209 (832-1900).

## Mathematics Center

The Mathematics Center (Memorial Hall), operated by the Department of Mathematical Sciences, provides counseling, tutorial assistance and diagnostic testing in mathematics for day and evening students. Students are encouraged to visit the Mathematics Center for appointment scheduling or assistance.

## Media Center

The Media Center, located in Willard Hall, coordinates all audio-visual and television services. The center maintains reference files on instructional materials, film rental sources, film producers and media equipment. Facilities for making instructional materials are available during scheduled times. Faculty and stu-
dents, with the approval of a faculty member, may request $A V / T V$ equipment for class use.

## Multi-Media Language Learning Center

The Multi-Media Language Learning Center (Barnard 336) provides students with state-of-the-art technology for language study and cultural enrichment. The lab is equipped with audio, film, video and laser disc technology, a scanner, as well as web-capable computers for interactive learning.

## Sports and Recreation

Central Connecticut State encourages a balanced program of sports and recreation consistent with the educational responsibilities of the student.

Harrison J. Kaiser Hall houses the Physical Education and Athletics departments, the William H. Detrick Gymnasium seating 4,500 spectators, the Jack Suydam Natatorium, and special function rooms which include a modern Nautilus and free weight training facility. Arute Field is the site of home football games. Other sports facilities include Kaiser Annex, a 37,000-sq. ft. recreational/athletic air-supported structure; tennis courts and fields for soccer, softball, baseball, touch football and recreation.

Intercollegiate athletics are a tradition at Central Connecticut State. Varsity contests are scheduled in basketball, cross country, lacrosse, golf, soccer, softball, swimming, indoor and outdoor track, tennis and volleyball for women; baseball, basketball, cross country, football, golf, soccer, swimming, indoor and outdoor track and tennis for men.

Central Connecticut State's Blue Devils have gained national recognition on the playing fields. The University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference and the Northeast Conference, conducting its athletic programs under the rules of these organizations.

Students may also take advantage of indoor and outdoor facilities for recreational use and intramural programs.

## Student Activities/ <br> Leadership Development

The Department of Student Activities/ Leadership Development is responsible for many educational, recreational, social and cultural opportunities. One of the major functions of this office is to create opportunities for student leaders to develop, using workshops, seminars, instruction and a recognition program. The Volunteer Assistance Service program is coordinated by this office. All students are encouraged to volunteer, either on campus or in the greater community, as part of their university experience.

The office is also responsible for advising the Program Council and for the general coordination of student activities. The Department of Student Activities/ Leadership Development (832-1990) is located in Seth North Hall (during the renovation of the Student Center).

Detailed information on the Department of Student Activities/ Leadership Development is available at the Student Union World Wide Web site at http://scoes.ccsu.ctstateu.edu/sald/ sald.home.html.

## Student Center

The Student Center, as a student union, is the meeting place of the campus community, providing community service, student development opportunities and various services that support student life.

After over 35 years of service to our campus, the current Student Center facility will undergo a long-needed renovation and sizable addition. To accomplish the task, the facility will close for about 20 months, starting in November 1999. Most of the services provided by the Student Center will be moved to other locations on campus.

- Bookstore - will relocate to the Marcus White basement, just below the Computer Lab.
- Devil's Den Cafeteria - a new cash food service called the Trattoria Market will be open in Memorial Hall, first floor. The Grand CENTRAL Café, also in Memorial Hall, will expand its menu and hours to accommodate food service needs.
- Information Desk - will move to

Memorial Hall in the same location as the

Trattoria Market. Periodicals, newspapers, emergency car equipment and, of course, information can be found here.

- CENtix Box Office - at the Information Center in the Trattoria Market.
- Mailboxes - Memorial Hall in the Trattoria Market.
- Breakers Game Room - basement of Seth North Hall
- Lounges - new lounge space will be added to the Burritt Library, as well as small lounges in Seth North Hall. The Trattoria Market and the Grand CENTRAL Café will also be open extended hours to provide lounge and study space.
- CyberTypos - communication stations will be relocated to Memorial Hall in the Trattoria Market and also in Seth North Hall. Web and e-mail access will be available at 10 stations throughout the day and on weekends.
- Social Programs - usually produced in the Ballroom and Semesters in the old Student Center, these programs will find a new home in Memorial Hall, the Grand CENTRAL Café, and in the newly renovated University Theatre located in Davidson Hall.
- Student Center Offices -Seth

North Hall

- Student Activities/Leadership Development Offices - Seth North Hall
- Student Club and Organization Offices - Seth North Hall

As always, the Student Center will continue to support student participation in its operations and provide valuable life skills and professional training through employment opportunities. The Center's S.T.A.R. Development Program is designed to increase self-confidence and motivation, teach marketable skills and provide a forum for students to test career options and explore academic interests through employment.

Volunteer positions are also available on the Student Union Board of Governors and its committees. In these positions, students interact closely with other students, staff and administrative faculty who are involved in the Student Center's mission of service to the campus.

Updated information of services and service locations, as well as progress on the construction of our new Student Center, is
available at the Student Union World Wide Web site at http://scoes.ccsu.edu/.

## Women's Center

The Ruthe Boyea Women's Center, named for its founding director, is a multi-purpose program and service center for students, staff and faculty. The center offers a variety of services for and about women, including peer education, reentry counseling, support groups, crisis intervention, a luncheon series and programming and research on women's issues. The staff of the center also sponsors educational and cultural programs in response to the needs and interests of campus women. The Ruthe Boyea Women's Center is located in Marcus White Hall 103b/c (832-1655). Both men and women are welcome.

## Writing Center

The Writing Center (Willard Hall, Room 305) provides one-to-óne tutorials and small-group workshops to help members of the CCSU community improve their writing in areas such as drafting compositions, preparing research papers and taking essay exams. Appointments for tutorials are available Monday through Friday from 9 a.m. to 4 p.m. by calling 832-2765.

## Services

## Advising Center

The Advising Center assists students in developing and implementing academic and career plans. For new students, the Advising Center provides pre-registration advising on University requirements. The Advising Center, in collaboration with the Dean of Arts and Sciences, coordinates the advising of all students who have not chosen a major. The Center also advises PreSocial Work and Pre-Communication majors. For students who are uncertain about their major or their career plans, the Advising Center offers several selfassessment instruments to clarify values and to identify interests and career options. Advisers can help students select experiential learning opportunities such as internships, community service, student activities and cooperative education. If
career plans involve graduate study, the Advising Center has preliminary graduate school information and also refers students to faculty advisers who can assist them further. The Advising Center serves both faculty and students as a resource center for developmental advising.

## Career Services and Cooperative Education

The University Career Services Office provides a comprehensive program of career services to all students. Graduating students are provided assistance with making the transition to employment through workshops on resume writing, interviewing techniques, job search strategies and information on employment. Recruiters from major area corporations, government agencies and school systems visit the campus as a part of the year-long campus recruiting program. In addition the office maintains listings of full- and part-time jobs which can also be accessed through the Career Services/Co-op homepage (http://www.ccsu.edu/career/) and the Voice Job Line (832-1647).

Experiential education is a major focus for undergraduate students, and Career Services coordinates the University's sizeable Cooperative Education Program which is described in detail on page 87 of this catalog. Through this program, students work at six-month, paid positions which are related to their major field of study and provide them with real world experience.

## CCSU Center for Caribbean Studies

The CCSU Center for Caribbean Studies, located in Burritt Library, seeks to fulfill three of the University's primary goals. CCSU aims to be of service to the communities of Central Connecticut in particular and the state in general; the University seeks a meaningful international presence in a variety of geographical areas; and CCSU is committed to nourishing efforts that foster a respect for the state's many ethnic communities.

To help achieve these goals the Center has faculty and student liaison agreements with a variety of institutions of higher learning: The Pontifical Catholic University of Puerto Rico; the University
of the West Indies in Jamaica, Barbados and Trinidad; the eight branches of Interamerican University in Puerto Rico; the College of the Bahamas; and the Pontifical Catholic University, Madre y Maestra, in the Dominican Republic. The Center for Caribbean Studies sponsors a variety of community events and also supports an active research facility.

## Center for International

## Education

The Center for International Education (CIE) at Central Connecticut State University is the cornerstone of the University's unwavering commitment to international education. Established by the Board of Governors for Higher Education in 1987 as a statewide Center for Excellence in International Education, the CIE is the flagship of global initiatives and activities at Central Connecticut State University. In planning and implementing CCSU's international mandate to carry out its global goals and responsibilities, the CIE defines, develops and supports internationally focused interdisciplinary academic and development activities. Additionally, it provides a forum through which CCSU's students, faculty, staff and alumni pursue collaborative interests and projects with partner institutions around the world.

Through the CIE's partner institutions around the globe, CCSU's students are presented with exciting opportunities to discover the world through overseas studies. Living and learning in a new culture helps to prepare students for the increasingly integrated and interdependent world around them. In any given year, the CIE offers exciting semester and year-long exchange programs in locations as varied as England, Germany, Ghana and Korea. Short-term study tours bring students to the reaches of the earth, from the rainforests of Costa Rica to the Black Forest in Germany and from Tiananmen Square in China to Safari in Africa.

The CIE is devoted to serving its international students from the moment of their recruitment through their graduation and beyond. The CIE possesses the expertise necessary to easily process and transfer and to usher international students from potential to bona fide status.

All members of the Student Services division hold advanced degrees in Counseling. They embody the critical capabilities of both intercultural and interpersonal communication, facilitating the management of the unique problems inherent in the international student recruitment-admission-retention process. This ability, combined with a vast knowledge of immigration law and its rapidly changing policies, makes the CIE the sole entity with immigration documentation issuing authority.

## China Resource Center

Building on the 30 years of success of the University's Asian Studies programs, the China Resource Center advances academic and developmental initiatives for CCSU in China. The China Resource Center, housed in the Center for International Education, works closely with all academic units within the University to initiate and promote programs involving student education, faculty development, outreach to communities, partnerships with Chinese universities and linkage to Connecticut businesses and industries. The Center sponsors lectures and workshops to educate the Connecticut public about the culture, politics and history of China. Committed to linking business and education in a dedicated effort to prepare CCSU graduates for the global economy in which they will live and work, the Center provides student internships and other exposure to the international professional arena. In addition to informational seminars and workshops on the Chinese cultural and business environment, the China Resource Center works closely with other organizations, such as the Connecticut China Council, to promote Chinese market opportunity and professional experience to CCSU students.

## Pre-Collegiate and Access

## Services

The office of Pre-Collegiate and Access Services coordinates the Educational Opportunity Program, CCSU's Connecticut Collegiate Awareness and Preparation Program (ConnCAP) and the Upward Bound program at Central Connecticut State University.

The Educational Opportunity Program (EOP) is a five-week summer program designed for students who have the potential to do college-level work but do not meet CCSU's regular admissions standards. EOP students live on campus in CCSU residence halls during the summer with all expenses paid, including books, tuition, room and board.

Graduates of the summer program are admitted to CCSU as full-time students in the fall. EOP students participate in ongoing orientation and tutoring programs throughout their first year and receive support services all through their college experience. EOP alumni actively support CCSU and EOP through their contributions to student scholarship funds and mentoring activities with EOP undergraduates.

This program is limited to Connecticut residents who have graduated or will be graduating from an accredited Connecticut high school or have attained their General Equivalency Diploma. Students must demonstrate a financial need. EOP is not open to transfer students.

CCSU's Connecticut Collegiate Awareness and Preparation Program and the CCSU Upward Bound program are college preparation programs serving 140 low income, first generation collegebound high school students from New Britain and Bristol. The goal of the programs is to increase the number of students who complete high school and successfully enroll in post-secondary education. Working cooperatively with the middle and high schools in these cities, the programs provide a wide range of activities and services to strengthen academic skills, self esteem, motivation and a love of learning. Services and activities take place year round in the middle and high schools and on CCSU's campus in the summer.

For more information on these programs, contact Pre-Collegiate and Access Services, Copernicus Hall, Room 236 (832-1902).

## Prevention and Counseling Services

The mission of the University Prevention and Counseling Services is to promote the health and wellness of all members of the

CCSU community through a variety of prevention programs, and to provide individual, family and group counseling services to students who may be experiencing psychological or behavioral problems. All counseling services are confidential and no fee is charged. Every effort is made to help students feel welcome and able to comfortably discuss their concerns.

Some of the prevention programs sponsored by this department include the Natural Helpers Program, On Campus Talking About Alcohol, prevention education programs on a range of behavioral health issues and training for student leaders, staff and faculty.

Individualized development of student internships, practicums and assistantships is also available to qualified students. The department is located in Willard Hall, Room 100 (832-1945).

## Special Student Services

The Office of Special Student Services assists students with disabilities (including visual, hearing, physical, psychological and all forms of learning disabilities) in obtaining the services they need to access a quality education. A wide range of services are available, including personal counseling, academic advising, certified sign language interpreting, individualized testing and priority scheduling. In addition, assistance is provided in securing readers, textbooks on tape, accessible oncampus housing, elevator keys, reserved handicapped parking and classroom relocation, if inaccessibility exists.
Academically-prepared students with disabilities are encouraged to meet with Dr. George Tenney, director of the Office of Special Student Services, Willard Hall, Room 100 (832-1955), TDD (860) 8321958, for assistance in application and educational planning.

## Student Athlete Support Services

Student Athlete Support Services (SASS) serves as a comprehensive program that provides academic and emotional support for CCSU student athletes. SASS provides study halls, tutorial assistance, computer access and one-on-one help. The department also handles student athletespecific issues such as travel and eligibility in conjunction with the compliance
office. Student Athlete Support Services offers numerous programs each year in life skills and is affiliated with the NCAA Champs Life Skills Program. Student athlete assistance is available to all intercollegiate athletes.

## Student Judicial Programs

The Office for Student Judicial Programs administers the discipline system for all full- and part-time students. The goal of the Office for Student Judicial Programs is the resolution of discipline cases in a manner consistent with University policy and applicable state and federal laws. This office assists with the coordination of discipline referrals to counseling or alcohol and other drug education programs.

In addition, this office is responsible for the development and coordination of a variety of special activities designed to educate students, faculty, and staff concerning the student discipline system. It is also responsible for developing ways to effectively respond to incidents or issues which threaten to disrupt the learning environment. The Director for Student Judicial Programs is available to all students, faculty, and staff who may have questions or concerns regarding the University Judicial System. The department is located in Barrows Hall, Room 110 (832-1667).

## University Ombudsman

The University Ombudsman serves as a prompt, impartial and confidential resource designated by the University to assist members of the campus community to resolve issues of concern or dissatisfaction arising from the actions or inactions of other members of the University community. The Ombudsman also helps the University to develop, implement and maintain policies and procedures which equitably address the rights and responsibilities of everyone on campus. The University Ombudsman can be a last resort, offering help when regular channels have failed, as well as an information resource, offering guidance for those who don't know where to begin. The office of the University Ombudsman is located in Barnard 104 (832-3020).

## Veterans Services

The Office of Veterans Services (Davidson 117) assists eligible students to obtain tuition waivers and educational assistance benefits from the Veterans Administration. Questions concerning benefits and eligibility should be directed to the veterans services coordinator (832-1786).

Myrna E. Garcia-Bowen, Director<br>Barbara R. Lukas, Associate Director<br>Patricia Gardner, Assistant Director Molly Borst, Assistant Director Beth Amter, Admissions Representative<br>Douglas Benoit, Admissions Representative Chris Gutierrez, Admissions Representative Shirelle Jackson, Admissions Representative Phone: (860) 832-CCSU<br>E-mail: admissions@ccsu.ctstateu.edu Home Page URL: http://www.ccsu.edu

Central Connecticut State University welcomes applicants from a broad range of abilities, interests and backgrounds. Our admissions process is designed to evaluate the academic readiness of applicants for undergraduate study. Students are admitted to either full-time ( 12 hours or more) or part-time ( 11 hours or less) study, and applications are accepted for both the fall and spring semesters. All applicants must be graduates of accredited high schools/ preparatory schools or holders of an equivalency diploma.

To be considered for full-time or parttime admission, applicants should submit the completed Application for Undergraduate Admission, a non-refundable $\$ 40.00$ application fee and all required supporting credentials by the specified deadlines. Fall semester candidates should submit applications by May 1 ; spring semester candidates by November 1 . There is a separate application and application process required of international students. See catalog section on International Student Admissions.

Applicants will be notified by mail of acceptance to the University. Central Connecticut State University has a rolling admission process.

An Application for Undergraduate Admission may be obtained from the Office of Admissions or the Enrollment Center, or from Connecticut high schools.

The application fee may be waived if a waiver form is submitted by one of the following: 1) a recognized Talent Search or Upward Bound agency, such as Career Beginnings, 2) the College Board or 3) CONNTAC. All decisions regarding fee waivers must be approved by the Director of Admissions. All credentials submitted by the applicant become part of the stu-
dent's permanent University record and are not returned.

## Admissions Advising

The Office of Admissions is open daily Monday through Friday. It is located in the southwest corner of Davidson Hall, Room 115. Students and parents are encouraged to visit the campus for individual counseling and advisement. Admissions counselors are available for consultation concerning educational plans at Central Connecticut State University. Appointments may be scheduled by calling or writing to the Office of Admissions. Campus tours are also available. All correspondence and inquiries concerning undergraduate admission to the University, full- and part-time, first-year, transfer, re-entry and international, should be addressed to the Office of Admissions, Central Connecticut State University, P.O. Box 4010, 1615 Stanley Street, New Britain, CT 06050-4010.

## First-Year Student Admissions

First-year applicants should submit the completed Application for Undergraduate Admission to their secondary school guidance counselor or principal. The guidance counselor or principal should then attach the applicant's high school record-to-date, along with an estimate of the applicant's rank in the graduating class, Scholastic Assessment Test I (SAT I) scores and letters of recommendation, and submit the application packet to the Office of Admissions. Hand-carried or student copies of credentials are not accepted as official. Alien residents should submit a copy of their green card.

Admission criteria include graduation from an accredited secondary school with college preparatory work in the following areas:

- English (four units) - courses should emphasize writing skills, literature and reading comprehension.
- Mathematics (three units) courses should include Algebra I, Geometry and Algebra II. A fourth unit in trigonometry, analytical geometry or pre-calculus is recommended for students planning to take calculus at CCSU.
- Science (two units) - courses should include one unit of a laboratory science.
- Social Sciences (two units) - courses should include one unit of United States history.
- Foreign Language - three years in the same language is recommended.

Students whose preparation does not follow this pattern may still qualify for admission if in the judgement of the Director of Recruitment and Admissions there is strong evidence that they have the potential to complete a degree program or if they meet other established criteria as authorized by the University President under authority delegated by the Board of Trustees of the Connecticut State University System. Applicants who are not graduates of a secondary school should submit their secondary school transcript up to the time of withdrawal and a copy of their high school equivalency diploma and scores.

Decisions are based on the applicant's secondary school record, rank in class and scores on the SAT I. For some applicants, an interview with a representative of the Office of Admissions may be necessary. It is desirable that applicants rank in the top half of their high school graduating class, present at least a $C$ average in each of the five college preparatory areas and obtain at least 480 on the verbal portion and 450 on the math portion of the SAT I.

The Scholastic Assessment Test I (SAT I) of the College Entrance Examination Board (CEEB) is required of all first-year student applicants. Applicants should arrange to take the test through their high school guidance counselor. Information on the test can be obtained from their high school or by contacting College Board Admissions Testing, P.O. Box 6200, Princeton, NJ 08541-6200, telephone (609) 771-7760. Applicants should have the test results sent from CEEB to the Office of Admissions. CCSU's CEEB code is $\mathbf{3 8 9 8}$. In special cases, the submission of SAT I scores may be waived at the discretion of the Director of Admissions (i.e., for applicants who graduated from high school several years before applying, veterans and other adult learners).

Advanced Placement (AP): CCSU accepts for college credit, Advanced Placement (AP) courses taken in high school under the auspices of the College Entrance Examinations Board's Advanced Placement Program, provided the student scores a minimum of 4 on the test. Official scores should be submitted for consideration. When credit is awarded, it is entered on the student's college transcript, but the grade is not included in the college grade point average.

## Special Students

Academically qualified students with special needs are encouraged to apply to the University early. Applicants seeking admission to the fall term should submit applications and supporting credentials by April 1. Applicants for the spring term should submit applications and supporting credentials by November 1.
Students with special needs are advised to register for the SAT under the program entitled "SAT Services for Students with Disabilities." Information pertaining to this program may be obtained by contacting: SAT Services for Students with Disabilities, The College Board, P.O. Box 6226, Princeton, New Jersey 08541-6226. Phone: 609-771-7137; TTY: 609-8824118; fax: 609-771-7944; e-mail: sat.ssd@ets.org.
Upon acceptance, students with special needs requesting accommodation under ADA/504 must submit relevant documentation to substantiate their disability. Students with specific learning disabilities and attention deficit disorders need to submit psycho-educational evaluations that are not more than two years old prior to the time of application.
For additional information, contact Dr . George Tenney, director of Special Student Services (Willard Hall, Room 100) at 832-1955 or 832-1957.

## Courses for Qualified High School Students

When space is available, Central Connecticut State University will allow qualified high school students to enroll in college courses prior to graduation from high school. Students should be recommended by their high school principal and approved by a CCSU department chair
for appropriate college course work. For information on enrollment, contact the Office of Continuing Education/ Enrollment Center (832-2255).

## Transfer Student Admissions

Transfer students may send applications directly to the Office of Admissions. A student wishing to transfer to Central Connecticut State from another institution of higher learning must complete an application for admission and have official transcripts sent directly from each high school and post-secondary school attended. Hand-carried transcripts and transcripts sent by students are considered unofficial, even when they carry the college seal or signatures that are placed on official records. Failure to list all institutions or to provide official transcripts may be considered sufficient reason for refusal of admission or dismissal from the Universiry.

Transfer students who have earned a minimum of 12 credits (not including remedial course work) at other higher learning institutions need not present scores on the SAT I. To be considered for transfer admissions, an applicant must have earned a minimum of 12 credits, not including remedial work, and have a cumulative college grade point average of 2.00 or higher for all course work attempted.

## Connecticut Community Technical College Transfers

All graduates from transfer programs of the Community Technical Colleges of Connecticut who have earned an associate's degree with a minimum 2.00 GPA (cumulative grade point average) are admissible to Central Connecticut State University. Transfer credits will count toward degree requirements as determined by equivalency to CCSU courses. A minimum of two additional years of full-time study is required to complete a baccalaureate degree. Qualified students may also be admitted prior to conferral of the associate's degree.

Transfer applicants holding the associate's degree from the Board of State Academic Awards (Charter Oak State College) are also admissible to CCSU.

Students considering transferring to CCSU in the second semester are advised
to apply well in advance of the date on which classes begin.

## International Student Admissions

International students should complete the Application for International Undergraduate Admission, which may be obtained from the Office of Admissions. A prospective student should submit the completed application, the nonrefundable application fee and all required supporting credentials by the following deadlines. Fall (August - December) semester candidates should submit applications by April 1; students applying for the spring (January - May) semester should apply by November 1 . All credentials submitted by the applicant become part of the student's permanent CCSU file and are not returned.
Applicants must submit official copies of their secondary and post-secondary educational records. If records are in a language other than English, official translations must be submitted as well. Applicants whose native language is not English are required to demonstrate their proficiency in English by submitting a Test of English as a Foreign Language (TOEFL) test score of at least 500 . Information on the TOEFL may be obtained from Educational Testing Services, P.O. Box 6151, Princeton, NJ 08541-6151, USA, telephone (609) 771-7243 or 771-7100. Finally, applicants must submit evidence of financial resources adequate for all expenses during the period of undergraduate study. When all the necessary information has been received, the applicant will be notified by mail of the decision. (Please see catalog section "Transfer Credit Evaluation" for additional information.)
If accepted, international students must also submit a medical history form and parental consent for medical treatment. CCSU's Center for International Education is available to help international students while at CCSU. Contact the Center for International Education, Barnard Hall, Room 138 (832-2050), fax (860) 832-2047.

CCSU is authorized under federal law to enroll non-immigrant alien students.

## Transfer Credit Evaluation

The evaluation of official transcripts is done after a student has been accepted.

This Transfer Credit Evaluation will convert other systems to semester hours and indicate the number of previously earned credits which are acceptable for transfer to Central Connecticut State University. In general, credits from other regionally accredited colleges and universities will transfer, provided that the courses are similar in scope and content to those offered for credit at CCSU and a grade of "C-" or better was earned in the course. Specific questions concerning transfer evaluations should be addressed to the Office of Admissions. Please note, regardless of the number of credits transferred, a student must complete a minimum of 45 credits at CCSU in order to earn the University's bachelor's degree (see Academic Standards and Regulations: Residence Requirements for Degree). Students currently enrolled in another college should have their official final transcripts submitted to the Office of Admissions after their grades have been posted so that their evaluation can be updated. Transferring students are responsible for submitting course descriptions, if requested.

- Credit by Examination: A student may earn up to 30 credits at CCSU by examination. Departmentally approved Subject Examinations from the College Level Examination Program (CLEP) of the College Board, or from any other nationally recognized standardized examination program, will be recognized by CCSU. Official results of such examinations should be submitted for consideration.
- Credit for Armed Forces: Credit may also be awarded for military service schools and/or United States Armed Forces Institute (USAFI) credit courses (taken after 1945) if validated by a certified USAFI Center. Official documents should be submitted for consideration.
- Evaluation of Work Done Outside the United States: Credit may be awarded for work completed at institutions outside the United States. Students are responsible for submitting international transcripts to an evaluating agency recognized by the National Association of Foreign Student Affairs (NAFSA). After the Office of Admis-
sions has received the agency's evaluation, it will assess the agency's recommendations to determine accreditation and transferability of credit. A minimum grade of " $C$ " must be earned for a course to transfer. For more information on NAFSA recommended agencies, contact the Office of Admissions.


## Re-Entry Admissions

A student who was formerly matriculated at Central Connecticut State University and subsequently withdrew voluntarily, or at the request of the University, must request reactivation of his or her former file when seeking readmission to the University. A Reactivation Request Form may be obtained from the Office of Admissions or the Enrollment Center. The student must be in good academic standing at CCSU, as outlined in this catalog, or the student must have been granted reinstatement on probation by the dean of the school the student is attempting to reenter. Students on academic dismissal who are seeking reinstatement as a matriculated student should begin the process by meeting with a counselor from the Office of Admissions. Normally, a student must wait at least one semester before being considered for reinstatement. Students who have not matriculated at Central for more than seven years and who re-enter to complete a degree may choose to follow the undergraduate catalog of the date of re-entry, or to follow the catalog of the date of original matriculation except for requirements and curriculum changes mandated by outside accrediting and certifying agencies and additional course work required by the department or area offering the major, minor or concentration as evidence of current knowledge of the discipline.

## Fresh Start Policy

At the discretion of the Vice President for Academic Affairs or designee, a student whose college career has been interrupted three years or more may be considered for a "Fresh Start." Under this option, the Office of Registrar initiates a new GPA for the student, beginning with his or her second matriculation, and uses this new figure for graduation purposes. Each case is decided on its own merits, and each deci-
sion has advantages and disadvantages. Students returning to the University for full- or part-time study after a long interval should consult the Office of Admissions.

Guidelines for the Fresh Start Program are:

- At least three academic years shall have intervened between the exit from and re-entry to CCSU.
- The student shall not have attempted more than 60 credits at CCSU.
- The student's record will be treated like those of a transfer student.
- During the first semester back at CCSU, the student shall be restricted to 16 credits or less.
- Graduation requirements shall be those listed in the catalog at the time of re-entry.
- The option can be used only once.


## Veterans/Reservists/National Guard

Upon acceptance to Central Connecticut State University, veterans should register with the Office of Veterans Services to apply for V.A. educational benefits. The Coordinator is located in Davidson Hall, Room 117 (832-1786). Eligibility for educational benefits lasts 10 years from the date of separation and, in some instances, depends on whether contributions were made to an educational plan while on active duty.
An original certified copy of the DD Form 214 (separation papers - copy number 4) should be submitted to the Office of Veterans Services if applying for the tuition waiver. National Guard members apply for the tuition waiver through their Guard unit.

## Medical Exam

All full-time students are required to submit a medical history, current immunization record and physical examination form signed by a physician. Additionally, if the student is under 18 , the parent or guardian must sign for permission for medical treatment. All part-time students are required to submit the necessary immunization requirements in keeping with the policy of the State of Connecticut Department of Health Services.
The completed health form must be returned to University Health Service
prior to the beginning of classes. Failure
to submit the required medical information may result in the withholding of registration schedules, grades or housing assignments until the obligations have been met. The health form is available in the University Health Service, Marcus White Annex (832-1925).

# ENROLLMENT CENTER - CONTINUING EDUCATION AND SUMMER AND WINTER SESSION 

Peggy Schuberth, Director of Continuing Education and the Enrollment Center Thomas Eisenlohr, Associate Director Drina Lynch, Associate Director Rita Brann, Assistant to the Director Phone: (860) 832-2255

The Enrollment Center, Willard Hall Lobby, is a centralized service center for all students (full- or part-time). Students may obtain all forms needed to initiate administrative and academic actions at the Center. The Center's hours of operation are Monday through Thursday, 8:30 a.m. to 8:00 p.m.; Friday, 8:30 a.m. to 4:00 p.m. and Saturday morning, during the academic year, 7:45 a.m. to 12 noon.

## Part-time Matriculant Program

Application for undergraduate part-time degree study is made in the Office of Admissions, Davidson Hall (832-2293). Students who choose to undertake or to complete an undergraduate or graduate degree on a part-time basis register for courses through the Enrollment Center/Office of Continuing Education, Willard Hall Lobby.
Part-time students may enroll in day or evening classes. Saturday morning classes are also available. The Continuing Education bulletin and/or registration booklet provide all the details and fees.
Persons having a high school diploma or an equivalency diploma may earn college credit by registering in university courses through the Enrollment Center/Office of Continuing Education. Others may enroll, for no credit, as auditors.

Course Load and Credits. Part-time undergraduate students may register for up to a maximum of 11 credits.
To maintain their status, PTMs must register for classes in at least one of the regular academic semesters each year.
Non-matriculated undergraduate students must apply for matriculation (acceptance into a planned program of study) before 30 credits are completed.

Students will not be allowed to matriculate after completion of 30 credits without specific recommendation of an academic dean of the University.

Advisement. Undergraduates who plan to work toward a degree and need advice on course selection should consult an adviser in the Advising Center (8321615) before registration. Undergraduate part-time matriculants are assigned an adviser in their major department.

The School of Graduate Studies. Information about graduate courses or master's programs may be obtained from the Graduate Catalog or from the Dean of the School of Graduate Studies (832-2350).

## Summer and Winter Session

All CCSU students receive a special Registration Bulletin listing Summer and Winter Session courses. Registration takes place at the Enrollment Center/Office of Continuing Education. Summer and Winter Session courses allow students to accelerate their programs, make up work or take advantage of special offerings.

Summer Session. During the summer, Central Connecticut State operates two five-week sessions, one eight-week session and a three-week post-session. Courses, both undergraduate and graduate, are offered in the day and evening.

Summer sessions are designed to provide opportunities for 1 ) incoming firstyear students who wish to accelerate their college work by entering the University before the beginning of the academic year, 2) students from other colleges, 3) Central Connecticut State students who wish to accelerate their studies toward a degree, 4) teachers and other graduate students who wish to pursue a master's or other advanced degrees, 5) graduates of other colleges interested in meeting certification requirements for teaching and 6) qualified high school students seeking college-level courses.

Residence accommodations and meals are available. Commuting students may arrange for lunch and/or dinner at the University. The University Library, the Student Center and other facilities are available.

The maximum course load is seven credits during each five-week summer session and four credits during the post-session. The eight-week session is counted as part of the first five-week session.

Winter Session. During the winter break, Central Connecticut State University operates an intensive three-week Winter Session. Over 100 credit courses are offered, allowing students to accelerate their college work. The maximum course load is four credits.

Charles G. Wallach, Bursar
Phone: (860) 832-2010
(1998-99 costs not available at time of printing. Fees and due dates are subject to change without notice.)

Tuition and required fees per semester for full-time undergraduate students attending CCSU are:

|  | CT | Non- <br> Resident <br> Resident |
| :--- | :--- | ---: |
| Fees | $\$ 1,031$ | $\$ 3,337$ |
| Tuition | 425 | 425 |
| General | 482.50 |  |
| State University | 318.50 | 49 |
| Student Activity | 49 |  |
| Information |  | 62.50 |
| $\quad$ Technology | $\mathbf{6 2 . 5 0}$ | $\mathbf{4 4 , 6 5 6}$ |
| Total | $\mathbf{\$ 1 , 8 8 6}$ | $\mathbf{\$ 4}$ |

An annual Sickness Insurance Fee of \$240 is billed to all students in the fall semester, and $\$ 140$ in the spring semester to newly accepted students. Those who already have adequate insurance may complete and return the waiver form section of their CCSU billing statement.

Special fees are charged while participating in the Cooperative Education Program (\$200/semester), Applied Music ( $\$ 200 / 2$ hour, $\$ 400 / 1$ hour), Recreation course number 124 ( $\$ 95$ ski lift ticket), Orientation Program and specific Design courses (\$65 Design Lab Fee).

## Payment of Tuition and Fees

All students when first accepted for admission or re-admitted to Central Connecticut State University are assessed a non-refundable $\$ 90$ admission deposit (applied to tuition). The balance of tuition and fees is due July 15 for the fall and December 15 for the spring.

## Room and Meals

A non-refundable $\$ 100$ room deposit from those who are currently residing in the residence halls is due April 1 for the fall semester and November 1 for the spring semester. The balance of $\$ 1,522$ is due July 15 and December 15. Vance Hall (singles) and James Hall (newest accommodations) require additional room surcharges of \$693 and \$321 respectively.

Students assigned to residence halls following those due dates will be contacted. Failure to pay room charges by the due date indicated on the bill will cause cancellation of the student's housing.

All students residing in residence halls are required to participate in one of several Meal Plans. The Meal Plan Fee is due when room balances are paid. Currently there are four meal plans ranging in price from $\$ 1,152-\$ 1,270$ per semester. Students cancelling their room reservation within the four weeks prior to the start of classes will be subject to a cancellation charge.

## Fee Schedule and Refund Policy

Full-time students contemplating withdrawal from the University must complete a formal application with the Registrar (Davidson Hall 117). All applicable refunds are automatic upon formal withdrawal from the University.

Part-time students dropping a course must inform the Continuing Education Office in writing at the time of withdrawal. Withdrawal forms are available in the Enrollment Center. Failure to officially withdraw will result in an automatic " $F$ " for the course.

Students (part-time and full-time) withdrawing from the University who are recipients of Title IV Student Financial Assistance (Federal Stafford Loans, Federal PLUS Loan, Federal Perkins Loan, Federal Pell Grant, Federal SEOG) are affected by a different refund schedule than outlined below. A complete text of the Title IV refund policy is available in the Financial Aid Office.

## NEW STUDENTS (first-time and fulltime) AND RETURNING STUDENTS (full-time) - REFUND POLICY FOR STUDENTS NOT RECEIVING TITLE IV STUDENT FINANCLAL ASSISTANCE

## Tuition and Fees

- Upon withdrawal from the University up to and including the first day of classes $100 \%$ of the amount paid will be refunded.
- $60 \%$ of the balance will be refunded during the first two weeks of classes;
- $40 \%$ of the balance during the third and fourth weeks of classes;
- No refund after the fourth week.

Housing Deposit, \$100

- Non-refundable

Housing Fee — Less Deposit (applies to students who withdraw from University)

- Upon withdrawal from the University up to and including the first day of classes, $100 \%$ of the balance paid less the housing deposit will be refunded;
- $60 \%$ of the balance will be refunded during the first two weeks of classes;
- $40 \%$ of the balance during the third and fourth weeks of classes;
- No refund after the fourth week.
(applies to students who remain enrolled
but withdraw from university housing)
- No refunds will be made after the beginning of classes.
- Not withstanding this policy, a student may receive a $100 \%$ refund up to and including the first day of classes if room occupancy is at $100 \%$.
- $60 \%$ of the balance will be refunded during the first two weeks of classes if room occupancy is at $100 \%$.
- $40 \%$ of the balance during the third and fourth weeks of classes if room occupancy is at $100 \%$.
- No refund will be made after the fourth week.

Housing Cancellation Fee - Less Housing Deposit

- Upon withdrawal from a residence hall three to four weeks before classes begin, a $10 \%$ housing cancellation fee based upon the housing fee after deducting the housing deposit will be assessed.
- During the first and second weeks prior to the commencement of classes, a $20 \%$ housing cancellation fee based upon the housing fee after deducting the housing deposit will be assessed.
- No refund will be made after the beginning of classes.


## Meal Plan Fee

- Refundable, on a daily prorated basis, upon withdrawal from university housing or the University.


## ALL PART-TIME STUDENTS AND SPECIAL SESSION STUDENTS

(Summer and Winter) - REFUND POLICY FOR STUDENTS NOT RECEIVING TITLE IV STUDENT FINANCIAL ASSISTANCE

Registration Fee

- Non-refundable


## Course Fees

Fall and Spring Semesters:

- $100 \%$ of course fee through the first week of classes for a full semester course;
- $50 \%$ of course fee through the second and third week of classes for a full semester course;
- No refund after the third week of classes.

Courses meeting for eight weeks:

- $100 \%$ of course fee through the first week of classes;
- $50 \%$ of course fee through the second week of classes;
- No refund after the second week of classes.

For courses that meet other than fall, spring and summer semesters refund policies in Continuing Education will be adjusted to the length of the individual academic program. These refund policies will be published in the registration bulletin.

Summer Session:
Courses scheduled for five weeks or longer:

- $100 \%$ of course fee prior to the second class meeting;
- $50 \%$ of course fee prior to the third class meeting;
- No refund after the third class meeting.


## Non-Credit Courses:

- Contact the Human Resource Development Center (860) 827-4409.

Refund checks are sent directly to students. Please allow up to four weeks. Credit card adjustments are credited to the cardholder's account.

Note: All refunds will be made automatically upon formal withdrawal from the University.

## Refunds of Tuition and Fees

 Under Unusual CircumstancesUnder circumstances beyond the control of the student or in cases where attendance has been denied by the University, the University President may authorize the refunding of fees otherwise designated as non-refundable.

## Non-Refundable Fees

For all students, the application fee, admission deposit, residence hall deposit, late fee and returned check service charges are non-refundable.

## Off-Campus Students Rent

Students living off-campus will pay their room rent directly to the landlord. Such students may arrange with the Office of the Cashier for participation in a University Meal Plan at the same rate as for on-campus students.

## Late Fee

A late fee of $\$ 50$ is assessed a student paying tuition/fees after the due date.

## Returned Checks

A service charge of $\$ 25$ is assessed for a check returned for any reason. The University will not accept personal checks presented in the future by persons who have previously submitted non-negotiable checks.

## Certificate of Residence

Tuition and fees are determined on the basis of Connecticut or out-of-state residency.

Failure to disclose fully and accurately all facts related to residence shall be grounds for disciplinary action.

To be considered for in-state tuition, students who have been classified as "out-of-state" when first admitted should obtain a Residency Reclassification Affidavit from the Registrar in Davidson Hall, Room 117, and return it to that office with all appropriate supporting documentation.

## Unpaid Obligations

The Bursar will cause appropriate administrative action which may include the following measures being imposed on individuals who have unpaid financial obligations to the University:
a. withholding of University services, course registration materials, transcripts of grades or other official papers
b. bar against re-admission
c. deny Continuing Education course registration
d. referral of the unpaid financial obligation to the University's collection service

## CENTRAL Payment <br> Plan (CPP)

The CENTRAL Payment Plan is an alternative to the standard semester payment of tuition, fees, room and meals. This plan is available to full-time students only. For the parent or student who finds it more convenient to make regular monthly payments, the CPP is the solution. The CPP is an installment payment plan that allows all CCSU charges to be paid in four installments per semester. Fall semester installment payments are made monthly, beginning July 1 and ending on October 1. Spring semester installment payments begin December 1 and end on March 1.

There is an enrollment fee for this service but no interest charge. The fee is $\$ 55$ for the academic year, or $\$ 35$ for a single semester. Students desiring to be enrolled in the CPP may obtain the Enrollment Form from the Bursar's Office, Room 101, Davidson Hall. All incoming full-time students are mailed the enrollment form at about the same time as semester billing statements are sent.

All questions concerning the CENTRAL Payment Plan (CPP) should be directed to the Bursar's Office-CPP Customer Service at 832-2220. Office hours are weekdays 7:30 a.m. to 5:00 p.m.; after hours or weekends, please leave a phone message.

## Campus Debit Card (Blue Chip) Accounts

Each student at the University has the opportunity to establish a campus debit
card account, called a "Blue Chip" account. This account is associated with the student's campus identification card. Photo identification cards are mandatory for all students. The CCSU Card Office manages the photo ID system and Blue Chip accounts. The identification card (Blue Chip Card) is a campus debit card. A student may use funds on deposit to make purchases on campus in various dining areas and the campus Barnes and Noble Bookstore. Purchases may be made using the Blue Chip Card in all campus vending machines, including campus copiers, laser printing at the Microcomputer Lab, residence hall laundry machines and at several off-campus food locations.

The University has an agreement with EDCONN Federal Credit Union to provide bank accounts associated with the Blue Chip Card. This allows students to have a regular bank account as well as the campus debit card account. Students will also have regular banking privileges associated with the Blue Chip Card. Students receiving financial aid may choose to have excess financial aid electronically deposited to an EDCONN bank account or to their campus debit card account. In addition, students working on campus may have their paychecks electronically deposited to the bank account. Students may use the Blue Chip Card as an ATM card with on- or off-campus ATM machines. A campus office is located in Barnard Hall, Room 101. Call 832-0139 for more information.

The Blue Chip Card can also be used as a long distance calling card. CCSU has an agreement with MCI to provide long distance accounts to CCSU students at a reduced rate.

Questions concerning Blue Chip Cards and accounts may be directed to the Card Office, located in the Power House on the northeast corner of the Barnard parking lot. The phone number is 832-2140. Hours are Monday-Friday from 8 a.m. to 5 p.m., with extended hours at the beginning of each semester.

## Financial Aid Book Advances

Some students receiving financial aid may have difficulty purchasing books at the start of the semester since financial aid funds are normally distributed after the first three weeks of classes. Full-time stu-
dents receiving financial aid, where the amount of the financial aid exceeds all CCSU charges, are eligible to receive a book advance against this excess aid amount beginning 10 days prior to the first day of classes. Book Advance Request forms are available at the Bursar's Office. Such advances are deposited into the student's Blue Chip debit account, and the student's Blue Chip Card may be used to make book (CCSU Barnes \& Noble Bookstore) or other incidental purchases on campus. The only distribution method for book advances is an electronic deposit to the Blue Chip account. No cash or checks are distributed as advances. Questions concerning book advances should be directed to the Bursar's Office, Room 101, Davidson Hall, phone 832-2010.

## Persons 62 or Older

The payment of Tuition and State University Fee is waived for any person 62 years of age or older who has been accepped for full-time admission and is enrolled in a degree-granting program. The Course Fee is waived for any person 62 years of age or older who registers part-time through the Enrollment Center/Office of Continuing Education. Special registration dates apply. Consult the Continuing Education Semester Bulletin.

## New England Regional Student Program

Central Connecticut State University is a participant in the New England Higher Education Compact. This arrangement offers residents of other New England states the opportunity to enroll at CCSU for academic programs not available at public institutions in their home state at the Connecticut resident tuition and state university fee rate plus 50 percent. Other fees are also required. Similarly, Connecticut residents can avail themselves of programs offered by public schools in the other New England states that are not available here in Connecticut public institutions.
For more information about the New England Regional Student Program, contact the Office of the Regional Student Programs, The New England Board of Higher Education, 45 Temple Place, Boston, MA 02111; phone: (617) 357-

9620; Web site: www.nebhe.org - or contact the Office of Recruitment and Admissions, Davidson Hall, Room 115.

## Veterans/Reservists/National Guard

Educational assistance is available for veterans and members of the National Guard and Selected Reserve. The reserve components include those of the Army Reserve, Navy Reserve, Air Force Reserve, Marine Corps and Coast Guard Reserve, and the Army and the Air Force National Guard.
V.A. educational benefits are paid at the end of each month during the semester for which the veteran is enrolled. Any change in credit load and/or degree program should be reported to the Office of Veterans Services since it may affect future benefits.
The Connecticut tuition waiver is available for veterans who served on active duty (active duty for training not included) in the U.S. Armed Forces during time of war. They must have been released from active duty having served at least 90 days under honorable conditions. A copy of the DD Form 214 is required. Periods of conflict eligible for waivers include the Vietnam Era ( $12 / 22 / 61-7 / 1 / 75$ ), Korean Hostilities ( $6 / 27 / 50-1 / 31 / 55$ ), World War II ( $12 / 7 / 41$ - 12/31/46) or Operation Desert Shield and Operation Desert Storm (8/2/90-6/30/94).
Also eligible are veterans who engaged in combat or in a combat-support role in the Grenada Invasion (10/25/8312/15/83), Lebanon Peace-Keeping Mission (9/29/82-3/30/84) or Invasion of Panama ( $12 / 20 / 89-1 / 31 / 90$ ).

The $100 \%$ tuition waiver for full-time students and the $50 \%$ of course fees waiver for part-time matriculant students are available for veterans if they are residents of the state of Connecticut when accepted for admission to CCSU. National Guard and tuition waiver students should contact the Office of Veterans Services, Davidson Hall, Room 117 (832-1786).

Elena Garcia, Director
Paula Bunce, Assistant Director
Jean Main, Assistant Director
Phone: (860) 832-2200

## Sources of Financial Aid Assistance

Financial Aid is assistance to students who are unable to meet educational expenses entirely with their own resources. Financial Aid comes in three basic forms.

## Grants and Scholarships

Connecticut State University Grants (CSUG) and Connecticut Aid for Public College Student Grant Program (CAPS) Eligibility is based on financial need. Amount is determined by the Financial Aid Office.

Federal PELL Grant (FPELL) Eligibility is based on financial need. Award amount is dependent upon qualification for federal funds. Only those students who have not earned a bachelor's degree are eligible.

Federal Supplemental Educational Opportunity Grant (FSEOG) - Eligibility is based on exceptional demonstration of need. Pell Grant recipients have priority. Award amount is dependent upon allocation of federal funds. Only those students who have not earned a bachelor's degree are eligible.

## Employment

Federal Work Study Program (FWSP) Eligibility is based on financial need with priority given to early applicants. Payment is based upon the number of hours worked and rate of pay.

## Loans

Federal Perkins Loan - Available to undergraduate and graduate students who meet the financial need requirements. Interest rate of $5 \%$ is applied nine months after the student terminates college study. Priority is given to early applicants. Award amount is dependent upon allocation of funds available from federal sources.

Federal Direct Stafford Loan - Subsidized (need-based) or Unsubsidized (no need) Loan with a variable interest rate loan maximum of $8.25 \%$ (adjusted each July 1)
for Subsidized Loans. Interest is applied six months after the student terminates college studies. For Unsubsidized Loans, interest is applied the day the check is disbursed. Students are responsible for the interest during their enrollment in school.

Federal Direct PLUS Loan (parent loan) - Parents of dependent students apply for loan. Eligibility is not needbased and a good credit history is necessary. Repayment begins 60 days after disbursement of funds. Variable interest rate not to exceed $9 \%$, adjusted each July 1. Parents may borrow cost of education minus other aid.

Additional Unsubsidized Federal Direct Stafford Loan - Available to independent undergraduate students and dependent students whose parents have been denied a PLUS loan. Not need-based. Interest and repayment terms similar to Federal Direct Subsidized Stafford Loan.

## Additional Resources

- Vocational Rehabilitation
- Veteran Tuition Waiver
- Community Scholarships
- Employer Tuition Reimbursement


## Basic Eligibility Criteria

A student must:

- be a U.S. citizen or eligible noncitizen
- be registered with Selective Service (if required)
- be matriculated (formally accepted by the Office of Admissions)
- be making satisfactory academic progress
- not owe a refund on a Federal Grant or be in default on a Federal educational loan


## Satisfactory Academic Progress Policy

Students receiving financial assistance under the federally-supported Title IV programs must comply with the following set of standards to be eligible for such assistance.
A. Quality of academic performance: Students must be matriculated and must maintain that quality of academic performance required to remain a
matriculated undergraduate or graduate student in the University.
B. Speed of completion of the bachelor's degree objective, i.e., satisfactory progress:

1. For full-time undergraduate students, satisfactory progress is defined as the successful completion of a minimum of 24 credits of academic work per academic year for students who enroll in the fall and 12 credits of academic work for those initially enrolling in the spring or enrolling only for the fall or summer term. An academic year runs from the beginning of the fall term to the end of the spring term. Non-credit developmental courses recommended by the student's academic adviser shall count on a semester-hour equivalent basis (determined by the University) as a part of the 24 or 12 credits specified above. Failed courses or audited courses will not be counted. Students will not be eligible for financial assistance for more than 10 semesters of full-time attendance or until the student is certified for graduation by the University, whichever comes first.
2. For part-time undergraduate students, satisfactory progress is defined as the successful completion of a minimum of 12 credits of academic work per academic year for students who enroll in the fall and 6 credits for those initially enrolling in the spring or enrolling only for the fall or summer term. An academic year runs from the beginning of the fall term to the end of the spring term. Non-credit developmental courses recommended by the student's academic adviser shall count on a semesterhour equivalent basis (determined by the University) as part of the 12 or 6 credits specified above. Failed courses or audited courses will not be counted. Students will not be eligible for assistance for more than 20 semesters of part-time attendance or until the student is certified
for graduation by the University, whichever comes first.

The Satisfactory Academic Progress Policy will be implemented as follows.
A. For the purposes of this policy, Satisfactory Academic Progress will be measured against credits earned during the prior academic year (September through May).
B. The number of credits required are as follows:
Full-time, 12 credits per semester
Part-time, 6 credits per semester
C. Students who do not attain the appropriate levels of satisfactory progress may complete the needed credits during the summer session. Those who do not complete the needed credits during the summer session will not be eligible for any Title IV financial assistance for the following academic year.
D. Upon presentation of evidence of medical emergencies or other legitimate personal or family exigencies, students who have been denied financial assistance under this policy may appeal to the campus officer designated by the President.
E. Title IV programs are:

1. Federal Pell Grant (FPELL)
2. Federal Supplemental Educational Opportunity Grant (FSEOG)
3. Federal Work-Study Program (FWSP)
4. Federal Perkins Loan (FPERK)
5. Federal Family Education Loan Programs (FFELP)
a. Federal Direct Stafford Subsidized
b. Federal Direct Stafford Unsubsidized
c. Federal Direct PLUS
6. Connecticut Aid for Public College Student Grant Program (CAPS)

## Financial Aid Application

## Process

To apply for financial aid, the following forms are necessary:

1. Free Application For Federal Student Aid (FAFSA). (All students)

- Send the completed FAFSA to the processor, Iowa or Kentucky.
- Be sure to list CCSU's Federal ID code number 001378 in the Release and Signature section.

2. Federal Income Tax Returns. (Students and Parents)

- Send signed, completed Federal Income Tax Returns and W-2 forms to the CCSU Financial Aid Office
- Students and parents (if dependent) that do not file a tax return must obtain a Non-filer Form in the CCSU Financial Aid Office.
- Contact the Financial Aid Office for important deadline dates.

3. Financial Aid Transcripts. (Transfer students)

- Request financial aid transcripts from all prior post-secondary insti tutions that you have attended. This is required even if you did not apply for or receive aid.
- All transcripts should be mailed to: Financial Aid Office, Central Connecticut State University, 1615 Stanley Street, New Britain, CT 06050.


## Incoming freshmen and transfer stu-

 dents are considered for financial aid when admitted to the University, but only if the required application forms have been received at Central Connecticut State University's Financial Aid Office.Part-time students must be matriculated (formally accepted by Central Connecticut State University's Office of Admissions) before the aid application will be reviewed. Eligibility will be determined as complete applications are filed.

## Notification of Awards

The Notice of Eligibility Letter outlines the types and amounts of aid offered. The award notification indicates the most equitable offer based upon the information provided and the funds available to the University. The availability of funds from Federal and State programs is subject to federal and state appropriations and to changes in Federal and State legislation and regulations.

Questions regarding procedure or awards should be directed to the Financial Aid Office, Central Connecticut State University, 1615 Stanley Street, New Britain, CT 06050 (860) 832-2200.

## Scholarships

## Honors Scholarships

The Honors Program has a limited number of full and half merit scholarships covering all or part of in-state tuition and student fees. These scholarships may be held for up to eight terms, with award and renewal based on academic excellence.

For more information on the Honors Program, refer to the Special Programs section of this catalog. For information on scholarships, please contact Dr. David Blitz, Director, Honors Program, Marcus White Hall, Room 300, Central Connecticut State University, 1615 Stanley Street, New Britain, CT 06050.

## CCSU Foundation Scholarships

The following scholarships are administered by the CCSU Foundation, Inc. Inquiries should be made in writing to the CCSU Foundation, Inc., P.O. Box 612, New Britain, CT 06050.

Alpha Phi Omega National Service Fraternity Scholarship - awarded to an undergraduate student who demonstrates a record of service to his or her community and school

Pauline M. Alt Teacher Education Scholarship awarded to full-time undergraduates with grade point averages of 3.25 or better, with preference given to elementary education majors

Pauline M. Alt Women's Re-entry Scholarship - awarded to matriculated undergraduates, with preference given to women who have returned to higher education following an absence of three or more years

Justus Beach Scholarship - awarded to a full-time undergraduate minority student majoring in any of Central Connecticut State University's teacher preparation programs

Joseph Bellomo Scholarship Fund - awarded annually to varsity athletes on the softball team

Ruthe Boyea Scholarship - awarded by the Committee on the Concerns of Women, to a recipient showing promise of outstanding academic and career potential and support for the enhancement of women

Stephen \& Marie Burg \& Family Scholarship - awarded annually to a junior- or senior-level student in the School of Technology with outstanding academic and career potential

Business Education Graduate Award - given annually to an alumnus who has completed bachelor's degree requirements in Business Education at Central Connecticut State University

Frank D. Cannata Scholarship Fund - awarded to seniors with the highest cumulative grade point averages in accounting and business education

## Friends of New Britain High School Football

 Scholarship - awarded to first-year students who have participated in varsity football at New Britain High School.CCSU Foundation Scholars - 10 four-year, renewable scholarships awarded to incoming firstyear students on the basis of a competitive math and English exam

William Chatfield Fund - made annually to a junior or senior majoring in Technology Education

Esther Murray Clarke Scholarship - given to a junior enrolled in the School of Education's elementary education teacher preparation program

Class of 1940 Scholarship - awarded annually to a junior or senior in any teacher preparation program

Class of 1953 Scholarship Fund - awarded to junior-level students in education with minimum grade point averages of 3.0 and demonstrated records of community service

Maynette Reid Crothers Scholarship - given to active members of any CCSU women's intercollegiate athletic team

CSEA - Chapter 31 - awarded annually to CCSU faculty children

William Detrick Basketball Scholarship — awarded to members of the men's or women's varsity basketball teams
M. DeLott Garber Scholarship Fund - available to juniors in the School of Education and Professional Studies

Educational Support Services Scholarship Fund - for students enrolled in the Educational Opportunity Program or the Connecticut Collegiate Awareness Program

Geary Memorial Fund - awarded to junior-level students majoring in elementary education, special education or engineering technology

Norman Gerber Scholarship - awarded to an active member of the Central Connecticut State University intercollegiate golf team

Martin \& Sophie Grzyb Memorial Fund - awarded to a student of American birth who excels in Polish Studies at Central Connecticut State University

Jay Thomas Gugerty Scholarship - given annually to Industrial Technology and Engineering Technology majors with preference to students majoring in electrical systems or power transmission

Paul Hochstim German Scholar Exchange - support for scholarly exchanges between German universities and Central Connecticut State University
C. J. Huang Endowment - to support exchange of faculty, students and staff with Ouyang Yu Middle School in Hunan Province, Peoples Republic of China

## John Huntington Athletic Training Scholarship -

 awarded to a senior completing requirements for athletic training certificationPaul Jones Fund - awarded to matriculated students in the B.S.N. program

Richard L. Judd Scholarship - awarded to University students who have demonstrated exemplary involvement and leadership in student or community activities
G. Wesley Ketcham Scholarship Fund - given to a full-time junior or senior in technology education

Ki Hoon Kim Scholarship Fund - support for Korean and Japanese students attending Central Connecticut State University and for University faculty and students to study or do research in Korea

Koh Scholarship Fund - for students of Korean descent or United States citizens studying in the Republic of Korea

Abraham F. Kotkin Scholarship - awarded to an upper level student from New Britain who presents evidence of civic involvement and community service

Carl Krein Scholarship - awarded to students in athletic training

Valle P. Lattanzio Scholarship - given annually to a matriculated student at Central Connecticut State University pursuing a bachelor's degree and certification in elementary education

Lester Levine Scholarship Fund - awarded annually to a junior or senior majoring in education

Litton Industries Scholarship - awarded to junior or senior students in the School of Technology on the basis of scholastic achievement and character

## Florence Widger Lohse Scholarship Fund -

 awarded to an education majorJames A. \& Mary Hayes Lord Scholarship available to a full-time junior or senior in either the School of Education and Professional Studies or the School of Technology

Robert Lord Trust — awarded to students who have demonstrated exemplary involvement in campus and community service activities which enhance student life

Raymond D. \& Ellen N. Martinsen Scholarshipawarded to a student in any technology major in good academic standing

Thomas F. Martucci Scholarship Fund - awarded to an incoming first-year student with a demonstrated record of participation and leadership in extracurricular activities who has graduated from Newington High School

William McInerney/Class of '38 Scholarship for junior- or senior-level student enrolled in any School of Education teacher preparation program

Miano Memorial Fund - awarded to a junior-level student chosen alternately from science or mathematics majors and arts or humanities majors

Middlesex Mutual Assurance Company Scholarship - awarded to a junior in the School of Business expressing a commitment to a career in the insurance field

Lincoln Mongillo Scholarship - awarded to upper-level students in construction management or civil/construction engineering technology

George R. Muirhead Scholarship - assists students with academic exchanges in the United Kingdom

Yoko Niibo Scholarship - benefits the exchange of students between Central Connecticut State University and Japanese or Korean universities

Ted Owen Track \& Field Scholarship - awarded to varsity athletes on the cross country or track teams

Emily Pirog Scholarship - awarded annually to an undergraduate student in athletic training

Francis J. Rio Scholarship - awarded to undergraduate students studying for a degree leading to public school teacher certification in the natural sciences
A. Todd Sagraves Scholarship - awarded to State Certified Marketing Education Teacher Coordinators and Distributive Education Clubs of America ("DECA") Advisers who are graduates of Central Connecticut State University

Jack Suydam Scholarship - awarded to active members of the men's or women's varsity swimming teams

William \& Josephine (Bertino) Tansey Scholarship - given annually to a student majoring in mathematics education (mathematics teacher preparation)

Thaddeus Torp Scholarship - awarded to students who have made an outstanding contribution to the Department of Theatre

Jerome Vigor Memorial Fund - awarded to a graduating senior majoring in economics who has been accepted for graduate studies at an accredited college or university

## Virginia Wicks Vidich Scholarship - supports

 students who have the underlying character and ability to be successful but whose personal, economic or social circumstances have put them at riskPaul Vouras Award - presented to the graduating senior with the highest cumulative grade point average of a student majoring in social science, geography, sociology, political science, economics or history

Stella Willins Scholarship - awarded to a business education student of outstanding merit

Michael J. Witty Scholarship Fund - given to students in the School of Business majoring in accounting, with preference given to a student who demonstrates special ability and interest in taxation

Alvin B. Wood Scholarship Fund - awarded to a minority student with a minimum 24 credits completed and demonstrated leadership and service to the University

## University Scholarships

For information about the following scholarships, please contact the departments noted.

Anna-Bubser-Judd Trust Scholarship - granted annually to minority students from Hartford who graduate from approved high school programs (Contact Office of Admissions)

CCSU Accounting Society Scholarship - awarded to an accounting major who has earned a minimum of 72 credits, and has displayed academic merit and club involvement (Contact Accounting Department)

Jack Arute Scholarship - awarded annually to an outstanding graduate from a New Britain area high school, i.e. New Britain High School (Contact Office of Recruitment and Admissions)

Class of 1971 Scholarship - established for members or the children of members of the Class of 1971

Herbert D. Welte Scholarship Fund - established for students in international studies who need financial assistance (Contact Center for International Education)

## Cancellation of Classes Due to Inclement Weather

At the discretion of the University, classes may be cancelled or delayed because of inclement weather conditions. The decision to cancel or delay day classes is usually made by 6:00 a.m. WTIC, 1080 AM , carries the official University announcement of delays and cancellations, which can also be heard on several other central Connecticut radio stations. In addition, WVIT-TV 30, WFSB-TV 3 and WTNH-TV 8 are notified. Cancellation of evening classes will normally be decided by 2 p.m. Evening classes are not automatically cancelled when day classes have been cancelled. For up-to-date information on cancellations or delays, use the Snow Phone Line (832-3333).

## Childcare

The Early Learning Program, Inc., a statelicensed child care facility, is available on campus for toilet-trained children from ages $3-5$. The program operates during the academic year (September through June), with a summer session pending enrollment. Hours of operation are Monday through Friday, 7:45 a.m. to 5 p.m. Attendance options include nursery school, part-time care and full-time care. For information, call Catherine Pezze at 832-3760.

## Health Service

The University Health Service provides medical services by appointment for the maintenance of health and the evaluation and treatment of illnesses and injuries to all students. Faculy and staff will be seen for medical care or referrals where indicated.

Many services are provided at no cost to patients. These include but are not limited to the following:

- evaluation and treatment of illnesses and injuries, including referrals to appropriate specialty consultants as needed
- daytime in-patient care for observation and treatment as needed
- certain laboratory tests for blood sugar or urine evaluations
- evaluation and treatment of sexually transmitted diseases
- blood pressure monitoring
- a health education resource center for information on medical issues and concerns
- Travel C Clinic for travelers abroad

Treatments requiring a nominal fee include:

- additional laboratory and diagnostic evaluations
- Allergy Clinic
- immunizations required for school, employment or travel
- low cost prescriptions - in-house pharmacy for medications ordered by the physician
- anonymous HIV pre- and post-test counseling clinic

Full-time students are required to submit a completed health form (medical history, physical exam and up-to-date immunization record) prior to registration at the University. Part-time students are required by the University to have up-to-date immunization records for measles and rubella consistent with Statc of Connecticut Department of Health Servicc guidelines.

Health insurance coverage (sickness and accident) is mandatory for all full-time students. Students may purchase the sickness insurance plan through the University or elect alternative coverage through an outside carrier. The University provides accident insurance coverage for all full-time students; the premium is included in the general fee on the tuition bill. This accident coverage is not the primary carrier unless there is no other insurance held by the student. A combined sickness/.acrident policy is available for part-time students and dependents of students through the Office of Continuing Education.

Students should inform the Office of Student Affairs if absent from classes for medical reasons for more than five days and not seen in the University Health Service. This information will be relayed to their professors. The University Health Service will notify the Office of Student Affairs only if the student is required to be out of class due to risk of hampering his or her recovery or of being contagious to others and was seen at University Health Service for the diagnosis.

The University Health Service (8321925), located in the Marcus White

Annex, is staffed by a full-time physician and nurses and is open Monday-Thursday from 8:00 a.m. to 3:45 p.m. and Friday from 9:00 a.m. to 4:00 p.m. (Closed daily from 12:00 to 12:30 p.m.) These hours are subject to change.

## Identification Cards

All students are required to obtain a photo identification card after payment of tuition and fees. Access to the Library and Microcomputer Lab requires a Blue Chip ID ard.

The ID card, known as the Blue Chip Card, can be used as a debit card to make purchases from vending machines and at public-use copiers, as well as at dining locations in the Student Center and Grand CENT'RAL Cafc. Off-campus vendors accepting the Blue Chip Card are Tony's Central Pizza, Blimpie's, Dominoss, Sam's Getty, Tom's Pizza, Congress Rotisserie, Quick-N-Easy Convenience Store, Papa John's Pizza and McDonald's (Newbrite Plaza).

There is a charge for laser printing at the Microcomputer Lab. This may be paid with the Bluc Chip (ard, or by purchasing a Guest Card at a Card Value Center. There will be no cash transactions.

In order to use the card as a debit card, money can easily be deposited to a debit account. The Card Office and Cashier's Office accept cash and checks. Credit card transactions can be made by calling the Cashier's Office (8.32-2020) or through the Card Office web site at www.cardoffice.ccsu.edu. For moncy to be deposited instantly to a debit account, visit any of the four Card Value Centers, located at the Library (main floor), Microcomputer Lab, Memorial Hall and the Police Station, which is open 24 hours.

The Card Office is located in the Power House on the northeast corner of the Barnard parking lot. Card Office hours are Monday through Friday from 8:00 a.m. to 5:00 p.m., with extended hours during the first month of each semester. The phone number is 8322140. After Card Office hours, lost cards should be reported to the Police Department (832-2375); a temporary ID will bc issued, as well as a "hold" placed to deactivate the account.

## Parking

All full- and part-time students must obtain decals for student parking from the University Police. Students may park in any campus lot or parking garage except those designated for administration, faculty or staff. Vehicles without decals or improperly parked vehicles may be ticketed or even towed at the owner's expense. You are urged to learn and follow the campus parking regulations. Additional information regarding parking regulations is available on the University Police web page on the Internet, accessible through the University web page (www.ccsu.edu), or in the Parking Guide available at the CCSU Police Department, One Pikiell Lane.

## Pet Policy

With the exception of animals used to aid persons with disabilities, animals used in University laboratories and fish in residence hall rooms, animals are prohibited in campus buildings.

## Public Safety

The University Police Department, located at One Pikiell Lane, provides the campus community with a full range of protective and investigative police services around the clock. Also, the professional police officers of the department coordinate an escort service for students and are available to educate students in protecting themselves and their property. Through an on-campus dispatch center, linked to other regional emergency services, officers are able to respond rapidly to any emergency. State-of-the-art emergency telephones, connected to the dispatch center, are strategically located throughout the campus.

For additional information on police services and a copy of the Uniform Campus Crime Report, visit the University Police web page on the Internet. It is accessible through the University web page (www.ccsu.edu).

## Residence Life

Information on University housing is forwarded shortly after official notification of acceptance from the Office of Admissions. Applications for rooms, on the forms provided by the University, are considered in the order of acceptance. Because of the demand for on-campus housing, students
are urged to return housing applications and pay housing fees promptly.

The Office of Residence Life (8321660), in Mildred Barrows Hall, assists students in University housing matters. Limited information on off-campus apartments is also available. The Living Guide brochure details residence hall policies.

## Student Government

The full-time undergraduate students of CCSU make up the membership of the Student Government Association (SGA). The SGA Senate is the representative body of the SGA. Its members, the Executive Officers and Senators of the SGA, are democratically elected by the full-time undergraduates of CCSU.

The SGA Senate is responsible for acting as the voice of the student body. It promotes student participation in various projects, committees and organizations at the university and at state and national levels that help shape the university and education in Connecticut. The SGA Senate allocates the SGA portion of the Student Activity Fee which is paid by all full-time undergraduate students and used to promote and fund student clubs, activities, services and issues which benefit students and their educational opportunities.

The SGA office is located in the Student Center, Room 201 (832-3740). The SGA will be located on the first floor of North Hall during the construction of the Student Center.

## Student Organizations

Clubs and organizations provide students with opportunities for social interaction, recreation, leadership training and enhancement of academic interests. For most students, involvement in organizations is an important aspect of their education. Information about clubs can be obtained at the Club Drive or through assigned student organization mailboxes on the second floor of the Student Center.

Participation in a club or organization can be included in a student's personal transcript through the Experiential Transcript Program. For more information on this or other aspects of student organizations contact the Department of Student Activities/Leadership Develop-
ment or Advising Services. The following is a list of organizations.

## Academic and Special Interest

Accounting Society, Amnesty International, Anthropology Club, Art Club (Le Salon), Athletic Trainers Association, Biology Club, Caducean Club, Chat Club, Chemistry Club, Communication Club, Co-op Education Student Association, Council for Exceptional Children, DiCipha Poetry Club, Economics Club, Education Club, First Year Council, GADEM Mac, Habitat for Humanity, Marketing/Sales Club, Music Educators National Conference, Philosophy Club, Physical Education and Health Fitness Club, Pre-Law Society, PRIDE (gay, lesbian, bisexual student organization), Psychology Club, Science Club, Social Work Club, Sociology Club, Women in Technology

## Fraternities and Sororities

Alpha Phi Omega Fraternity; Kappa Alpha Psi Fraternity, Nu Psi Chapter; Lambda Theta Alpha Sorority; Lambda Theta Phi Fraternity

## Governmental

Graduate Student Association, Inter-Residence Council, Program Council, Senior Week Committee, Student Government Association, Student Union Board of Governors

## Honors and Professional

Alpha Mu Gamma*, Foreign Language; American Choral Directors Association; American Society of Civil Engineers; American Society of Safety Engineers; Associated Builders and Contractors; Associated General Contractors; Beta Beta Beta, Biological Sciences; Delta Mu Delta, Business*; Epsilon Pi Tau, Ind. Arts \& Voc-Ind. Ed.*; Eta Kappa Nu, Engineering*; Gamma Theta Upsilon, Geography*; Golden Key Honor Society; Kappa Delta Pi, Education*; Omicron Delta Epsilon, Economics*; Phi Alpha Theta, History*; Pi Sigma Alpha, Political Science*; Psi Chi, Psychology*; Society of Manufacturing Engineers; Technology Education Collegiate Association; Upsilon Pi Epsilon, Computer Science*

International, Cultural and Language

African Studies Association, Black Student
Union, Chinese Student Association, French Club (Le Cercle Francais), German Cultural Club, Indian Students Association, International Relations Club, International Students Athletic Club, Irish American Club, Italian Club (Il Circolo Italiano), Japanese American Cultural Club, Latin American Student Organization, Muslim Student Association, NAACP - CCSU Chapter, Polish Club, Portuguese Club, Russian Club, United Caribbean Club

## Media and Publications

The Recorder, Helix (literary magazine), Media Board, WFCS FM-107.7 Radio

## Performing

Cheerleaders, COLADA (Central Organization of Latin American Dance Awareness), DanCentral, Ebony Choral Ensemble, Pep Band, Pep Dancers, Theatre Unlimited

## Religious

Christian Students at Central, Hillel Jewish Revival, Student Organization, Newman Club, Upside Down Club

## Sports and Recreation

Bicycle Racing Club, Boxing Club, Flying Club, Gaming Club, Hang Gliding Club, Ice Hockey Club, In-line Hockey Club, Karate Club, Lacrosse Club, Lady Hooligans Women's Rugby Club, Men's Rugby Club, Men's Soccer Club, Men's Volleyball Club, Outing Club, Roller Hockey Club, Scuba Club, Silent Knights Chess Club, Ski Club, Snowboarding Club, Solar Electric Research Team, Surfing Club, Women's Soccer Club, Wrestling Club

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# ACADEMIC STANDARDS AND REGULATIONS 

James Fox, Registrar<br>Lynn Bonesio, Associate Registrar<br>Maria Alvarez, Assistant Registrar<br>Linda Thompson, Assistant Registrar<br>Anita Sparrow, Degree Auditor<br>Phone: (860) 832-2235

## Typical Program

A typical study program for a Central Connecticut State student in good standing is considered to be 15 to 17 credits of academic work per semester, depending on classification and major.
A full-time student must carry a minimum of 12 credits per semester. Exceptions to this policy are permitted only with approval of the student's academic dean.
Undergraduate students are expected to invest a minimum of four hours per week per credit hour, including class time, for courses which meet for a full semester. For courses which meet for a shorter duration, a corresponding increase in the time invested is expected.

## Classification

Membership in a class is determined solely by total earned credits as follows:

| First-year | $0-25$ credits |
| :--- | :--- |
| Sophomore | $26-53$ credits |
| Junior | $54-85$ credits |
| Senior | $86+$ credits |

## Grading System

Central Connecticut State uses the letter grading system as follows: A, superior; B, above average; C , average; D , passing but below average; and F , failure. A grade of incomplete (INC) may be recorded, at the discretion of the instructor, for a course in which a student, because of circumstances beyond his or her control, has not completed certain work or has been absent from the final examination. An INC not changed to another grade by the instructor within the first eight weeks of the subsequent major semester will be changed to an F . Responsibility for removing an INC within this time limit rests with the student.
Grade-Point Average-For computing grade-point average, grades are evaluated as follows for each semester hour of credit:

| Grade | Quality <br> Points | Grade | Quality <br> Points |
| :---: | :---: | :---: | :---: |
| A | 4.0 | C | 2.0 |
| A- | 3.7 | C- | 1.7 |
| B+ | 3.3 | D+ | 1.3 |
| B | 3.0 | D | 1.0 |
| B- | 2.7 | D- | 0.7 |
| C+ | 2.3 | F | 0.0 |

For example, a student receives an A in two courses, one carrying 3 credits and one carrying 1 credit; a B in a 3 -credit course; a B - in a 3 -credit course; a C - in a 2-credit course; a D in a 3 -credit course; and an $F$ in a 2-credit course. The gradepoint average is computed as follows.

A or 4 quality points per hour x 4 credits = 16 quality points
B or 3 quality points per hour x 3 credits $=$ 9 quality points
B- or 2.7 quality points per hour $x 3$ credits $=$ 8.1 quality points

C - or 1.7 quality points per hour x 2 credits $=$ 3.4 quality points

D or 1 quality point per hour x 3 credits $=$ 3 quality points
F or 0 quality points per hour $\times 2$ credits $=$ 0 quality points
17 credits for a total of $\mathbf{3 9 . 5}$ quality points
To calculate this student's semester gradepoint average, the quality point total is divided by the total number of credits taken: $39.5 \div 17=2.32$.
The cumulative grade-point average (CGPA) for a student's record is determined by adding the credits attempted and dividing this total into the total number of quality points. The cumulative grade-point average indicates the academic record of the student for the time enrolled at the University.

Good Standing - To remain in good standing students must maintain cumulative grade-point averages no lower than these minimum standards:

| (1-18 credits) | 1.50 |
| :--- | :--- |
| (19-36 credits) | 1.60 |
| (37-53 credits) | 1.80 |
| (54-69 credits) | 1.90 |
| (70 credits - Graduation) | 2.00 |

1.50
1.60
1.80
1.90
2.00

Students are expected to strive for the highest cumulative grade-point averages possible. Those who fall below the minimum averages listed above will be placed on probation or dismissed from the University. Probationary status is limited to one semester.

Only courses taken at Central Connecticut State, including summer session and winter session courses, are included in calculating the student's cumulative GPA. Courses taken at other institutions are not included in the student's Central Connecticut State GPA. However, transfer credits will count towards the total number of credits attempted for purposes of academic standing.
Probation - Students whose GPA falls below good standing, but not below the following minimums, will be granted probation for one semester only.

1-18 credits (first semester
first-time students only)
1-18 credits
1.40

19-36 credits
1.50

37-53 credits
1.70

54-69 credits
1.80
$70+$ credits 1.95

Transfer students who fall below good standing at the end of their first semester but attain at least a 1.50 GPA will be placed on probation for the following semester regardless of total credits attempted.

Students who are placed on academic probation are encouraged to meet with their academic dean. A student whose grade-point average falls below the minimum for probation, or who is already on probation and does not achieve good standing, will be academically dismissed.
Academic Dismissal—An academically dismissed student may enroll through the Enrollment Center/Office of Continuing Education as a non-matriculated student and seek to bring the cumulative gradepoint average back to the good standing level. Also, an academically dismissed student may petition the dean of the school the student is attempting to enter for reinstatement on probation. Normally, a student must wait at least one semester before being considered for reinstatement.

The cumulative average earned at Central Connecticut State will not be affected by grades earned at other colleges.

After re-attaining good standing as a result of work as a non-matriculated student, a student may request readmission to Central Connecticut State as a matriculated student. Consultation with the Office of Admissions concerning deadline for reactivation is advised.

Students concerned about their academic progress should consult their academic adviser.

## Honor Requirements

## Dean's List

Full-time students. Dean's List recognition for a semester is granted to students who carried at least 12 academic credits, earned a 3.50 GPA and did not have any "incompletes" for the semester at the time grade reports were issued.

Part-time matriculated students who have earned a minimum of 12 credits for the academic year, who have achieved a 3.50 cumulative average for fall and spring semesters of that school year and who have no "incompletes" listed on their record are eligible for spring semester Dean's List honors.

## Graduation Honors for baccalaureate degree

Graduation honors for the baccalaureate degree recognize high academic achievement at Central Connecticut State University as demonstrated by the following cumulative grade point averages:

Cum laude (honors)
3.50-3.69

Magna cum laude (high honors)
3.70-3.89

Summa cum laude
(highest honors)
$3.90-4.00$
Candidates for Graduation Honors, who will be recognized at commencement ceremonies, are identified at the conclusion of the semester preceding graduation. Students who have earned a minimum of 44 credits toward their graduation requirements in residence at Central Connecticut State University with a cumulative earned GPA of at least 3.50 are considered to be Graduation Honors candidates eligible for recognition at Commencement. Candidacy for Graduation Honors does not guarantee the award of Graduation Honors
upon completion of degree requirements.
Graduation honors, which appear on both the diploma and the transcript, will be awarded only to students who complete their graduation requirements with a minimum of 62 credits in residence at Central Connecticut State University and a cumulative earned grade point average of at least 3.50 . The residency requirement for honors may not be waived.

## Graduation Standards

For graduation a student must maintain a minimum cumulative grade-point average of 2.00 and receive grades of C- or better in all courses required for the major, minor or concentration, with a minimum cumulative grade-point average of 2.00 in the major, minor or concentration, and complete a minimum of 122 or 130 credits depending on one's major.

## * Residence Requirements for Degree -

A minimum of 45 credits "in residence" is required for a bachelor's degree. Students transferring from any college are required to take at least 15 credits in their major field and 9 credits in their minor/concentration field at Central Connecticut State. Major and minor/concentration minimums are included in the 45 -credit residence requirement. "In residence" means attending classes conducted on campus or under supervision of Central Connecticut State University.

Programs in the School of Business require that at least $50 \%$ of the business credits needed for the business degree be earned and completed at Central Connecticut State University.

In no case will a degree be granted unless a student is matriculated for a minimum of one year at the time of graduation.
Application for Graduation - A graduating student must file an Application for Graduation in the Office of Registrar one year prior to graduation. Those expecting to complete degree requirements in May or August must file by May 1, and those completing in December must file by December 1 .

Note: Students seeking certification as teachers should submit an Application for Connecticut Certification in the Office of Registrar at the beginning of their last semester at CCSU.

## Second Degree Policy

A student who has already completed a bachelor's degree may be admitted to Central Connecticut State University for a second undergraduate degree or a second undergraduate major within the student's original degree program.

A transfer student (whose earlier degree is not from CCSU) must satisfy all degree, major, minor/concentration, general education and residence requirements. Transfer students are required to have a minimum of 45 credits at CCSU in order to receive a bachelor's degree.

A student who already holds a bachelor's degree from CCSU may complete a second major within the original degree program. Although there is no minimum credit hour requirement for a second major, all curriculum requirements in effect at the time of readmission must be completed. Upon completion the student will receive only an additional notation on the transcript; additional diplomas will not be printed, and students will not participate in commencement ceremonies. Students in this category should inform the Office of Registrar of their intentions soon after re-admission.

A student who already holds a bachelor's degree from CCSU and wishes to complete a second degree, may do so by completing all curriculum requirements in effect at the time of re-admission, with a minimum of 30 new credits. If all curriculum requirements are met, and the 30 credit minimum has not been attained, the remaining credits shall consist of additional directed electives chosen by the department. When these new degree requirements are met, the student will be issued another diploma and will be entitled to participate in commencement ceremonies.

## Registration

Prerequisites - It is the students' responsibility to determine whether they have met prerequisites for a course. Students found to be lacking the prerequisites for a course may be administratively removed from a class at the request of the instructor. Course prerequisites are defined in the course description section of this catalog.

Adding a Course - Students may add courses on a space-available basis during the first four days of the semester.

## Dropping a Course - Dropping

 courses will be allowed up to the chronological mid-point in the course, with the exception that full-time undergraduate students must maintain a minimum credit load of 12 credits. Courses dropped by the deadline do not appear on the student's transcript. Forms are available in the Enrollment Center/Office of Continuing Education, Willard Hall.Undergraduate full-time students for whom dropping a course would reduce their credit load to fewer than 12 credits must APPLY for withdrawal from that course. (Follow the same procedure as for withdrawal from courses described below.)

WARNING: Failure to carry a minimum of 12 credits may affect Satisfactory Academic Progress (SAP) and receipt of certain federal, state and other benefits, including but not limited to various financial aid programs, Veterans benefits and Social Security benefits. Students dropping below 12 credits are ineligible for participation in intercollegiate athletics.
Withdrawal from Courses - Withdrawals are initiated with the student's academic dean and require the signatures of the instructor, the chair of the department offering the course and the dean of the school offering the course. After the deadline for dropping courses has passed (mid term), withdrawal from a course may be granted and recorded on the student's permanent record as "W" if extenuating circumstances are found to justify withdrawal. Poor academic performance is not considered an extenuating circumstance. A "W" does not affect the student's grade point average.
If a student stops attending and fails to officially withdraw from a course, a grade of " F " will be recorded on the student's record.
Pass-Fail Option - A limited pass-fail option in courses not required for the major, minor, concentration or general education program is available at the University. Intent to take a course pass/fail must be filed in the Office of Registrar within the first three weeks of the semester. Contact the Office of Registrar for more information.
Audit Option - Full-time students are permitted to audit courses, provided they are taking a minimum of 12 credits in addition to the courses audited. Part-time students need not meet this minimum
requirement. Intent to audit a course requires the written approval of the instructor and must be filed in the Office of Registrar in the first three weeks of the semester. Failure to meet the instructor's requirements for auditing may result in the student being withdrawn from the course. Courses taken on an audit basis do not affect grade point average and do not apply toward any graduation requirement. The Office of Registrar has details.
Eligibility for Extra Courses - A full-time student may take 12 to 18 semester credits without special permission. A student who wishes to register for more than the customary semester program of academic work should apply in writing to the appropriate academic dean at least one week prior to registration for the semester in which the additional course is to be taken. Credit overload forms are available in the Office of Registrar. Students wishing to take 16 -week courses along with student teaching must complete the credit overload form.
In general, the only applications approved are from students whose cumulative grade-point average is 2.50 or above, or whose average for the preceding semester is at least 3.00 . No student will be permitted to take more than the normal program of study in the first semester.

Graduate Courses - Undergraduate students who desire to enroll in graduate courses are required to have a 2.70 GPA and senior standing. Students are also required to obtain the written permission of their adviser, chair of the department offering the course and the graduate dean prior to registration. The necessary form is available in the Registrar's Office and in the Enrollment Center/Office of Continuing Education.
Course Repeat Policy - A course in which a grade of C - or lower has been received may be repeated, although no course may be repeated more than once without approval of the chair of the department offering the course. The most recent course grade and credit will be applied to the GPA and degree requirements. All grades will appear on the student's transcript. This policy applies just to courses taken at CCSU and only to courses repeated beginning with the Fall 1994 semester.

Note: Repeating courses taken in a previous semester may affect certain federal and state benefits, various financial aid programs, loans, scholarships and social security benefits, in addition to athletic eligibility and veteran's benefits. Satisfactory Academic Progress requirements must be met for continued financial aid eligibility. See catalog for explanation of Satisfactory Academic Progress Policy.

Note: Education majors and post-baccalaureate certification students should refer to the course repeat policy listed in the School of Education and Professional Studies section of the catalog.

Non-Credit Courses - Non-credit courses are offered through the Enrollment Center/Office of Continuing Education within its community service programs and are noted with a grade of NC.

The symbol " $S$ " on a transcript will indicate satisfactory completion of a non-credit academic course. The symbol "U" will indicate unsatisfactory performance or non-completion of an academic non-credit course.

## Appeals for Grade Changes

Academic grading reflects careful and deliberate judgment of a faculty member instructing a course. Academic evaluation of student performance requires expert consideration of cumulative information. Such decision-making by its nature is judgmental and evaluative. The evaluative process is not and should not be likened to the adversarial process involved in disciplinary matters, for academic grade determination is unadaptable to the methods of judicial or administrative decisionmaking. The education process, moreover, is not by nature adversarial, but rather centers upon a continuing relationship between faculty and student. Administrative interposition, except in the most extreme instances, is to be avoided. The University recognizes that in rare instances there may be errors, or "palpable injustice(s)" in determination of a final grade. A student alleging such error or palpable injustice, i.e., a clear showing of arbitrary or capricious action, may appeal as provided below:

1. A student who believes a grade involved an error or a palpable injustice shall first confer with the instructor who
awarded the grade no later that the end of the fourth week of the following regular semester.
2. If the student is not satisfied with the outcome, the student may present the case next to the appropriate department chairperson, who may effect a settlement upon written agreement of the instructor.
3. Further appeal by the student shall be in writing to the dean of the school concerned. A grade change shall be made only with the written consent of the instructor and the department chairperson.
4. If the instructor is deceased or cannot be contacted by the student and department chairperson by the end of the fourth week of the following regular semester, the student may confer with the chairperson. Upon evidence of error, the chairperson may make the appropriate grade change after consultation with and approval of the dean of the school. The instructor shall be notified of the change if notice subsequently can be delivered. If the chairperson finds evidence of palpable injustice, then the case shall be referred to the Grade Appeals Review Board for action as described in Step 6 below.
5. When an appeal for grade change is made at the end of student's final semester and if the instructor is deceased or cannot be contacted by the student and the department chairperson, the student may appeal to the department chairperson.

If the instructor cannot be contacted before the grade deadline for graduation and where there is evidence of error, the chairperson may make the appropriate grade change after consultation with and approval by the dean of the school. The instructor shall be notified of the change if notice subsequently can be delivered. If the chairperson finds evidence of a palpable injustice, then the case shall be referred to the Grade Appeals Review Board for action as described in Step 6 below.
6. Any appeal after the completion of the steps above shall be made to the Grade Appeals Review Board, which functions under the aegis of the Academic Standards Committee, in written form and with a statement of justification. Following an
investigation, the Grade Appeals Review Board may deny the appeal, in which case the matter shall be closed.

If the Grade Appeals Review Board makes a finding that the grading involved a palpable injustice, then the case shall be remanded to the instructor and the dean of the instructor's school for reconsideration. The instructor may make the appropriate change in the grade with the written agreement of the dean. If the instructor disagrees or if the instructor's whereabouts are unknown the Grade Appeals Review Board may recommend a change to the Vice President for Academic Affairs. The Vice President may make the appropriate grade change or issue a "W" (withdrawal) with the written agreement of the dean. The instructor and the department chairperson shall be notified in writing of such change. In no case shall a grade be lowered as a result of the appeal to the Grade Appeals Review Board.

## Acceptance of Non-Traditional Credit

Central Connecticut State recognizes that many valid learning experiences occur outside the traditional classroom. CCSU accepts from matriculated students the following types of non-traditional credit, up to a maximum of 30 credits of credit except for established special programs. When such credit is awarded, it is entered on the transcript but the grade is not included in the University grade-point average. Students should be aware that in all the instances described below, the rules for granting of credit for non-traditional learning may vary among academic schools and departments at CCSU, depending on the rules of external accrediting agencies and in accordance with departmental standards. Students should direct questions to the department chair.

Advanced Placement - The University accepts for college credit advanced placement courses taken in high school under the auspices of the College Entrance Examination Board's Advanced Placement Test Program provided the student achieves a minimum score of 4 on the test. Official score reports are requested by the Office of Admissions.

Credit for Standardized Examinations - Central Connecticut State stu-
dents may earn up to 30 credits by examination from the College Level Examination Program of the College Entrance Examination Board (CLEP and DANTES) or any nationally-standardized examination. A student is permitted one trial for each examination and must achieve a score equal to, or higher than, the national norm for that particular examination to receive credit. Information about which examinations are approved for departmental credit and minimum score requirements is available from the Office of Admissions or the Enrollment Center/Office of Continuing Education. Official score reports are required by the Office of Admissions.

Credit for non-collegiate training programs - Many businesses and industries, and other non-accredited institutions, provide formal training for which some academic credit may be awarded. Central Connecticut State will follow ACE recommendations on the acceptance of this credit as published in The National Guide to Educational Credit for Training Programs. CCSU also accepts credit for programs conducted by non-collegiate organizations not evaluated by ACE, according to specific local agreements which comply with Board of Governors for Higher Education regulations. Application of credit as it relates to the student's CCSU degree requirements will be determined by the student's major department. Official transcripts, diplomas or certificates are required. If there is not an ACE recommendation or existing local agreement for the training program, refer to "Credit for life or work experience" below.

Credit for life or work experience While Central Connecticut State itself does not evaluate life or work experience, the University will accept such credit as awarded by other regionally-accredited colleges and universities, to the extent that it is applicable to the student's degree program and providing it does not exceed 30 credits. Matriculated students who believe they are eligible for such credit are encouraged to contact Charter Oak State College.

## Placement Testing and Remedial Courses

All entering first-time students are required to take placement examinations in English,
mathematics and foreign language prior to registration in order to determine their eligibility for ENG 110 (English Composition) and appropriate mathematics and foreign language courses. The English placement exam is not required of students who have a SAT verbal score of 450 or have successfully completed ECE 099 or ENG 109. The foreign language placement exam is not required of students who have successfully completed three years of a single language in high school. (The high school transcript must be received by the Office of Admissions.)

Beginning in the fall semester 1992, remedial programs, 099 classes in Math and English, will be counted in determining full-time load status for students enrolled in those sections. In the computation of the credit load, each hour of instruction would be counted as one hour of credit. No remedial course will be counted for academic credit.

The University reserves the right to deny enrollment in any course to students who do not possess the appropriate skills or knowledge.
Transfer students also are required to take the placement tests unless they meet the following conditions.

- Students who transfer credit for ENG 110
- Students receiving transfer credit for ECM 099, MATH 101, 115, 121, 122,125 or a 200 -level calculus course need not take the Mathematics Accuplacer exam. Students with transfer credit for MATH 113, STAT 104 and/or MATH 105, ONLY, must take the Accuplacer. Students receiving credit for a "math elective," or any other mathematics course, should contact the Mathematical Sciences Department about the need for the Accuplacer.
- The foreign language requirement did not apply to transfer students until fall 1992.

Students planning to study French, Italian or Spanish must also take a placement examination for enrollment in the appropriate level course.

Placement testing dates are published on a regular schedule, and notices are sent to admitted students. Students transferring from other campuses of CSU should
request forwarding of their Mathematics Placement Exam to Central Connecticut State's Mathematical Sciences Department. Mathematics Placement Examination The Mathematics Accuplacer exam is administered to all entering and transfer (when appropriate) students, both full- and part-time. There is no passing or failing grade on this examination; its only purpose is to determine the student's background, for placement purposes, in mathematics. It is given on a continuous basis. Since the purpose of the exam is initial placement, once a student has started his/her mathematics course sequence, he/she is no longer eligible to take the exam. While the results of the exam are deemed to be valid for the career of the student while at Central Connecticut State, practical experience indicates that the mathematics sequence/courses should be started as soon as possible after taking the MPE. A student, under extenuating circumstances, may retake the MPE only after obtaining permission from the Mathematical Sciences Department chair or MPE coordinator. The examination is provided free of charge as part of the department's commitment to the quality of its course offerings.
State University Student Interchange -Full-time students at Central Connecticut State may take courses not available on campus at one of the other Connecticut State Universities, with grades for these courses being treated as though earned at Central Connecticut State.
Advance approval to take such courses during the academic year is required. Such students will continue to be registered at Central Connecticut State University, to which all tuition and fees will be paid.
Full-time students who may wish to take courses at other Greater Hartford area institutions should check with the Registrar about the Hartford Consortium Cross-Registration Program.
Attending Other Institutions - Students enrolled at Central Connecticut State who wish to take courses at other accredited institutions should check course equivalency with the Office of Registrar. Students who wish to apply transfer credits to specific degree requirements should seek advice from the appropriate department chair or academic dean as to how the credit may be applied.

## Declaration of Major

A student should select a major after consultation with an adviser. Forms to declare the major are available in the Office of Registrar or the Enrollment Center/Office of Continuing Education. See requirements for majors under separate departmental listings.
Change of Major or Degree Objective - To change or declare a degree program, major, minor or concentration, a student must initiate a Major and Program Change Form in the Office of Registrar or the Enrollment Center/Office of Continuing Education, obtain the necessary signatures and return it to the Office of Registrar.
Admission to the Professional Education Program - See School of Education and Professional Studies.
Course Substitution - Departmental chairs may approve the substitution of one course for another within the major, minor or concentration. The student should obtain the appropriate form from the Office of Registrar or the Enrollment Center/Office of Continuing Education, have it signed by the chairs involved and submit the completed form to the student's academic dean.

## Withdrawal from the <br> University

A full-time student wishing to withdraw from the University must confer with the Registrar (Davidson Hall 117) and have the appropriate forms completed and approved by that office no later than four weeks before the last day of the final examination period. The Registrar will assist in filing the form necessary for withdrawal.
Withdrawals after this date will be permitted only under extenuating circumstances and will require consultation and approval of the Registrar.
Readmission is contingent upon the student's academic standing at the time of re-entry. The student must complete a reactivation form with the Office of Admissions to initiate readmission.

## Change of Status

Change of status from full-time to parttime may be requested at any time prior to the first day of classes and through the third week of a semester. No change of
status is permitted after the third week. Contact the Registrar (Davidson Hall, Room 117, 832-1786).

## Other Regulations

Attendance - Regular class attendance is expected by the University. The following attendance regulations are in effect.

- A student is responsible for class attendance although each instructor should establish his/her policy and inform the class.
- A student absent from class for five consecutive days or less should, upon return, explain the absence to the instructor.
- A student, absent for more than five consecutive days for medical reasons, should notify the University Health Service in advance of return. On return, the student obtains a form from the University Health Service to show the instructor. If absent for nonmedical reasons, the students notifies the Student Affairs Office, which notifies the instructor.
- Absences for official University trips to conferences, intercollegiate athletic events, musical performances and other events are authorized in advance by the Student Affairs Office.
- Make-up work is the responsibility of the student.


## Eligibility for Extra-Curricular Activ-

ity - A full-time undergraduate student is eligible for participation in, election and/or appointment to committees and recognized Central Connecticut State student organizations, and for participation in extracurricular activities, such as intercollegiate athletics, band and theatre, provided the student is matriculated and is not under disciplinary sanction prohibiting same.

This is a minimum requirement for the University and does not replace any conditions established by individual organizations.

Transcript Policy - A University transcript is a complete, unabridged academic record, without deletions or omissions, which includes the signature of an authorized official and bears the legal seal of the University. Central Connecticut State issues only official transcripts.

Transcripts may be obtained from the Office of Registrar, Davidson 115. The cost, which is subject to change, is $\$ 3$. All requests for transcripts must be in writing and include payment in advance.

Change of Address - A student must notify the Office of Registrar in writing of a change of address. Students living off campus and not at their permanent addresses should register their local address with the Office of Registrar.

Cancellation of Courses - The University reserves the right to cancel courses which have insufficient registration, and to change the schedule of courses or instruction as necessary.

Academic Honesty - At Central Connecticut State University we value personal integrity as fundamental to our interactions with each other. We place special weight on academic honesty in all of our intellectual pursuits because it is a value that is fundamental to academic life and scholarly practice. All members of the University community are obligated to uphold high standards of academic honesty in their scholarship and learning. Therefore, we expect students to take personal responsibility for their intellectual work and to respect and acknowledge the ideas of others. Academic honesty means doing one's own work and giving proper credit to others whose work and thought one may draw upon. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism.

## Public Access to Student Records

In accordance with appropriate federal and state laws, the University has designated certain types of student information as public or "directory" information. While the University respects the student's right to privacy and will do its best to protect that privacy, such information may be disclosed. The following is directory information: student's name, address, phone number, dates of attendance, class standing, academic major and degree(s) earned. Additional information is also deemed directory information, including participation in officially recognized activities and sports, weight and height of members of athletic teams and awards received.

Currently enrolled students have the right to request that the University not release address and phone information to individuals or organizations outside the University (although we are required to provide information to organizations which have provided the student any type of financial aid, including loans). A student who wishes to have his/her address and phone number restricted should contact the Office of Registrar. Such protection is provided for currently enrolled students only.
The University assumes that failure on the part of any student to specifically request withholding of certain directory information indicates approval of disclosure.

## Graduation Rates

Students may request information on completion and graduation rates from the Office of Registrar (832-2243).

The University offers undergraduate programs in liberal arts, teacher education, professional nursing, technology and business administration leading to degrees in Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Bachelor of Science in Nursing, Bachelor of Science in Engineering Technology, and Bachelor of Science in Industrial Technology. A summary of these programs appears on the following pages of this section.
These academic programs are offered in the University's five schools: The School of Arts and Sciences, the School of Business, the School of Education and Professional Studies, the School of Technology and the School of Graduate Studies. Courses applicable to most degree programs are also offered through Continuing Education and the Summer Session.

Certain new or complex courses of study are listed elsewhere under the heading "Special Programs."

The University offers graduate programs leading to the degrees Master of Science, Master of Arts, Master of Business Administration, Master of Science in Industrial Technical Management, and to the Sixth Year Certificate in Reading and in Educational Leadership. Nondegree graduate-level planned programs leading to teacher certification and for professional enhancement are also available. Consult the School of Graduate Studies catalog for more information.

## Requirements for Bachelor's

## Degree Programs

A total of $44-46$ credits of General Education studies, not including the foreign language requirement, must be completed as part of all baccalaureate degree programs. Nine credits must be taken in Study Area I, nine credits in Study Area II, six credits in Study Area III, six-seven credits in Study Area IV, six credits in Skill Area I, six credits in Skill Area II, up to six credits in Skill Area III, and two--three credits in Skill Area IV. See the General Education section following. (NOTE: All first-year students starting before Fall 1998, and all other students entering before Fall 1999, are covered by an earlier General Education program. Please see page 99 for details.)

A major, or primary field of study, is required of all students. Certain majors, leading to the B.S. degree, are certifiable for teaching by the Connecticut State Board of Education. Other B.S. programs are not certifiable. B.A. majors in the liberal arts program are not certifiable for teaching. Requirements for the majors are listed individually under the appropriate schools.

A minor or concentration-a secondary field of study-is required with all majors except those specifically noted in the individual program listings. Minors in the sciences are certifiable for teaching by the Connecticut State Board of Education and are taken only in conjunction with certifiable science majors in the B.S. program. Concentrations are not certifiable and may be taken in conjunction with either B.S. or B.A. majors. Students should consult with the chair of their major department on minor and concentration requirements.

In addition to these requirements, most bachelor's degree candidates are able to include a number of free elective courses in their programs.

## Business Credit Towards Non-Business

Degrees - No more than 30 credits of
business courses may be applied to a degree program other than a business degree.

Bachelor's degree candidates must complete the following total number of credits:

| B.A. | 122 |
| :--- | ---: |
| B.F.A. | 122 |
| B.S. (Teacher Education) | 130 |
| B.S. (Music Education) | 130 |
| B.S. (Business Administration) | 122 |
| B.S. (Computer Science and |  |
| $\quad$ Chemistry) | 122 |
| B.S.N. (Nursing) | 130 |
| B.S.E.T. (Engineering Technology) | 130 |
| B.S.I.T. (Industrial Technology) | 122 |

## General Education

In addition to offering baccalaureate degrees, Central Connecticut State aims to provide students with the basic foundation for life-long development as rational members of society, to awaken in them the pleasures of intellectual support, and to elevate their aesthetic sensibilities. This commitment to personal development
depends heavily on the acquisition and expansion of formal and tacit knowledge, intellectual processes and techniques. The General Education program is dedicated to this end.

The General Education program seeks to develop in all students skills in communication, an understanding of the cultural, literary, historical, behavioral, artistic and scientific achievements of the past, and an awareness of the various areas of thought which have produced these achievements. The Study and Skill Areas are indicated in the organization of the General Education curriculum.

## General Education Program

A total of 44-46 credits of General Education studies, not including the foreign language requirement, must be completed as part of all baccalaureate degrees. Credits must be taken in each of four study areas and four skill areas as follows:

## Study Areas

I. Arts and Humanities

9 credits
At least 3 credits required in literature, and no more than 6 credits from any one discipline. Courses that focus on creative expression and interpretations of human experience, or the appreciation and development of thought and ideas. (In this Study Area, students will typically be exposed to courses in literature, philosophy and fine arts.)
II. Social Sciences

9 credits
At least 3 credits required in history, and no more than 6 credits from any one discipline. Courses dealing with formal social structures (such as governments, interest groups, territorial entities, economic firms) in their historical and contemporary contexts. (In this Study Area, students will typically be exposed to courses in economics, geography, history and political science.)

## III.Behavioral Sciences <br> 6 credits

Courses that focus on the interaction(s) between and among individuals and/or groups and social/cultural institutions. (In this Study Area, students will typically be exposed to courses in anthropology, psychology and sociology.)
IV. Natural Sciences $\quad 6-7$ credits

A laboratory experience is required.
Courses that focus on the scientific analysis of the natural world. (In this Study Area, students will typically be exposed to courses in biology, chemistry, earth science and physics.)

## Skill Areas

I. Communication Skills 6 credits ENG 110 required. ${ }^{1}$ Students who have not completed ENG 110 prior to earning 61 credits are required to take both ENG 110 and ENG 202.
II. Mathematics 6 credits Mathematics course appropriate to the student's major interests plus either one additional mathematics or computer science course.
III. Foreign Language Proficiency 0-6 credits Proficiency in a foreign language must be demonstrated before graduation. This requirement may be met by any of the following:
a) Three sequential years of one foreign language at the high-school level.
b) Elementary proficiency as demonstrated by successfully completing a sec-ond-semester-level CCSU foreign-language course (112 or 114). Students with no previous background in a language must take the first and second semesters (111 and 112 , or 120 ); students who place out of 111 due to previous background in the language may satisfy the requirement by taking 112 or 114 only.
c) Passing a standardized examination which demonstrates knowledge of a foreign language equivalent to completion of a second-semester course or higher.
d) Successful completion of a foreignlanguage course at a level higher than the second-semester level.
e) Demonstration of native proficiency in a language other than English (requires evaluation of skill level by an appropriate faculty member and/or official documentation, and approval by the Chair of the Department of Modern Languages).
IV. University Requirement 2-3 credits Courses designed to foster personal well being and the development of academic skills essential for the successful pursuit
of a university education. PE 244
(Fitness/Wellness Ventures) will be required of all students who enter with fewer than 15 credits. Those entering with 15 credits or more may complete this requirement with 2-3 additional credits in the Skill Areas above or with other Skill Area IV courses. Remedial courses, MATH 101 and elementary language courses (111 or 112) will not fulfill this requirement.

A list of courses applicable to each Study and Skill Area will appear at the start of the Course section of this catalog. Where appropriate, courses will also bear current, as well as previous, General Education classifications in the description.

All courses required by the major/concentration with General Education designation may be credited toward both the General Education requirements and major/concentration, up to a maximum of 6 credits in the Study Area portion of the General Education program.

Note: First year students starting before Fall 1998 and all students entering prior to Fall 1999 should refer to the requirements for the previous General Education program which are listed on page 99 of this catalog.
${ }^{1}$ An acceptable CCSU English Placement Test score or an appropriate equivalent is required to be eligible for ENG 110. Refer to Skills Testing and Remediation Policy. The requirement of ENG 110 may be waived for a student by the English Department, but the 6 -credit requirement will not be reduced.

Writing Requirement. Where appropriate to subject matter, methodology and class size, all courses designated for General Education, in particular courses in literature, philosophy, the humanities, history and the social and behavioral sciences, will require writing, including assigned papers and essay examinations.

International Requirement. In view of the increasing relevance of the global context to the future of our students, and their need for greater understanding of the world around them, each student must complete 6 credits in courses designated as "International" [I]. Such courses shall be defined as ones: 1) dealing with a
country or region other than the United States; 2) involving the comparative study of two or more countries or regions, one of which may be the United States; 3) that focus upon global themes; or 4) any foreign language course at the 112 level or higher. International courses are listed with all other General Education courses.

First Year Experience. Required for all students with fewer than 15 credits and to be taken in the student's first semester. This requirement may be completed by either a First Year Experience (FYE) section of ENG 110 or an FYE introductory course to a discipline in the Study Areas section of the General Education program. Those students who withdraw or fail to be enrolled in an FYE course in their first semester will be required to take an FYE course in their second semester.

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*Education programs for business education, remedial reading, reading and language arts consultant, school adminis-
ration and leadership, and for Teachers of English for Speakers of Other Languages (TESOL) are offered at the gradutraction and leadership, and for Teachers of English for Speakers of Other Languages (TESOL) are offered at the graduates.

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June B. Higgins, Dean<br>Ross J. Baiera, Interim Associate Dean<br>Scott R. Olson, Associate to the Dean<br>Phone: (860) 832-2600

The School of Arts and Sciences offers programs leading to the bachelor of arts degree, the bachelor of science degree, the bachelor of fine arts degree and the Bachelor's degree in Social Work. These programs are designed to provide a broad liberal education, the subject matter background for specific careers, including teaching, and the preparation for graduate work in a number of academic fields and professions, including law and medicine.

The programs in the School of Arts and Sciences include the fine arts, the humanities, mathematics, computer science, the natural sciences and the behavioral and social sciences. Some programs are designated "certifiable for teaching." These programs all have additional requirements which are found in the catalog descriptions listed under the School of Education and Professional Studies.

Students planning majors, minors or concentrations must consult with department chairs or program directors and be assigned a faculty advisor.

## Anthropology

D. A. Kideckel, Chair; A. E. Adams, K. L. Feder, M. A. Park, W. Perry, E. N. Phillips (Dept. phone 832-2610, 2611 or 2966)

Anthropology means "the study of people." It assumes that generalizing about human life takes an integrated study of human biology and culture, past and present, and simple and complex lifeways. Anthropology is comprised of four subfields. Cultural anthropology describes and explains variation in human cultural and social types. Biological anthropology explains the physical nature and development of humankind. Archaeology considers past human life and how societies grow, change and become extinct.

Linguistics examines human communication processes.

The Anthropology major at the University provides students with a broad social and behavioral science background and prepares the student for a range of careers, from public service to marketing and international management. The department also offers concentrations in cultural anthropology, archaeology, practicing anthropology and biological anthropology. These programs give the student a holistic and cross-cultural perspective to complement most majors.

The Anthropology Department has a number of special programs and resources. An annual summer archaeological field school provides experience in archaeological excavation and analysis. The microfiche Human Relations Area Files in the Burritt Library Serials Department is an easy-touse system for cross-cultural research. There is also an extensive collection of human skeletal materials and fossil casts for education in physical anthropology. Extensive internship opportunities and summer field schools in cultural anthropology are also available.

## Major in Anthropology, B.A.

39 credits in Anthropology, including ANTH 150, 160, 170, 200, 374, 375, 430, 490; one course from ANTH 350, 352, 365; one course from ANTH 345, 370, 470. Three additional courses at 200-400 level, one in Archaeology, one in Biological Anthropology and one in Cultural Anthropology.

## Concentration in Anthropology, B.A. or B.S.

18 credits, including ANTH 140 and 15 credits in Anthropology. Individual programs will differ according to the particular needs of the student and must be developed jointly with the student's adviser.

## Concentration in Archaeology, B.A. or B.S.

24 credits, including ANTH 150, 215, 324, 450 and 12 credits from ANTH $210,220,316,318,322,323,329$ and 330. For students majoring in anthropol-
ogy, six credits of this concentration may be applied to the major.

## Concentration in Biological

 Anthropology, B.A. or B.S. 18 credits including ANTH 160,265 , 345,365 and 465 , and three credits of concentration-related electives. For students majoring in Anthropology, three credits of this concentration may be applied to the major.
## Concentration in Cross-Cultural Analysis, B.A. or B.S.

18 credits including ANTH 170, 200, 430. Two courses from ANTH 352, 422, 424, 426, 428 or 475 (if devoted to a specific world area). One additional course approved by an adviser. For students also majoring in Anthropology, three credits of this concentration may be applied to the major.

## Concentration in Practicing Anthropology, B.A. or B.S.

18 credits, including ANTH 170, 200, $370,374,437$ and either 300 or 470 . For students majoring in anthropology, three credits of this concentration may be applied to the major.

## Art

S. O. Fafunwa-Ndibe, Chair; C. BroadusGarcia, J. Buxton, S. Gallagher, V. Garcia, F. Hentschel, E. Langhorne, C. Marshall, R. Siporin, M. Strathy, R. Todd (Dept. phone 832-2620)

The Art Department's undergraduate degree program offers a wide range of visual art options, including painting, printmaking, illustration, sculpture, ceramics and graphic design. Both concepts and technical excellence are stressed within a curriculum that encourages all forms of creative explorations via a developing professional exchange with faculty. All majors must complete a successful porffolio review of at least 10 works to become eligible for upper division courses. Study plans for students are developed

Area 5, Sculpture: ART 361, 362, 462, 465

Area 6, Crafts: ART 260, 264, 360, 366, 460, 464, 465, 466, 468

In addition, the student must take 34 credits of professional education, including ART 200, 201, 300 and 401, EDF 400 or 415 , EDSC 375,428 and 429, SPED 315 and EDTE 315.

## Portfolio Requirement

All Art majors (B.A. and B.S. candidates, including transfer and teaching certification students) must submit a portfolio of at least 10 works for consideration by the Art faculty. Students whose portfolios do not meet standards will be required to take supplemental courses. No student will be allowed to proceed on to a 300 -level Art course without a successful portfolio review. Courses that require a portfolio review are marked with an asterisk in the Course Description section of this catalog.

Concentration in Art, B.S.
Majors in Secondary Education programs: 18 credits in Art are required, grouped according to the recommendations of the Art Department.

## Concentration in Art, B.A.

18 credits in Art are required, grouped according to the recommendations of the Art Department.

## Concentration in Art History, B.A. or B.S. <br> 18 credits in Art History, including ART 112 and 113.

## Biological Sciences

L. M. Carluccio, Chair; D. R. Carter, M. A. Davis, S. L. Halkin, J. N. Jarrett, M. A. Kapper, T. R. King, K. A. MartinTroy, T. Mione, B.J. Nicholson, P. Osei, C. A. Penniman, R. E. Rollin,
D. A. Spector, C. L. Watson, K. A. Wilson (Dept. phone 832-2645)

The Biological Sciences Department has full-time faculty representing the major specializations within the broad field of biological sciences. Copernicus Hall hous-
es 13 laboratories for introductory and advanced undergraduate and graduate courses and research in biology.

The department has a wide range of modern research equipment in laboratories designed for class and/or individual research studies. Specialized facilities, available for faculty and student instruction and research, include a greenhouse, herbarium, protein purification facility, photosynthesis research laboratory, molecular genetics research laboratory, controlled environment room, computer laboratory, cell culture facilities, mouse and rat colonies, darkrooms, experimental gardens and growth chambers.

Through the academic and extracurricular opportunities which the department offers, students are prepared to understand the living world and to enter various careers in biology.

Major in Biology, B.S. (Non-Teaching) Core (17-19 credits): BIO 121, 122, 201, 202 and either 390 or 391 , and ONE of the following Advanced Components.
(a) General Biology (32 total credits in Biology required)
Core, plus 13-15 credits of any other 300and $400-$ level Biology courses. In addition, MATH 125; CHEM 121, 122, 311, 312; and PHYS 121, 122 are also required.

This program includes consideration of all the major concepts and areas of biology. Students are encouraged to see connections in biological processes from the standpoint of all sciences. Students may select different courses to build on the knowledge gained in their first and second years of study and design a biology curriculum that suits their interests. With this degree, students may enter a variety of careers in research, health-related fields, industry or graduate study.

## (b) Specialization in Cell, Molecular

 and Physiological Biology (32 total credits in Biology required) Core, plus 13-15 credits as follows: BIO 306 or 316 ; BIO 410 or 412 or 449; and any advanced courses in the $\mathrm{C} / \mathrm{M} / \mathrm{P}$ Group (see list below). In addition, MATH 125; CHEM 121, 122, 311, 312; and PHYS 121, 122 are also required.This specialization offers a curricular focus on molecular and cellular mecha-
nisms that is integrated with organismal physiology and emphasizes the principles and practice of biological research. It is designed to prepare students for careers that use the concepts and techniques of molecular and cellular biology, advanced training or careers in the health sciences or graduate study in fields such as genetics, microbiology, molecular biology, cell physiology or biochemistry.

## C/M/P Group

| Course | Credits |  |
| :--- | :--- | ---: |
| BIO 306 | Genetics | 4 |

BIO 316 Microbiology 4

BIO 318 Anatomy and Physiology I 4
BIO 319 Anatomy and Physiology II 4
BIO 401 Human Nutrition and Metabolism
BIO 410 Ecological Physiology
BIO 411 Cellular Physiology and Metabolism
BIO 412 Human Physiology
BIO 413 Human Physiology
BIO 416 Immunology
BIO 417 Immunology Laboratory
BIO 449 Plant Physiology
BIO 450 Investigations in Plant Physiology
BIO 462 Developmental Biology 3
BIO 490 Studies in Biology* $1-4$
BIO 491 Advanced Problems in Biology*
BIO 495 Molecular Biology
BIO 499 Undergraduate Thesis in Biology*
CHEM 454Biochemistry
*with a topic focus approved by the C/M/P faculty advisor
(c) Specialization in Ecology, Biodiversity and Evolutionary Biology
(32 total credits in Biology required)
Core, plus 13-15 credits as follows: One of BIO 405, 434, 440, 480; one of BIO $316,321,322,326,327,420,425,444$, 468; any advanced courses in the $\mathrm{E} / \mathrm{B} / \mathrm{E}$ Group (see list below). In addition, MATH 125; CHEM 121, 122, 311, 312; and PHYS 121, 122 are also required.

This specialization emphasizes ecological and evolutionary processes integrated with study of organismal diversity. Students will develop an understanding of the processes that influence relationships
among organisms and interactions with their environments through selected courses and individual research projects. This program will prepare students for careers with government agencies (e.g., conservation, fisheries and wildlife management, forestry), nongovernmental organizations, environmental education groups and the environmental industry. In addition, students will be prepared for graduate studies in fields such as ecology, evolution, animal behavior, natural resources management or marine and aquatic biology.

## E/B/E Group

## Course

Credits

## BIO 321

Invertebrate Zoology
BIO 322 Vertebrate Zoology

BIO 438 Aquatic Pollution
BIO 440 Evolution
BIO 444 Plant Taxonomy
BIO 468 Arthropod Biology
BIO 327 Vascular Plants
BIO 405 Ecology
BIO 410 Ecological Physiology
BIO 420 Ornithology
BIO 425 Aquatic Plant Biology
BIO 434 Ecology of Inland Waters and Estuaries
BIO 436 Environmental Resources
and Management

BIO 480 Animal Behavior
BIO 481 Comparative
V10 Vertebrate Anatomy
BIO 490 Studies in Biology**
BIO 491 Advanced Problems in Biology**
BIO 499 Undergraduate Thesis in Biology**
${ }^{* *}$ with a topic focus approved by the $\mathrm{E} / \mathrm{B} / \mathrm{E}$ faculty advisor.

## (d) Specialization in Environmental

Science (31-35 total credits in Biology required)
Core, plus 14-16 credits as follows:
Either BIO 436 or 438; one of BIO 316, $321,322,326,327,420,425,444,468$; one of BIO 410, 411, 412/413, 449/450; either BIO 405 or 434. In addition, MATH 125; CHEM 121, 122, 301, 311, 312, 406; either ESCI 121/123 or 450; and PHYS 121, 122 are also required.

This specialization offers students a strong biology core curriculum and added multidisciplinary strengths in environmental science. The program provides students with a foundation in organismal biology, ecology, environmental chemistry, earth science and environmental management in order to give an understanding of environmental issues from a multidisciplinary perspective. The program has particular strengths in plant and animal organismal biology and aquatic (freshwater and estuarine) ecology. The specialization prepares students for careers in environmental science and natural resource management with government agencies, nongovernmental organization and the environmental industry, or for graduate studies in these areas.

Major in Biology, B.S. (Certifiable for teaching grades 7-12)
37 credits in Biology as follows: BIO 121, 122, 201, 202; one of BIO 321, 322, 420, 468, 481; one of BIO 326, 327, 425, 444; either BIO 306 or 316; either BIO 405 or 411 ; one of BIO 318, 319, 410, 412/413, 449/450; BIO 390. In addition, MATH 125; CHEM 121, 122, 250; PHYS 121, 122; and Professional Education courses EDTE 315, EDF 415, SPED 315, EDSC 425, 435, SCI 416, 417, 419 are required.

This specialization is designed for students who wish to teach biology at the secondary level. The program includes consideration of all major concepts and areas of biology. Within some of the areas, students may select different courses to build on knowledge gained in their first and second years of study. Students are continuously encouraged to see connections in biological events from the standpoint of all sciences. The specialization also includes a professional education component. Because of the breadth of required courses, it is also possible for students in secondary education to enter a variety of other careers in research, health and industry, as well as graduate study.

- A student who majors in biology is not required to complete a minor but is urged to minor or concentrate in one of the other laboratory sciences or General Science.


## Portfolio Requirement

All majors in the Department of Biological Sciences are required to complete a Student Portfolio. Minimally, the Student Portfolio must include a current resume, a current Student Graduation Evaluation (available from the Biological Sciences Department) or transcript, a narrative describing the student's goals for undergraduate education and graduate educational or career plans, and writing samples from one or more upper-level courses in the major. To fulfill the Portfolio Requirement in Biological Sciences, the Student Portfolio must be reviewed with one or more faculty members in Biological Sciences - as a course requirement in BIO 201 and 202, as a required component of BIO 390, 391, 491 and all independent studies and internships, and prior to application for graduation, as evidenced by submission of a "Portfolio Requirement Completed" form (available from the Biological Sciences Department and signed by the major advisor) to the Biology Chair.

Major in Medical Technology, B.S. 52 credits in sciences, including BIO $121,122,316,318,416$ and 417; CHEM 121, 122, 301, 311, 312 and 454; PHYS 121 and 122. In addition, the student must take MATH 125 and complete, as a senior, a year of clinical training and courses in Medical Technology in an approved hospital, for which 30 credits will be awarded. A concentration is not required.
The listing of clinical courses and their descriptions is in the Course Description section of this catalog under Medical Technology.
Those applicants who qualify for clinical placement should note that eligibility does not imply automatic acceptance. Hospitals expect a GPA of 2.50 or above.
Students interested in this program must consult Professor Peter Osei, coordinator, Medical Technology Program, Department of Biological Sciences, Copernicus Hall 339 (832-2657).
The University currently has affiliation agreements with the following schools:

- Bridgeport Hospital, Bridgeport, CT: Larry Bernstein, M.D., Medical Director, School of Medical

Technology, and Patricia Clark, MT (ASCP), Program Director

- St. Mary's Hospital, Waterbury, CT: William Frederick, M.D., Medical Director, School of Medical Technology, and Joseph Vaccarelli, M.S., MT (ASCP), Program Director. For other possible affiliations, e.g. Danbury Hospital and St. Vincent's Medical Center (Bridgeport), please consult Dr. Osei.


## Minor in Biology, B.S.

(Certifiable for secondary teaching) 20 credits required (for those with a major in Chemistry, Physics or Earth Sciences) as follows. BIO 121, 122, 201, 202 and any 4 -credit course at the 300 or 400 level. In addition, SCI 416, 417, 419; MATH 125 and CHEM 121 are required. Those with a major in any other discipline should consult with the department chair about the specific requirements for the minor.

## Major in Interdisciplinary Sciences

 with Specialization in Biology, B.S. (Acceptable for certification in elementary education)39-42 credits. For course listing, see major in Interdisciplinary Sciences, page 58.

For certification in elementary or middle level education, Complementary Subject Matter Area in Biology:
18 credits, as follows: BIO 121, 122, 132 and 133; 6 credits from BIO 100, 107, $120,150,321,322,326,327$; and any 300 - or 400 -level biology course; at least 3 credits must be at the 200 -level or higher. Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

## Major in Interdisciplinary Sciences with Specialization in Environmental Interpretation, B.S.

53-57 credits. For course listing, see major in Interdisciplinary Sciences, page 58.

## Concentration in Biology, B.A. or B.S.

(Non-Teaching)
20 credits in Biology, including BIO 121, 122, 201, 202 and 4 credits of Biology electives at the 300 or 400 level.

## Chemistry

T. D. Shine, Chair; J. V. Arena,

T. Burkholder, G. Crundwell,
N. M. Glagovich, C. A. Jones, R. Troy, B. L. Westcott, Jr. (Dept. phone 832-2675)

The Chemistry Department offers B.S. degrees in chemistry which include specializations in business, computer science, biology and environmental science, or are designed for those wishing to teach chemistry at the high school level. In addition, the Department offers a B.S. degree which is approved by the American Chemical Society.

The Chemistry Department provides undergraduate and graduate courses in the five major areas of chemistry (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry). The Department facilities are located in Copernicus Hall and include six major instructional laboratories and two major instrument rooms, as well as two research laboratories. In addition, the Department shares a state-of-the-art computer laboratory, also in Copernicus Hall, with two other departments.

Chemistry students at the undergraduate and graduate levels have the opportunity to work on all of the Department's state-of-the-art chemical instrumentation. These include a gas chromatograph/mass spectrometer, a gas chromatograph/ Fourier transform infrared spectrometer, two high-performance liquid chromatographs, a Fourier transform nuclear magnetic resonance spectrometer, three UV/visible spectrophotometers, a flame atomic absorption spectrophotometer, a BAS 100A electrochemical analyzer and three stand alone gas chromatographs.

## Major in Chemistry, B.S. (Non-

 Teaching)
## (a) General Program

This program is designed for students wishing to go on to graduate-level studies in chemistry, or those who expect to enter professional chemistry at the bachelor's level.

47-48 credits, as follows: CHEM
$121,122,301,311,312,313,321,322$,
$323,402,432,454,460,461,462$ and

472; PHYS 125 and 126; and MATH 121, 122, 221. The student must also complete 8 credits from the following approved list: BIO 121 or higher, PHYS 202 or higher, ESCI 121 or higher, or MATH 222 or higher. Computer literacy and experience in the use of chemical literature are recommended. For students contemplating graduate study, a year of German or Russian is recommended. A concentration is not required.
(b) Chemistry-Business Specialization

This program is designed for students wishing to apply their chemistry background to the business management or marketing facet of the chemical industry.

40 credits in Chemistry, as follows: CHEM 121, 122, 301, 311, 312, 313, $321,322,323,402,432,460,462$ and 472. In addition, students must take PHYS 125, 126 and MATH 121, 122, 221. In place of a concentration, the following courses are required: ECON 200, AC 211 and either the Marketing or Management sequence. Students in the Marketing sequence must take MKT 295, 307,311 and 413 . Students in the Management sequence must take MGT 295, 305, 403 and 431.

## (c) Chemistry-Computer Science

 SpecializationA strong background in computer science has become increasingly important in chemical work. This program affords the student a measure of this needed background.

40 credits in Chemistry, as follows: CHEM 121, 122, 301, 311, 312, 313, 321, 322, 323, 402, 432, 460, 462 and 472. In addition, students must take PHYS 125, 126 and MATH 121, 122, 221. In place of a concentration, the following courses are required: CS 151, 152, 254 and one elective in Computer Science approved by the Department of Computer Science. Experience in the use of chemical literature is recommended.

## (d) Chemistry-Biology Specialization

 This program is designed for students who desire a broad background in chemistry and biology or are considering a health-related field upon graduation.58-59 credits, as follows: CHEM $121,122,301,311,312,313,320,402$,

454, 455, 459; BIO 121, 122, 201, 306; and 7-8 elective credits from BIO 316, 318, 319, 416, 495 and CHEM 456.

## (e) Chemistry-Environmental Science Specialization

This program is designed for students wishing to go on to graduate level studies in chemistry or environmental science, or for those who expect to enter professional fields of chemistry or environmental science at the bachelor's level.

57 credits in Chemistry and Biology as follows: CHEM 121, 122, 301, 311, $312,313,321,322,323,402,406,432$, 456, 460 and 472; BIO 121, 122, 434 (or 405). In addition, students must take MATH 122 and 221 and PHYS 125, 126. ESCI 121 is recommended. No concentration is required.

Major in Chemistry, B.S. (Certifiable for secondary teaching)
This program is designed for those students seeking state certification for teaching chemistry at the secondary level and includes a student-teaching component in the senior year at an area school.

36 credits in Chemistry, as follows: CHEM 121, 122, 301, 311, 312, 321, 322, 323, 402 and 460. In addition, students must take BIO 121; PHYS 125, 126; SCI 420; MATH 121, 122 and 221; and 4 credits of science electives approved by the chair. Students must also take SPED 315; EDTE 315; EDF 415; EDSC 425, 435; SCI 416, 417, 419.

For students contemplating graduate work, a year of German or Russian is recommended. Students who major in Chemistry are not required to complete a minor, but are urged to minor in General Science.

Minor in Chemistry, B.S. (Certifiable for secondary teaching)
18 credits in Chemistry if the student's major is Biology, Physics or Earth Science, including CHEM 121, 122, 301, 311 and one Chemistry elective from courses numbered 300 and above. In addition, students must take PHYS 121, 122; BIO 121; SCI 417 and MATH 121. For other majors, a certifiable minor in Chemistry requires 30 credits planned with the approval of the chair of the Chemistry Department.

## Concentration in Chemistry, B.S.

(Non-Teaching)
21 credits in Chemistry, including CHEM 121, 122, 301, 311 and two Chemistry electives selected from courses numbered 300 or above.

## Communication

A. Moemeka, Chair; R. M. Fischbach, G. Hiebner, L. Huang, Y. Ju, S. MendezMendez, C. Pudlinski, K. Ritzenhoff, B. Sevitch, C. B. Tyson, C. White (Dept. phone 832-2690)

## The Department of Communication

 offers courses leading to the Bachelor of Arts degree which are designed to challenge students interested in the study of human communication. Communication, broadly conceived, is the purposeful exchange of symbolic information. Communication viewed as human behavior can be examined both in terms of its process and its outcomes and effects. The program of study defines a range of communication problems, determines the appropriate method of inquiry and searches for answers to the important questions involving the role of communication in individual relationships, in societal settings, in corporate structures and in global interdependence.
## The major in Communication

 (B.A.) consists of 39 credits in the department and related courses, including 21 credits of departmental electives and 18 credits of core requirements: COMM $140,215,230,245,301$ or 302 or 303 , and 400 . As part of their 39 credit major, students must take a total of 21 credits from 300/400-level courses, with a minimum of 9 credits from 400 -level courses. Students should see the Department of Communication to obtain a Curriculum Guide Sheet to determine the appropriate departmental electives for their program.Communication majors can also complete two capstone experiences on an optional basis as part of their graduation requirements. The first option is a colloquium presentation in which the student discusses a piece of their work (research paper, video production, internship, etc.) which was done while completing the
requirements for the major. The presentation will be made to a group of faculty and students from the Department of Communication. The second capstone option pertains to a student portfolio that the major prepares and submits to the department prior to graduation. The student portfolio should contain several pieces of work that the student selects to demonstrate his or her accomplishments while completing the program. Upon admission to the major, the student should obtain a set of guidelines for preparing the colloquium and student portfolio from the Communication Department.

Courses are grouped according to certain emphases within the broad field of communication, allowing the student the choice of an emphasis that is compatible with his or her aims and interests. These emphases are: (1) mass media for students interested in careers in radio, television or film; (2) promotion/public relations for students who wish to develop communication skills for commercial, as well as non-commercial, employment in publicity, promotions, sales and corporate communication and community services; (3) political communication for students interested in developing communication skills necessary for working in state or local government; (4) organizational communication for students interested in pursuing consulting or in serving as managers for private and public institutions; and (5) for students with specialized needs, an adviser-based program is another option. In addition to these educational and occupational opportunities, a student might choose to pursue directions which could lead to an advanced degree in Communication.

The Department of Communication maintains a policy for admission to the major. To be admitted to the Communication major, students must complete 30 credits ( 15 credits for transfer students with 45 or more credits transferred to CCSU) of general education or courses in their concentration (minor) and obtain a 2.00 GPA or better. Also, students must complete four required Communication core courses at CCSU: COMM 140, COMM 215, COMM 230 and COMM 245, and achieve a 2.50 minimum overall GPA for the four courses, with no grade lower than a C - in
any course. Students who have taken one or more of these courses at another institution should see the department chair for a substitute(s).

Students should not take any Communication courses beyond five of the six core courses (COMM 140, 215, 230,245 , and 301 or 302 or 303 ) until they have been admitted to the major. The sixth core course - COMM 400 must be taken before graduation. Students who have been denied admission to the major may apply courses they have taken in the core to a concentration (minor) in Communication provided there is no grade lower than a C-. Alternatively, they may repeat courses in which they received a C- or lower in order to raise their GPA.

Students in the process of completing the admission requirements to the Communication major are considered PreCommunication majors. They should go to the Advising Center located in Willard 100 for academic advising, until their admission to the Communication major. Pre-Communication majors, when enrolled in the last Communication course needed for admission to the major, should go to the Communication department office and complete a Major and Program Change Form. The chair will sign this form, after evaluating the student's transcript to determine if he or she meets the admission requirements. Upon being admitted to the major, the student will be assigned a Communication Department faculty member as an adviser. The Registrar's Office will also be notified that the student's major has been changed from Pre-Communication to Communication.

Curriculum Guide Sheets listing required and recommended courses for each emphasis are available in the department. A maximum of 6 credits in related courses from outside the department (also listed on Curriculum Guide Sheets) may be counted toward the major. The student may also request to use up to six credits of related coursework outside of the major that were not listed on the Curriculum Guide Sheets. In such cases, students should obtain permission from their adviser and department chair as well as complete a course substitution form. Furthermore, completion of a concentration (minor) in a related field of study
in another department at the University is required. Students should complete a Program Change Form as soon as possible to declare their concentration.

## Concentration in Communication,

 B.A. or B.S.21 credits in Communication, including COMM 115 or $140,215,230$, and 12 credits in Communication courses, 6 of which must be numbered 300 or 400 .

## Computer Science

J. M. Calvert, Chair; F. Abdollahzadeh, W. C. Jones, B. P. Kjell, Z. Markov, C. W. Neville, C. L. Pelletier, I. Pevac, N. Zlatareva (Dept. phone 832-2710)

The Department of Computer Science offers an honors and an alternative program of study leading to a bachelor of science degree in Computer Science, as well as an interdisciplinary program with Computer Science core. The Computer Science major is one of the first such programs offered in New England, and the honors program is fully accredited by the Computer Science Accreditation Board (CSAB). Accredited programs must meet or exceed CSAB criteria for faculty, curriculum, laboratory and computing resources, students and institutional support. Central Connecticut State's Computer Science honors program is the first in the state to receive CSAB accreditation.

All Computer Science (CS) majors take courses covering program design, data structures, assembly language programming, digital design and systems programming. Topics courses, which allow the department's offerings to keep pace with the rapid advancement of computer technology, are offered for elective credit on a regular basis.

In addition to the regular course work, CS majors may participate in the Cooperative Education program. This program, open to juniors and seniors, allows the student to put her/his skills to use in a real-life setting, receiving academic credit for work in a real-world environment. The interdisciplinary program provides a grounding in Computer

Science, Mathematics and Natural Science, and allows the students to cap their program in any of these fields.

The computer facilities at the University, including a VAX 7000-630, a VAX 7000-640, with numerous remote terminals in several clusters around campus, and a lab of UNIXbased workstations, support several CS courses. Several microcomputer labs all of which are networked - connect over 100 IBM-compatible computers and 60 Macintoshes distributed around the campus. The entire campus is linked via Ethernet.

Central Connecticut State is linked to INTERNET, an international network of colleges, universities and research institutions.

Major in Computer Science, B.S. (Honors) (Non-Teaching) (CSABaccredited)
69 credits. Core ( 18 credits): CS 151, 152, 161, 253, 254, 354. Advanced Area Courses ( 9 credits): CS 355, plus choice of two from CS 385, 463, 464. Advanced Directed Electives ( 9 credits): choice of three from CS $410,420,423,460,462$, $465,473,481,483,485,486$ and 490 , selected in consultation with an advisor. Auxiliary electives ( 4 credits): selected in consultation with an advisor, from those not selected from Advanced Area Courses or Advanced Directed Electives or from CS 290, 300, 301, 398, 407, 498, 499; PHYS 338, 339, 340.

Mathematics and statistics ( 15 credits): MATH 122, 221, 218 and STAT 315. Science and quantitative methods ( 14 credits): One of the following sequences: BIO 121 and 122 or CHEM 121 and 122 or ESCI 121, 122 and 123 or PHYS 125 and 126. An additional 6 credits in science and/or courses with a strong emphasis on qualitative methods, selected in consultation with an advisor, is required. Majors must also take PHIL 242.

Computer Science honors program majors are not required to complete a concentration.

## Major in Computer Science, B.S.

(Alternative) (Non-Teaching)
38 credits as follows: 30 credits of Computer Science courses, including CS $151,152,161,253$ and 254 , and 15 elec-
tive credits selected in consultation with an adviser. No other CS course numbered below 210 can be counted for this major. 8 credits in mathematics: MATH 122 and 218. This alternative major may be completed in as few as four semesters and allows the student to complete requirements for a concentration.

## Concentration in Computer Science, B.A. or B.S.

18 credits as follows: CS 151, 152, 253, 254 and 4 credits of Computer Science electives which are applicable to the B.S. degree in Computer Science.

## Interdisciplinary Major - Sciences with Core in Computer Science, B.A.

 39 credits as follows: 18-24 credits of Computer Science consisting of CS 151, 152,253 and 254 , plus $4-10$ credits in electives chosen from CS courses numbered above 300. 9-15 credits in mathematics chosen from MATH 121, 122, 218, 221, 222, 228, 366 and 477. 3-9 credits in physics or earth science and 3-9 credits in chemistry or biology. Science courses must be laboratory courses.
## Criminology and Criminal Justice

S. Pease, Chair; T. Bakken, S. Cox, R. Fernandez, D. Stanley, R. Tafrate (Dept. phone: 832-3005)

## Major in Criminology, B.A.

 39 credits as follows: CRM 110, 222, $231,233,337,338,435$ and 18 credits of Criminology electives, selected in consultation with an advisor.The academic field of criminal justice is interdisciplinary and involves the study of the definition of crime, the causes and control of criminal behavior and the operation of the criminal justice system (i.e., police, courts and corrections). The study of criminal justice is both theoretical and practical in nature and emphasizes theory, application of theory and evaluation of both theory and practice. Through classroom and field experience students are prepared for responsible positions of service in law enforcement,
the courts, corrections and youth service agencies. Graduates have taken positions in federal, state and municipal law enforcement, federal and state prisons, halfway house staff and management, federal and state probation, private security and public and private investigation.

Concentration in Criminal Justice, B.A. or B.S.
18 credits, CRM 110, 231 or PS 332, CRM 233, 337, 338 and 3 credits of Criminology electives. Students concentrating in Criminal Justice are urged to consult an advisor in the Criminology and Criminal Justice Department.

Note: Students with a major in Political Science and a concentration in Criminal Justice, may count the Criminal Justice and Political Science courses in either the major or the concentration, but not in both.

## Design (Graphic/ Information)

S. G. Vial, Chair; E. Astarita, J. Calvert, R. Frost, E. Thornton, B. Tyson (Dept. phone 832-2557)

At the present time, the Department of Design is seeking licensure for a B.A. Degree in Graphic/Information Design.

Interested students may pursue an individualized Special Studies B.A. Degree Program in Graphic/Information Design. (Department of Design courses are designated DES.)

Contact Susan Vial (chair, Maloney Hall, Room 139) at 832-2557 for further information.

Note: Students enrolled in the following courses will be assessed a $\$ 65$ Design Lab Fee: DES 222, 322, 325, 326, 436, 438, 439, 465, 498, 499, 503, 504, 598, 599. Contact the Department for additional information.

## Economics

K. T. Pae, Chair; P. L. Altieri, R. R. Daigle, K. H. Kim, J. C. Loughlin,

A. Papathanasis, A. J. Zottola (Dept. phone 832-2725)

## Major in Economics, B.A.

30 credits, including ECON 200, 201, 300,305 and 310 . Three credits toward the 30 credits will be granted for either GEOG 244 , HIST 430 or 465 . In addition the student must take MATH 125 and STAT 104, PHIL 220 or MIS 201.

## Major in Economics, B.A., with Specialization in Operations Research

 57 credits of Economics and related courses, including ECON 200, 201, 305, 460,485, MATH 470, CS 151; and either ECON 300, 310, 311, MATH 125, 126, STAT 215, 216 (total 21 credits) or ECON 300, 310, 311, MATH 121, 122, 221, 222 and STAT 315, 416 (total 27 credits). The remaining 9 or 15 credits may be elected from Economics courses acceptable for the B.A. Economics major (ECON 470 strongly recommended), MATH 110, STAT 455, 456, CS $151,254,473$; at least two of these courses must be labeled Economics.A maximum of 3 credits may be waived from the requirements for this program upon completion of an appropriate cooperative work experience. No concentration is required for students choosing this major.

## Concentration in Economics, B.A. or B.S., Secondary

18 credits as follows: ECON 200, 201 and 12 credits of electives in Economics. GEOG 244, HIST 430 or HIST 465 may be credited toward the concentration in the B.S. program.

## English

L. Jestin, Chair; S. Barnett, G. Belanger, R. Blanco, R. L. Bonaccorso, A. Cannella, J. D. Conway, D. Cook, W. Cook, C. Doyle-Stott, R. Dunne, G. Gigliotti, S. N. Gilmore, T. Hazuka, J. R. Hegglund, J. A. Heitner, B. A. Johnson, K. H. Kelly, B. H. Leeds, D. M. Lynch, K. M. Lynch, D. P. McDonough, M. Mentzer, M. Nunn, A. G. Osburne, R. Schipke, D. P. Shugert, G. J. Tullai,
G. J. Weinberger, J. K. Weinberger,
L. Zidani-Eroglu (Dept. phone 832-2740)

General Prerequisite: ENG 110 is a prerequisite for all other English courses.

## Major in English, B.A.

39 credits in English, as follows: ENG 205, 206, 210, 211 and one course from the following: ENG 200, 230, 400, 430, 431. In addition, 24 credits on the 300400 level* as follows: four courses ( 12 credits) in British literature, one each in the following areas - I. 700-1660 A.D., II. 1660-1900, III. 1900-Present, IV. Major figure (Chaucer, Shakespeare, Milton); three courses ( 9 credits) in American literature - one in a period preceding 1865 , one in a period following 1865 and ENG 449; and one course (3 credits) in world literature.

Major in English, B.S. (Appropriate for certification in secondary education) 42 credits in English, as follows: ENG 200 or $400,205,206,210,211,401$, 420 and 492. In addition, 18 credits on the 300-400 level* as follows: four courses ( 12 credits) in British literature, one in each of the following areas - I. 700-1660 A.D., II. 1660-1900, III. 1900-Present, IV. Major figure (Chaucer, Shakespeare, Milton); two courses (6 credits) in American literature, including ENG 449. Also, RDG 440, SPED 315, EDTE 315, EDSC 425, EDSC 435 and EDF 415 are required for certification.

> *There is one exception to this statement that the remaining credits must be on the $300-400$ level. ENG 220 may be taken as fulfillment of the appropriate area requirement. Also, if a student takes two major figure courses, the second may count as an area fulfillment: Chaucer or Shakespeare for Area I, Milton for Area II. Further substitutions within area requirements are permitted only with prior approval of the adviser and the department chair.

Major in English, B.S. (Appropriate for certification in elementary education) 39 credits as follows:
Core ( 24 credits): ENG 200, 205, 206, 210, 211, 300, 491, 492
Composition Sequence ( 6 credits): either, Expository: ENG 202, 401 or 402 Creative: two from ENG 371 or 372,373 or $374,376,377$ Journalism: ENG 235, 380

Directed Electives ( 9 credits): ENG 270 or $274 ; 6$ credits at the $300-400$ level in British, American and/or world literature or ENG 220, selected in consultation with advisor. SPED 315 is required for certification.

## For certification in elementary education, primary subject matter area in English:* <br> 24 credits, as follows: ENG 205, 206, $210,211,230,270$ or 274 , and $491 ; 3$ elective credits at the 300/400 level in British, American or world literature or ENG 220, selected in consultation with an advisor. See Department for details.

Concentration in English, B.A. or B.S. 21 credits in English, as follows: ENG $110,205,210$ and 12 credits of literature electives, with at least 9 credits on the 300-400 level.

Concentration in Writing, B.A. or B.S. 21 credits as follows: ENG 110, 230**, 401 and 12 credits elected from ENG 235, 236, 371, 372, 373, 374, 376, 377, 378, 380, 381, 382, 403; МС 207.
**Students wishing to specialize in Creative Writing should substitute ENG 260, 261 or 262 for ENG 230.

## Concentration in Journalism, B.A. or B.S.

21 credits as follows: ENG $110,235,236$ and 12 credits elected from ENG 380, 381, 382, 412, 416, 418, 495.

## Concentration in Descriptive Linguistics, B.A. or B.S.

21-23 credits as follows: ENG 200, 230, 400, 430 (or an approved substitution), 431 and either a) 6 credits of a foreign language at the intermediate level; or b ) CS 151 and 152; or c) SPED 420 and either ED 498 or ENG 490 (for independent study in manual sign systems).

## Concentration in TESOL, B.S.

21 credits as follows: ENG 230, 200 or $400,496,497$ and either a) 6 credits of foreign language at the intermediate level plus one of the following courses, or $b$ ) (for the student who is already competent in a foreign language) three of the following courses: ANTH 170, ENG 430, 431, 498, HUM 490, SOC 231.

Complementary Subject Matter Area in English/Linguistics:*

18 credits, as follows: ENG 200, 230, 300, 430 and 431; either an approved elective or a second topic under ENG 430.

## Complementary Subject Matter Area in English/Writing:*

18 credits, as follows: ENG 202, 401 and 403; 9 credits in either Journalism (ENG $235,236,380,381,382,416$ or 418 ) or in Creative Writing (ENG 371, 372, 373, $374,376,377$ or 378 ).

[^1]
## Geography

J. E. Harmon, Chair; R. W. Benfield, P. A. K. Kyem, T. Rickard, X. Shen,<br>J. N. Snaden, B. J. Sommers, D. Truly (Dept. phone 832-2785)

The Geography Department is concerned with the science of location. Geography faculty teach students to use maps, air photos, computers and information about places to understand how people use the land they live on and what makes that land different from other areas.
Geography students learn about the nature of places, human impacts on environment and the proper use of the land. Career opportunities include travel and tourism, environmental protection, urban, regional and transportation planning, map making, area studies and computer applications. The department also provides internships for students in a variety of town, regional, state and private agencies and offers consulting services, workshops and short courses as part of its outreach program.

## Major in Geography, B.A. or B.S.

 36 or 39 credits in Geography, as follows: A 21 -credit basic core including GEOG 110 or 120,3 credits in physical geography, 3 credits in cultural geography, 3 credits in geographic techniques, 3 credits in planning and 6 credits in regionalgeography courses. Also, completion of one of four programs as follows:

Environmental: 9 credits in physical geography, 9 credits in geographic techniques and 9 credits from GEOG 430, $433,445,472$ and 473 , plus any 300 - or 400-level Geography course. 9 credits of this program may be used to fulfill the requirements of the core.

Techniques: GEOG 256, 266, 276, $378,379,430$ or other course selected in consultation with faculty advisor, and 6 credits from other Geographic Techniques courses. 3 credits of this program may be used to fulfill requirements of the core.

Tourism: 15 credits from GEOG $290,450,451,453,454$ or 455 ; two courses in regional geography at the 300or 400 - level; GEOG 425 or GEOG 430 or a substitute course; and one elective geography course. 9 credits of this program may be used to fulfill requirements of the core ( 39 credits total).

General/Regional: 18 credits of Geography electives, at least nine of which must be at the 400 -level. All elementary education students selecting this program will take GEOG 414 as one of their 3-credit electives in geography.

Geography Course Groups. Physical geography courses: GEOG 272, 374, $275,472,473$; cultural geography courses: GEOG 220, $244,290,433,451,453$, 454, 455; geographic techniques courses: GEOG 256, 266, 276, 378, 442, 476, 478; planning courses: GEOG 241, 420, $439,440,441,443,445,450,483$; and regional geography courses: GEOG 120 , $330,434,435,436,437,446,448,452$, 459, 490.

Acceptable substitutes for GEOG 425 or 430 will be jointly determined by student and adviser. When approved in advance by the student's adviser, up to 6 credits of cognate courses in one or two other disciplines may be applied toward the major in Geography.

## For certification in elementary

 education: Students are advised to follow the General/Regional program in the Geography major. All elementary education students selecting geography as their single subject matter area will take GEOG 414, with this course counting as a geography elective. Please consult withthe School of Education and Professional Studies concerning additional education requirements.

Completion of a concentration in another discipline is required, except for elementary education students. Certain concentrations are especially recommended by the department, depending on the career track chosen by the student. We also encourage participation in CCSU's Cooperative Education program.

## Major in Geography with a

 Specialization in Planning, B.A.39 credits as follows: GEOG 110, 241 and $441 ; 15$ credits in geographic techniques; 9 credits from GEOG 433, 439, $440,443,445,450$ or $483 ; 3$ credits from GEOG 244, 272, 275, or 490; and GEOG 420. A concentration in another discipline acceptable to the student's adviser is required. STAT 104 or 215 (Skill Area 2) is also required.

Concentration in Geography with a Specialization in Planning, B.A.
18 credits in Geography as follows: GEOG 110, 241, 441; 6 credits from GEOG 272 and/or any geographic techniques course; 3 credits from any 400level planning course (see Geography Course Groups above).

## Concentration in Geography, B.A., or B.S.

18 credits in Geography as follows: GEOG 110 or 120 ; and 15 credits of Geography electives. We recommend these electives include one course from each group listed in the Geography Course Groups.

## Concentration in Tourism, B.A.

18 credits in Geography as follows:
GEOG 110 or 120,425 or 430,290 , 441, 451, 453, 454, 455; 3 credits from any regional Geography courses. Courses used to satisfy this concentration may not be used to satisfy the requirements of any major in Geography. Students selecting this concentration must consult with the department chair.

## Major in Social Science with Concentration in Geography, B.S.

 (Acceptable for secondary certification in social studies.)56 credits distributed as follows:
18 credits in History, to include:
HIST 121 and 122 or HIST 142 and 143; HIST 261 and 262; and 6 elective credits, three of which must be in nonwestern history.

18 credits from six of the following courses (must be spread among three social sciences): ANTH 140; ECON 200, 201; PS 104, 110; PSY 112; SOC 110.

26 credits from EDTE 315, SPED 315, EDSC 425, EDSC 435, EDF 415, EDT 315, RDG 440. In addition, students must take SSCI 415, 421 and PSY 236.

18 credits in Geography, as specified by the requirements for the Concentration in Geography.

Note: Please consult with the School of Education and Professional Studies concerning additional requirements.

Note: Geography is not a certifiable subject in Connecticut. Those who wish to teach the subject at the secondary level in the state should complete this major. Those who wish to teach geography or social studies at the middle level should complete the following:

For certification in elementary or middle level education, Complementary Subject matter Area in Geography: Complements Primary Subject Matter Area in English at the elementary level, and English, General Science or Mathematics at the middle level. 18 credits, as follows: GEOG 120, 220, 330; one of GEOG $272,374,275$ or 433; and six credits in geography electives (at least three of which must be at 400 level). All education students selecting geography as a complementary subject matter area will also enroll in GEOG 414; Elementarylevel (1-6) students will enroll for 3 credits and may use the course as one of the two geography electives. Middle-level (4-8) students will enroll for 2 credits in addition to the 18 hours specified above, using GEOG 414 as their complementary methods course. Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

## History

H. Munro Prescott, Chair; A. B. Baker, J. Bergman, S. Blejwas, G. T. Emeagwali, V. Geraci, K. Hermes, E. Kapetanopoulos, N. H. Mezvinsky, A. Richard, G. Sunshine, M. Warshauer, L. Williams, R. Wolff
(Dept. phone 832-2800)

## Major in History, B.A.

39 credits in History, as follows: HIST 121 or 142 and HIST 122 or 143; HIST 261 and 262 ; 12 credits in the primary area of concentration; 6 credits in the secondary; 3 credits senior seminar (either HIST 490 or 495) and 6 credits of elective (above 100 level). History majors must complete 12 credits in 400 -level courses. All History majors must take at least one course dealing with the nonwestern world. This requirement may be met through a course within an area of concentration or through an elective. The areas of concentration are: Ancient and Medieval, Medieval and Modern European, American, East Asian, African and Latin American.

Each year, the History honor sociery, Phi Alpha Theta, offers the Theodore Paullin Prize for historical scholarship to an outstanding history major.

Major in History, B.S. (Certifiable for secondary teaching of history and social studies)
57 credits as follows:
a. 39 credits in History including HIST

121 or 142 , and 122 or $143,261,262$;
12 credits in the primary areas of concentration; 6 credits in the secondary; 3 credits in senior seminar (either HIST 490 or 495); and 6 credits of electives (above 100 level), three of which must be in non-Western history.

12 credits must be completed in 400level history courses. SSCI 420 may be included in the electives when taken for 3 credits. One course dealing with the nonwestern world must also be completed. This requirement may be met through a course within an area of concentration or through an elective. The areas of concentration in the major areas are: Ancient and Medieval, Medieval and Modern

European, American, East Asian, African and Latin American.
b. 18 credits in Social Science consisting of PS 104 or 110; ECON 200 or 201;
GEOG 110 or 120; PSY 112; either ANTH 140 or SOC 110 and a social science elective.

In addition, students must complete SSCI 415, SSCI 421, EDTE 315, EDT 315, RDG 440, EDF 415, EDSC 425, EDSC 435, SPED 315.

No concentration is required of students in this major.

## Major in History, B.S. (Certifiable for

 elementary education)39 credits in History as specified under the major in History, B.A. For additional course requirements in Education consult with the School of Education and Professional Studies.

Concentration in History, B.A. or B.S. 18 credits of History, including HIST 121 or 142 and 122 or 143.6 credits must be taken in 400 -level courses at Central Connecticut State.

## For certification in elementary or middle level education, Primary Subject Matter Area in History:

24 credits, as follows: HIST 261 and 262;
6 credits from one of the following sequences: HIST 341/342, HIST 351/352, HIST 375/376, HIST 381/382, HIST 442/443/444; 6 credits of American history from the following: HIST 423, 424, 425, 426, 427, 428; and 6 credits of history electives. Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.*
*Pending approval of SDE and DHE.

## Mathematical Sciences

W. J. Driscoll, Chair; S. A. Bacon, N. Castaneda, Y. Chen, P. A. Coe, T. V. Craine, R. Crouse, K. Gavin, P. Halloran, C. Jin, A. Shaw, D. J. Kelly, D. T. Larose, S. H. Lewis, J. McGowan,

D. S. Miller, G. B. Miller, N. Padma, M. G. Pronga, U. Saleh, C. D. Smith,
A. Spinelli, V. Sung, F. Van Dyke,
C. Waiveris (Dept. phone 832-2835)

## Major in Mathematics, B.A.

38 credits in Mathematics and related courses including: MATH 122, 218, 221, 222, 228 and 366. The remaining 15 credits may be selected from MATH 300, 320, 398, 440, 463, 468, 469, 470, 473, 477, 479, 483, 486, 491, 495; STAT 315, 416, 425, 440, 451, 455, 456, 465, 467, 470, 475, 476; ACTL $465,466,480,481,482,483,484$. In addition, two laboratory science courses are required.

Note: CS 151 is strongly recommended.

## Major in Mathematics with

Specialization in Actuarial Science, B.A. 58 credits in Mathematics and related courses as follows.
a. Core ( 40 credits): MATH 122, 218, 221, 222, 228; STAT 315, 416; ACTL 335, 465, 466, 481.
b. Electives ( 18 credits) as approved by advisor:

6-12 credits chosen from ACTL 480, 482, 483, 484; MATH 300; STAT 425, 451, 467, 475.

6-12 credits chosen from AC 211, 212; CS 151, 152, 213, 473; ECON 300, 305; FIN 295, 320, 410, 421; LAW 250; MGT 295.

Note: ECON 200 and 201 are strongly recommended.
Note: No concentration is required for students selecting this major.

## Major in Mathematics with Specialization in Operations Research, B.A.

54 credits in Mathematics and related courses including: MATH 122, 218, 221, 222, 228, 366, 470; STAT 315, 416; ECON 200, 201, 305, 460, 485. The remaining 8 credits may be selected from MATH 300, 477; STAT 440, 451, 455, 456, 467, 470, 475; Economics courses acceptable toward the B.A. Economics major (ECON 470 strongly recommended); CS 151 (strongly recommended), $152,253,473$. No concentration is required for students choosing this major.

## Major in Mathematics with

 Specialization in Statistics, B.A. 58 credits in Mathematics, Statistics and related courses including: MATH 122, 218, 221, 222, 228, 366; STAT 215, 315,416 ; STAT 216 or 453 ; two courses chosen from STAT 451, 467 and 475; two courses chosen from STAT 400, 440, $455,456,465,470$ and MATH 470. The remaining 11 credits may be selected from the courses listed above or MATH 300, 463, 491, 495; CS 151 (strongly recommended), 152, 253, 473; BIO 405; ECON 460, 485; GEOG 476; PSY 222, 351. No concentration is required for students choosing this major.Note: The following courses may not be counted toward the requirements for a Mathematics major, or secondary concentrate: ECM 099, MATH 101, 105, $110,113,115,125,126,213,305,306$, 307, 409, 410, 412, 441, 442, 446, 449 and STAT 104.

Major in Mathematics, B.S. (Certifiable for secondary teaching)
48 credits in Mathematics as follows:
MATH 120, 122, 218, 220, 221, 228, $313,320,323,327,328,366,411,413$, 426; STAT $314 ; 6$ credits of either Mathematics and/or Statistics electives as approved by faculty advisor. In addition, the student is required to take CHEM 121 and 122 or PHYS 125 and 126 and either CS 151 or 213 . No concentration is required for students with this major. A plan of study listing the Mathematics/ Statistics courses to be taken to complete the major requirements must be approved by the student's major advisor and filed with the advisor and the department chair prior to the student's acceptance into the Professional Program in Teacher Education. In addition, students must take SPED 315, EDTE 315, RDG 440, EDF 415, EDSC 425 and EDSC 435.

Major in Mathematics, B.S. (Certifiable for elementary teaching)
33 credits as follows: a) Core: 21 credits from MATH 113, 213, 305, 306, 409; STAT 215, and either MATH 122 or 125. b) Directed Electives: 12 credits from MATH 110, 115, 119, 121, 307, 404, 421, 446; STAT 216 and 453.

Note: Majors should consult with the School of Education and Professional Studies concerning additional education requirements.

## Concentration in Mathematics, B.S.,

 (Secondary)18 credits in Mathematics as follows: MATH 122, 218, 221, either MATH 228 or 366 , and STAT 315.

Note: For certification in mathematics as a second teaching field, the state of Connecticut requires a minimum of 24 credits in mathematics and an acceptable score on the Praxis II examination.

Concentration in Mathematics, B.A. or B.S., (Non-Teaching) 18 credits in Mathematics, as follows: MATH 122, 218, 221, 222, 228 or 366 , and 3 credits of Mathematics or Statistics electives which are acceptable toward the B.A. degree in Mathematics.

## Concentration in Mathematics, B.A. (for B.A. Physics Majors) <br> 18 credits in Mathematics as follows: <br> MATH 218, 221, 222, 463 and 3 credits chosen from MATH 228, 486 and 491.

## Concentration in Statistics, B.A. or B.S.

21 credits, including STAT 215, 216, CS 151; three courses chosen from MATH 110,470, STAT $400,440,455,456$, $465,470,476$; one course chosen from the courses listed above or CS 473; BIO 405; ECON 460, 485; GEOG 476; PSY 222, 351.

Note: At most, one course may be used in both the student's major program and the concentration in Statistics.

## Concentration in Mathematics for Special Education Majors, B.S.

 18 credits including MATH 113, 213, 412 and 9 credits from MATH 305, 306, 404, 431, 446, 449.Concentration in Mathematics/
Reading for Special Education Majors, B.S.
18 credits including RDG $315,412,440$
and 8 credits from MATH 113, 121, 213, 404, 412, 431, 446, 449.
specified registration dates. Students with skills in languages other than those listed above should arrange with the Department of Modern Languages for verification of their level of proficiency. These examinations serve both for exemption and placement. All students, including native speakers, with two years or less of previous foreign language study must take the exams.

Students with three or more years of successful secondary language study in one language are automatically exempt from further required coursework and need not take the exam unless they expect to continue study in that language.

Only students with no foreign language background should register for an elementary language course, numbered 111.

## Music

P. Perry, Chair; D. D'Addio, R. Glarner, C. Knox, L. Laurent, H. Myers, C. Parr, J. Ribchinsky (Dept. phone 832-2912; fax: 832-2902)

Adjunct faculty specializations include bass, bassoon, clarinet, composition, computer technology, flute, guitar, horn, oboe, organ, piano, trombone, tuba, violin, voice.

To enroll as a Music major, the student must consult with the chair of the Music Department. Entrance auditions, along with a theory placement test, will be administered by members of the Music faculty. Students with deficiencies in theory and/or piano will be required to take remedial courses which will not be credited toward the degree.

## Major in Music, B.A.

Core curriculum, 42 credits as follows. Basic Musicianship: MUS 115, 116, 121, 122, 211, 215, 216, 221, 222, 235, 335, 390 or 395, 435 . Music Performance: 8 credits of MUS 177 and/or 178; 8 credits from MUS 141, 142 and 143.

Electives: 18 credits as follows, choose A, B or C :
A. Free electives
B. Concentration outside major
C. Specialization within major as follows, choose 1, 2, 3 or 4:

1. Performance: 8 additional credits of MUS 177 or $178 ; 2$ credits of music electives; Senior Recital; 6 credits of free electives;
2. Theory and Composition: MUS 390 or 395 (whichever was not completed in core curriculum); MUS 495, 470 and 2 credits of MUS 400; 6 credits of free electives;
3. Music History and Literature: MUS 441, 470 and 2 credits of MUS 400; 6 credits from: MUS 430, 431, 432, $434,435,436$ and 439; 6 credits of free electives;
4. Jazz Studies: 8 additional credits of MUS 177 or 178; MUS 363, 364, 365; 1 credit of MUS 140: Jazz Combo (Jazz Ensemble will be the student's major ensemble). (MUS 113 will be elected in Study Area I, PHYS 113 will be elected in Study Area IV).

Major in Music Education, B.S. (Certifiable for K-12 teaching)
66 credits in music including: MUS 114, $115,116,121,122 ; 6$ credits in either MUS 141, 142 or 143 ; MUS 211, 215, 216, 221, 222, 235, 259, 261, 262, 263, 264, 267, 268; MUS 335, 367 and 368, 435, and 7 semesters of MUS 178.

Also required are 30 credits in Professional Education including: MUS 101,310 , either 315 (for vocal concentrates) or 316 (for instrumental concentrates), MUS 402; EDSC 375, EDF 415; EDSC 420, 421; EDTE 315 and SPED 315.

Students in this program must take the following as part of their General Education requirements: HIST 261 or 262 in Study Area II, PSY 236 in Study Area III, PHYS 113 in Study Area IV, and ENG 110 in Skill Area I.

Note: This major does not require a concentration.

Note: Students enrolled in MUS 177 or 178 must pay an extra non-refundable fee of $\$ 200$ or $\$ 400$, respectively, each semester. Fee is subject to change. All students enrolled in MUS 178 must perform in one student recital per year and attend nine concerts per semester.

Music degree students are strongly encouraged to enroll in the appropriate
major ensemble (MUS 141, 142 or 143) during every semester of full-time enrollment, with the exception of the semester of student teaching. Students will be assigned to orchestra and band for their major ensemble if needed.

All Music Education majors must pass a piano proficiency exam. The exam may be taken a total of four times, and students must demonstrate a minimum of proficiency in each category to pass.

Most students should begin taking this exam during their sophomore year. Three categories of the exam must be passed before acceptance into the professional program. All of the exam must be passed before beginning student teaching.

The piano proficiency exam consists of the following:

1. all major and minor scales (harmonic form), two octaves, hands together 2. playing three intermediate-level pieces, including a chorale and a memorized piece
2. harmonizing a simple melody
3. transposing the same melody up or down a major/minor second
4. sightreading a simple piano piece and an accompaniment

## Concentration in Music, B.A. or B.S.

Students planning to concentrate in Music must consult the department chair for assignment of an adviser.

18 credits in Music, as follows: MUS $110,170,270 ; 3$ credits of Music electives; 3 credits from MUS 177, 250, 251, $264,350,351 ; 3$ credits from MUS 140 , $141,142,143 ; 3$ credits of music electives with adviser's approval.

## Philosophy

E. Godway, Chair; D. Adams, F. Best, D. Blitz, P. English, A. P. Iannone, J. McKeon (Dept. phone 832-2915)

Philosophy is a critical, self-critical, comprehensive inquiry about knowledge, reasoning, reality, norms and values. It deals with corresponding problems arising in science, morality, art, literature, religion and the social and natural worlds.
Accordingly, engaging in philosophy can both address curiosity about matters of
lasting significance and help us develop skills for dealing intelligently and sensitively with life.

The Department of Philosophy offers undergraduate majors and concentration programs with a broad spectrum of courses reflecting the diversity of Western and non-Western thought. Majors select two specializations and concentrates select one specialization from among the following: (1) History of Western Philosophy, (2) African, AfricanAmerican and Asian Philosophy, (3) Logic and Philosophy of Science, (4) Continental Philosophy, (5) Theoretical and Practical Ethics and (6) Philosophy of Religion and Religious Studies. The Department offers its majors the opportunity to write an undergraduate thesis, supervised by a member of the Department. In addition, the Department is responsible for interdisciplinary concentrations in Religious Studies and in African-American Studies, and is an active participant in the university Honors Program.

The department strives above all for excellence in teaching and for the cultivation of an active and supportive milieu for undergraduate study and for professional growth. It supports the scholarly research and professional activities of the faculty.

## Major in Philosophy, B.A.

Thirty-nine (39) credits as follows: Core Curriculum ( 15 credits): PHIL 112, 220,300 , either 230 or 330,400

Specializations (two required with at least 6 credits at 300 -level or higher in each) ( 12 credits):
(a) History of Philosophy: PHIL 230, 232, 330, 332, 368
(b) African, African-American and

Asian Philosophy: AFAM 110, PHIL 250, 260, 275, 360, 401
(c) Logic and Philosophy of Science: PHIL 135, 235, 320, 335
(d) Continental Philosophy: PHIL 222, 248, 332, 366, 368
(e) Theoretical and Practical Ethics: PHIL 240, 241, 242, 346, 349, 440; HHSP 246, 341, 342
(f) Philosophy of Religion and

Religious Studies: REL 105 or 110, 257, 361, PHIL 232, 250, 255, 276, and
courses listed in concentration in Religious Studies

Note: If PHIL 400 is taken more than once, the additional credit will be counted in a specialization.

Note: Any specialization course(s) taken to fulfill the Core Curriculum will be replaced by directed elective(s) selected in consultation with adviser.

Note: PHIL 382, 441 or 492 may be included in a specialization if approved by the faculty adviser.

## Concentration in Philosophy, B.A. or

 B.S., (Secondary education) Eighteen (18) credits as follows: PHIL 112, 220, 300, either 230 or 330 , and 6 credits of PHIL or REL electives listed in the specializations for philosophy majors (at least 3 credits of 300 -level or higher).
## Physics and Earth Sciences

A. Antar, Chair; C. Baskerville, M. Bednarski, S. F. Burns, C. C. Chow, C. W. Dimmick, K. Larsen, P. LeMaire, S. B. Newman, N. Parikh, T. A. Roman, N. Sadanand, L. Tongson (Dept. phone 832-2930)

Located in Copernicus Hall, the facilities of the Physics and Earth Sciences Department include numerous introductory and intermediate/advanced laboratories as well as two teaching laboratories, an observatory containing a 16 -inch telescope, a 100 -seat planetarium, a $400-\mathrm{kv}$ Van de Graaff linear accelerator, an ion implanter and a fully-equipped weather center which includes a National Weather Service Digital Computer Facsimile System, a rooftop satellite data retrieval system and a fully operational color weather radar monitoring system.

In addition to teaching, the faculty pursues many areas of interest, including atomic collisions; ground water pollution; public planetarium productions; lunar, planetary and deep sky observing; weather
forecasting and analysis; prediction of thunderstorm activity in Connecticut; science education; particle physics; solid state physics; applied holography and general relativity.

Wherever possible, students enrolled in the programs listed below are encouraged to join with the faculty in ongoing studies in these and other areas.

Credit is not given toward a major or minor in this department for PHYS 111, 113,115 or ESCI $110,111,117$ or 118 .

Major in Physics, B.S. (non-teaching) 39 credits in Physics, including: PHYS $125,126,220,225,250,305,320,331$, $350,425,450,470$ and 471 . In addition, the student must take CHEM 121 and 122 and MATH 122, 221 and 222. Completion of a concentration is required, and for students planning graduate work a year of French, German or Russian should be taken.

Major in Earth Sciences, B.S. (nonteaching)
30 credits as follows:
Core ( 12 credits): ESCI 121, 122, 123, 129
General Program or Specialization (18 credits):
(a) General Program: ESCI 178 or 179 and 14 credits of electives from ESCI 218, 221, 222, 278, 330, 342, 421, 424, 430, 431, 442, 450, 461, 462 or GEOG 374 (b) Specialization in Geology: ESCI 178, 221, 222 and 7 credits of electives from ESCI 323, 421, 430, 431, 450, 490 (as approved by adviser)
(c) Specialization in Astronomy: ESCI 178, 179, 278, 330 and 3 credits from PHYS 220,225 or 425 (as approved by adviser) (d) Specialization in Meteorology: ESCI 178 or $179,461,462$ and 7 credits of electives from ESCI 342, 430, 442 or GEOG 374.

Note: A concentration is not required except for non-elementary education majors in the General Program.

Note: CHEM 121, 122; PHYS 121, 122; and MATH 122, 221 are required.

Note: For students contemplating graduate work, computer literacy and a year
of either French, German or Russian are recommended.

Major in Physics, B.S. (Certifiable for secondary teaching)
33 credits in Physics: PHYS 125, 126, 220, 225, 250, 305, 320, 331, 350, 425, 450 and 470 . In addition, the student must take BIO 121; CHEM 121 and 122; EDTE 315; EDF 415; SPED 315; EDSC 425, 435; SCI 416, 417, 419; MATH 122, 221 and 222.

Minor in Physics, B.S. (Certifiable for secondary teaching) Subject to change. 18 credits in Physics, including: PHYS $125,126,220$ and 250 , and 6 credits of Physics electives. In addition, a student must take CHEM 121 and 122, MATH 122, 221, 222 and SCI 417.

Major in Earth Sciences, B.S.
(Certifiable for secondary teaching) 30 credits in Earth Sciences, including ESCI 121, 122, 123, 129, 178 or 179 , 430, and other electives as approved by faculty adviser. In addition, the student must take CHEM 121, 122; PHYS 121, 122; BIO 121, 122; EDTE 315; EDF 415; SPED 315; EDSC 425, 435; SCI 416, 417, 419; and MATH 122, 221.

## Minor in Earth Sciences, B.S.

(Certifiable for secondary teaching) Subject to change.
20 credits in Earth Sciences, including ESCI $121,122,123,129,178$ or 179 , and other electives as approved by faculty adviser. In addition, a student must take SCI 416, 417, 419; MATH 122, 221; and PHYS 121, 122.

## Interdisciplinary Major - Sciences with Specialization in Earth Sciences, B.S.

(Acceptable for certification in elementary education)
39 credits. For course listing, see major in Interdisciplinary Sciences, page 58.

Concentration in Physics, B.A. or B.S. 18 credits in Physics, including: PHYS 125,126 and 220. The remaining Physics courses will be selected after consultation with the student's Physics Department adviser. In addition, the student must take MATH 122, 221 and 222.

## Concentration in Meteorology, B.A. or B.S.

18 credits in Earth Sciences and related fields including: ESCI 129, 461 and 462. The remaining 8 credits will be chosen from ESCI 342, 430, 442, GEOG 374. In addition, the student must take MATH 122, 221.

Concentration in Geology, B.A. or B.S. 18 credits in Earth Sciences, including: ESCI 121, 122, 123, 221, 222 and one course from ESCI 421, 424 and 450.

Concentration in Astronomy, B.A. or B.S.
18 credits in Astronomy and related fields, including ESCI 178, 179, 278 and 330 . The remaining course will be selected from PHYS 220, 225 or 425 after consultation with an Earth Sciences Department adviser. In addition, the student must take MATH 122, 221 and PHYS 121, 122.

For certification in elementary or middle level education, Complementary Subject Matter Area in Earth Sciences: 18/19 credits, as follows: ESCI 111, 121, 123 and 129 ; two courses from the following, one of which must be either ESCI 178 or 179: ESCI 122, 178, 179, 222,278 or 424 . Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.*
*Pending approval of SDE and DHE.

## Political Science

G. El-Eid, Chair; D. Abulghanam, W. Brown Foster, A. C. Moran, P. Petterson, A. G. Smith, M. A. Triebwasser (Dept. phone 832-2960)

## Major in Political Science, B.A.

36 credits in Political Science, as follows: PS 104 or 110 and one course in each of the following areas- Political Theory; Comparative Government; International Relations and Organization; Public Law, Methodology and Organizational

Behavior. COMM 360 may be applied to the 36 -credit Political Science requirement, as well as 6 credits from the fields of history, sociology, psychology, economics, geography, mathematics and statistics, when approved in advance by the departmental chair.

## Major in Political Science with Specialization in Public

Administration, B.A.
36 credits in Political Science, as follows: PS 110, 230, 260; 3 credits in Economics (except for Economics concentrates); PS 344 or 446 and PS 331 or 332.6 credits from PS 480-481 or 482-483, 490 or 491, or approved 400 -level courses in Political Science and related fields. 12 credits of electives from Political Science, or from fields directly related to Public Administration, with prior approval from the department adviser. Students must also complete a concentration in an area relevant to Public Administration.

## Concentration in Political Science, B.A.

 18 credits, of which at least 15 must be in Political Science; the remaining credits may be earned in a discipline relevant to Political Science.Concentration in Political Science, B.S. 18 credits, including PS 104 or 110. Credit for not more than 6 credits towards a Political Science concentration may be granted, with approval of the department chair, from those areas listed as options under the major.

Note: Credit will be given for COMM 360 in any of the above programs.

## Psychology

M. B. Goldstein, Chair; C. Shaw Austad,
L. Bowman, A. Chavarro, P. P. Chu,
J. Conway, J. DiPlacido, F. Donis, D. Engwall, C. A. Ford, S. W. Horowitz, L. Levine, C. C. Mate-Kole, L. Perdue, M. Salinas, R. S. Stowe, S. K. Vaillant, B. Waite (Dept. phone 832-3100)

The Department of Psychology offers courses leading to the bachelor of arts degree. The Psychology curriculum pro-
vides students with a broad view of the field, its methods of study and the various specialities of modern psychology.

Many psychology majors may wish to continue their studies in graduate or professional schools of psychology. Others enroll in non-psychology professional programs such as law, education or social work. Still others study psychology to gain an understanding of people, for later use in management, teaching or other business-related careers. Many students enter directly into psychology-related positions in such areas as rehabilitation or human services. Psychology provides a vehicle for personal development and an avenue for pursuing a liberal arts education. The study of psychology will broaden one's knowledge of people and their behavior and teach one how to study behavior in a scientific way.

The Department places emphasis on quality teaching and supports and encourages student research and scholarship. For students interested in experimental psychology, laboratory and computer facilities are available. For those interested in developmental issues, excellent opportunities exist for observing and interacting with children. Faculty resources are always available for student consultation.

Upon completion of a data sheet in the department office, students wishing to major in Psychology will be assigned advisers to guide their program choices. Curriculum sheets and advisory materials are also available from the department office.

## Major in Psychology, B.A.

37 credits in Psychology, including the following required courses: PSY 112, $113,221,222,236$ and 490 . One course is required from each of the following categories: Social/Personality, PSY 372 or 470; Biological, PSY 342 or 450; Clinical, PSY 330 or 351; Experimental, PSY 200, 281 or 440 ; and 9 credits of Psychology courses.

Note: STAT 215 is a prerequisite for PSY 221.

## Concentration in Psychology, B.A.

18 credits, including PSY 112, and 15 credits of Psychology electives.

## Concentration in Psychology, B.S., Special Education

18 credits, as follows: PSY 112, 200 and 236; any three courses from PSY 281, 330, $362,363,365,372,446,454,470,480$.

## Concentration in Gerontology, B.S. or B.A.

18 credits as follows: HHSP 342; PSY 428,458 ; one three-hour practicum chosen from PHIL 440, PSY 496, PE 450 or 470 , BIO 390; and 6 credits of electives chosen from HHSP 490, PE 215, PSY 480, SOC 340, SOC 440, BIO 401.

## Human Growth and Development Program for Early Childhood (N-3) Certification

18 credits as follows: PSY 112, 200, 239, 365,462 and SOC 233. Please consult with the School of Education and Professional Studies for additional requirements.*
*Pending approval of SDE and DHE

## Science and Science Education

## Interdepartmental Staff

S. Burns, Science and Science Education Coordinator; Advisers - M. Bednarski, L. Carluccio, J. Jarrett

Major in Interdisciplinary Sciences, B.S. (a) Specialization in Integrated Science (Certifiable for secondary teaching) 56-59 credits as follows:

1. Science and Mathematics Core (46 credits): BIO 121, 122; CHEM 121, 122; ESCI $121,123,129,178$ or 179 ; PHYS 121, 122; MATH 121, 122; SCI 420
2. Track (10-13 credits), one of the following:

Physics: PHYS 220, 225, 305, 320 or 331
Earth Sciences: ESCI 122, 221 or 278 or 342,430
Chemistry: CHEM 238 or 301, 311, 312
Biology: BIO 201, 202, one BIO course at 300 or 400 level

In addition, students must take EDTE 315; EDF 415; SPED 315; EDSC 425, 435; SCI 416, 417, 419.
(b) Specialization in Physical Sciences 54 credits in science, including CHEM 121, 122; PHYS 125, 126; ESCI 121, $123,129,178$ or 179 ; BIO 121,122 . The remaining 18 credits are selected from courses in Physics, Chemistry and the Earth Sciences which are approved for majors and minors in those fields. MATH $121,122,221$ are also required. A concentration is not required.

## (c) Specialization in Environmental Interpretation

53-57 credits in the Natural Sciences, or in approved areas, including the following:

1. BIO 121, 122, 202; STAT 104 or CS 113; ESCI 121, 123.
2. Structured elective component Earth and Planetary Sciences. Four courses from the following or from other courses in Earth Science approved by the chair of the Physics/Earth Sciences Department: ESCI 129, 178, 179, 301, 424, 450.
3. Structured elective component Life Sciences. Two courses from the following: BIO 120, 150, 201, 321, 322, $326,327,405,420,425,444,468,480$, selected in consultation with an advisor. 4. Electives. In lieu of a concentration at least 15 credits, with the adviser's approval, from the following courses or from any of the Natural Sciences: ART 490; GEOG 256, 272, 276, 433, 442; ANTH 150, 151, 325, 422; SCI 418.

At least 9 credits of the elective component must be from courses in Biology, Chemistry, Physics and the Earth Sciences, and must be completed at the 300 level or above. 3 credits of Internship (SCI 453) are also required.

Note: S. Burns, J. Jarrett and L. Carluccio are members of the advisory committee for this program.
(d) Specialization in Biology or Earth Sciences (Acceptable major for certification programs in elementary education) 39-42 credits. Core: $24-32$ credits. Required: Physics ( $6-8$ credits), PHYS $111 / 113$ or $121 / 122$ or $125 / 126$;

Chemistry ( $6-8$ credits), CHEM 102, 111 or CHEM 121, 122; Biology (6-8 credits), BIO 111, 211, 132 or 121/122; Earth Science (6-8 credits), ESCI $111 / 117$ or $121 / 122 / 123$.

Specialization - A minimum of 18 credits in a specialization including 6-8 credits in the core of the specialization:

Biology - Requires BIO 121, 122 as core courses. 10-15 credits including BIO 201, 202 and elective(s) at the 300 or 400 level selected in consultation with an advisor.

Earth Science - Requires ESCI $121,122,123$ as core courses. A minimum of 10 credits from the following electives: ESCI 129, 221, 222, 450. Other electives as approved by adviser.

## Minor or Concentration in Science, B.S. or B.A.

24 credits as follows: $12-16$ credits from BIO 121, CHEM 121, ESCI 121, 123 or PHYS 121 (or 125), the remaining from BIO 122, CHEM 122, or ESCI 178 or 179 , and PHYS 122 (or 126). The student should take at least one course in each discipline, and the 8 -credit sequence in any one discipline may be credited toward a major as well.

## Minor in General Science, B.S.

(Certifiable for secondary teaching) Restricted to students with a major in Biology, Chemistry, Earth Science or Physics. 32 credits in science, as follows: BIO 121 and 122; CHEM 121 and 122; PHYS 121 and 122; ESCI 121 and 123; and one of the following courses: BIO 318, CHEM 311 or PHYS 225. SCI 416, 417 and 419 are required.

## Social Sciences

Contact the Chair of the History Dept. or V. Geraci, Program Coordinator (832-2808).

## Major in Social Sciences, B.S.

(Certifiable for secondary teaching) 54 credits as follows: 18 credits in History: HIST 121 or 142 and 122 or 143 and 261, 262 and 6 elective credits, three of which must be in non-western history.

18 credits in one Social Science discipline (Anthropology, Economics, Geography, Political Science or Sociology) as required by that department for a concentration, B.S. program.

18 credits from six of the following courses (not to be duplicative of the second category above and must be in a minimum of three additional Social Science disciplines): SOC 110 or ANTH 140, ECON 200, 201; GEOG 110, 120; PS 104, 110; PSY 112.

In addition, students must complete SSCI 415, SSCI 421, SPED 315, EDTE 315, EDT 315, RDG 440, EDF 415, EDSC 425 and EDSC 435, as well as PSY 236. No minor or concentration is required.

## Social Work

B. A. Candales, Director; C. R. Baratta, P. Hensley, E. Phillips (Dept. phone 832-3143)

## Major in Social Work, B.A.

General Program:
51 credits as follows: 42 credits in Social
Work core courses including SW 226, $227,360,361,362,368,374,426,450$, $451,452,453 ; 6$ credits of social work electives; and 9 credits of related courses including SOC 110 or ANTH 140; SOC 111, 233. Social Work majors are also required to complete the following as part of their general education requirements: BIO 111; PS 110 or 230; ECON 200 and STAT 215.

Note: This major does not require a concentration.

The Social Work Program is accredited at the undergraduate level by the Council on Social Work Education. The purpose of the Social Work major is to prepare students for beginning generalist social work practice. Social Work is a field that deals extensively with sensitive social issues and people's personal well-being; therefore, students will be carefully evaluated not only academically but for professional skill. Students must apply and be accepted into the Social Work major when they have completed SW 226 and 227. Applications from all students will be taken October 1 and March 1. acceptance
into the University does not guarantee acceptance into the Social Work program. Students admitted to the Social Work major must maintain an average of 2.50 or better in all Social Work courses. Potential for professional skill must be demonstrated in field experiences which are required in all Social Work courses. The faculty will evaluate the field experience, along with the academic achievement, of the student each semester. Ideally, students entering the University as Pre-Social Work majors take the beginning courses with the expectation of continuing into the Social Work major. However, it is possible that the student and/or instructor conclude that a student is not fully motivated toward an understanding of the professional, as well as the academic, responsibilities this major requires. If a student does not meet academic or professional standards (as a PreSocial Work or Social Work major), he or she will be placed on provisional status. Written notification will be given and conditions for full completion of the major discussed with the student. Students will be given the opportunity to correct the problem(s); however, if the student does not demonstrate improvement, he or she will not be allowed to complete the major.

The Social Work Program is a member of Phi Alpha Honor Society. The chapter name is Chi Upsilon.

Note: This program may have revisions to comply with national accreditation standards. Students should check with the program director regarding the possibility of new requirements.

## Sociology

L. Evans, Chair; S. Adair, B. Day, M. Ertel, T. Hogan, J. Mitrano, R. White (Dept. Phone: 832-3135)

## Major in Sociology, B.A.

The major in Sociology requires 39 credits in Sociology, including six required "core" courses that enable students to acquire fundamental analytical research skills and theoretical perspectives of the discipline.

The core courses are SOC 110, 210, $225,300,310$, and either 410 or 412 .

Students additionally select 21 credits of Sociology electives, 12 of which must be at the 300 - and/or 400 -level, and no more than 6 credits at the 100 -level. Students are also required to take STAT 215. Substantive areas of study should be developed in conjunction with the student's departmental advisor. Independent studies and internship opportunities are available to qualified majors.

Students should note that the "core" courses build skills and concepts, and majors need to take the core courses in proper sequence. Successful completion of the core requires a minimum of three semesters, and potential majors should plan accordingly.

Students are also encouraged to participate in the Sociology Club and Alpha Kappa Delta, the International Sociology Honors Society.

Concentration in Sociology, B.A. or B.S. Students are required to take 18 credits of course work in Sociology, including SOC 110 .

## Theatre

L. B. Johnson, Chair; T. J. Callery, Jr., T. Delventhal, C. Fellows, V. C. Gagliardi, J. Perlstein, J. Strzemien (Dept. phone 832-3150)

## Major in Theatre, B.F.A.

60 credits completed in one of the following programs:
A. Acting. 60 credits in Theatre, including 50 credits required as follows: TH 099 (repeated eight times), 111 or 121, $126,135,145,235,236,338,339$ (repeated for 3 credits), 246, 275, 327, 336, 347, 373, 447, 456, 483, 484; 10 credits of Theatre electives.
B. Design and Technical Theatre. 60 credits as follows:
Core (49 credits): TH 111, 115, 117,
121, 126, 211, 212, 213, 214, 217, $222,251,316,318,327,330,332$, 373, 374; 3 credits from TH 481, 482, 486, 487
Directed Electives ( 11 credits):
Chosen from other theatre courses or from courses in

Concentration in Theatre, B.A. or B.S. 21 credits in Theatre, including TH 111, 117, 121, 135, 143, 253 and 3 credits from among TH 373, 374, 489.

## Concentration in Theatre

(Performance), B.A. or B.S.
18 credits in Performance, including TH 143, 145, 246, 347 and 6 credits from TH 115, 126, 135, 235, 447, 456, 489.

Concentration in Dance, B.A. or B.S. 18 credits in Dance and Theatre including DAN 151, 152, 153, 157, 158, 275 and TH 117, 121, 480 and MUS 109. Not open to theatre majors.

## School of Arts and Sciences Centers

## The Center for Social Research

(DiLoreto 207) is maintained as an affordable resource for communities locally, regionally, nationally and internationally who need assistance with survey research, program evaluation and project development. Among these resources are expert faculty and capable students from the Schools of Arts and Sciences, Business, Education and Professional Studies, and Technology. The Center offers students and faculty the opportunity to apply their academic experience to real-world environments.

The Copernican Planetarium and Observatory (Copernicus Hall) includes a full-function, optical planetarium which seats 108 people and is used for classes and programs for the community. The observatory, located on the roof of Copernicus Hall, is used for astronomical instruction for Physics/Earth Sciences classes. It also supports student research in astronomical photography and observation using a modern 16 -inch Casegrain reflector and other telescopes.

The Institute for Science
Education, coordinated by the Department of Biological Sciences, offers summer courses for elementary, middle, junior high and high school science teachers. Hands-on activities that can be transferred to the classroom are emphasized. Topics have included the environment,
the aquatic world, coastal ecology, science and the citizen, field biology and plants in the laboratory.

The Polish Studies Center
(DiLoreto 208-23) was established to foster within both the Polish-American and the American communities an awareness of Poland's culture, history and civilization. In 1997 Connecticut's first, and New England's second, Endowed Chair in Polish and Polish-American Studies was established at CCSU. The Center offers courses in Polish history, politics, culture and civilization, language and the Polish community in America. The Center's other resources include the Polish Heritage Book Collection, the Connecticut Polish American Archive, the Annual Fiedorczyk Lecture in Polish American Studies, the Milewski Polish Studies lecture, the Golewski Evening of Polish Culture, educational materials for teachers, movies, exhibits, scholarship aid for Polish-American students and for students pursuing Polish Studies, and the Martin and Sophie Grzyb Prize for Excellence in Polish Studies.

The Weather Center (Copernicus 538) is a fully-functional weather forecasting facility, including a satellite downlink to the National Weather Service, computer data retrieval capability, color weather radar and satellite access. It supports forecasting for the University community as well as faculty and student research in the atmospheric sciences.

## Cooperative Programs

## Community-Technical College

 Transfer ConcentrationsBy agreement between the School of Arts and Sciences and the Connecticut Community-Technical College system, students who complete an associate's degree in a professional or technical program at a Connecticut community-technical college will receive transfer credit for the courses and may apply 18-24 credits of the specialization to a concentration in a B.A. or B.S. (non-teaching) degree program offered by the School of Arts and Sciences. No residency credits at Central
will be required for such a concentration. Students are expected to complete a major (non-teaching) in the School of Arts and Sciences and to fulfill all other university requirements. The agreement includes, but is not limited to, programs in Corrections and in Drug and Alcohol Rehabilitation. For information, contact the office of the Dean of Arts and Sciences, DiLoreto Hall 112.

## Engineering Transfer Program

This program provides the first-year and sophomore core courses needed for a wide variety of engineering fields. Constructed in consultation with the School of Engineering at the University of Connecticut, it enables a limited number of students to transfer to that school after the sophomore year to complete the Bachelor of Science degree in either Chemical, Civil, Electrical or Mechanical Engineering in approximately two additional years.

The program at Central Connecticut State includes laboratory courses in Chemistry and Physics, Mathematics, Computer Science, CAD, freshman English and various electives in Social Sciences and Humanities.

The Engineering Advisory Committee will assist students with transfer procedures to the School of Engineering at the University of Connecticut and to other schools of engineering.

Students planning to enroll should consult with the committee chair at the earliest opportunity. Inquiries should be addressed to the Engineering Transfer Program, Department of Physics and Earth Sciences, Central Connecticut State University, New Britain, CT 06050 (832-2932; 832-2930).

## UConn/CCSU Joint Program in

## Public Affairs

There is a cooperative program between Central Connecticut State University and the University of Connecticut for the Master of Public Administration degree. An undergraduate student may enroll in up to four approved graduate-level courses and later apply these courses toward the MPA. Approved Central Connecticut State courses (PS 445, 446, 447 and 448) may be credited toward the MPA. Non-
matriculated students, who have completed the B.A., may take up to three CCSU courses in the MPA program before applying for admission. Students may register from their home institution. Detailed information may be obtained from the chair of the Political Science Department, or from the director of the UConn Master of Public Affairs program.

John J. Hampton, Dean
Ray C. Dethy, Associate Dean
George Claffey, Associate to the Dean
Sharon Braverman, Assistant Dean
Phone: (860) 832-3205
The School of Business offers programs leading to the Bachelor of Science degree in Business Administration. The aim of these programs is to provide students with a broad educational foundation to prepare for responsible citizenship and leadership roles in business and society domestic and worldwide.

The curriculum of the School of Business is designed to be responsive to social, economic and technological developments and reflects the application of evolving knowledge in economics, behavioral and quantitative sciences.

The School of Business is organized into five departments offering the following majors:

- Accounting
- Entrepreneurship
- Finance
- International Business
- Management and Organization
- Management Information Systems
- Marketing

Professional work in the upper division of the School of Business is concentrated in the last two years of the student's four-year program.

## Admission to the School of Business

Students may apply for admittance to the School of Business as part of their application for admission to the University and choose any business major or "busi-ness-undeclared" which places them at the lower division level of their major.

Upper Division Status: The School of Business follows a one-step admission policy to attain School of Business upperdivision status for students with good academic records. When a student has completed or is currently enrolled in courses that complete the lower division business requirements, the student should apply
for upper division status by completing a form available in the Dean's office.

At the time of applying for upper division status, the student's academic progress will be reviewed. Upper division status will be granted to students whose academic progress indicates likely success in completing the chosen major. This step is necessary in order to register for upper division courses. In addition, students accepted to the School of Business upper division must maintain a minimum 2.00 grade point average. Students whose grade point average falls below the 2.00 cumulative grade point average will be subject to dismissal from the School of Business.

Further information and applications for admission for both upper and lower division status may be obtained in the Dean's Office, MS 102.

In addition, each department may set separate requirements for admission to a major. The departments are seeking evidence that a student has the verbal and mathematical abilities to successfully complete the desired program.

After acceptance to the School of Business, students are encouraged to talk with faculty members in their major department regarding course selection and career opportunities. Names and locations of Business majors' academic advisers are posted in department offices and in the Office of the Dean, Maria Sanford 102 (832-3205).

## Transfer Students

Transfer students must meet the same course requirements, applications procedures and cumulative grade point average as CCSU students.

Transfer students are required to complete a minimum of 45 credits "in residence" at CCSU. A student must complete a minimum of 30 credits in residence in courses offered by the School of Business and, of those 30 credits, take a minimum of 18 credits in residence in upper-division courses approved for the chosen major in the School.

## Student Advising Program

Student advising and intervention are an integral and vital component of the School of Business students' experience. The Student Advising Program for business majors consists of the following components:

Initial Advising. Upon entry to CCSU, new and transfer students are required to schedule an individual appointment in the Dean's Office to acquaint them with the academic standards and procedures. This orientation includes an overview of the School of Business, its majors and the requirements of the curriculum, and an explanation of vital offices and University departments at CCSU.

Intervention. Each semester during their lower division status, students meet with a School of Business counselor in the Dean's Office to review their course selection, to discuss grade point average requirements and the transferability of courses and to complete the admission process to the School of Business. This careful monitoring of students' academic progress, after the completion of each semester, ensures that the students are progressing satisfactorily. If an academic problem occurs, the adviser will intervene with future course selection and facilitate an academic support program for the student.

Finally, once a student has completed 90 college credits, the student must have advance permission from the office of the Dean of the School of Business to take any additional credits at other colleges or universities and count such courses towards a major in business.

## School of Business Curriculum

All School of Business majors must complete General Education requirements comprised of study and skill areas, courses in the Common Business core, courses in the chosen major and free electives. These must be taken at Central or transferred according to the Regulations for Transfer Students.

|  | Credits |
| :--- | ---: |
| General Education | $44-46$ |
| Non-Business Electives | $19-21$ |
| Total Business Requirements | 57 |
| Business Core Requirements | 24 |
| Major Course Requirements | 30 |
| (Major requirements are |  |
| listed under the appropriate |  |
| departments) |  |
| Upper Division Capstone (MGT |  |
| 450 or MKT 450) | 3 |
| Total Degree Requirements | $\mathbf{1 2 2}$ |

All General Education requirements are described elsewhere in this catalog, however, the General Education courses required specifically for Business majors are the following:
Study Area II
ECON 200 Principles of Economics I*
ECON 201 Principles of Economics II*

Skill Area I
ENG 110 Freshman Composition*
Skill Area II
MATH 125 Applied Calculus I*
STAT 200 Business Statistics I*
STAT 201 Business Statistics II*
*lower division business requirement

## Business Curriculum

Common Business Core 24 credits Lower Division
AC 211 Introduction to Financial Accounting
AC 212 Introduction to Managerial Accounting
MC 207 Managerial Communications
MIS 201 Introduction to Management Information Systems
FIN 295 Managerial Finance
MGT 295 Fundamentals of Management and Organizational Behavior
MKT 295 Fundamentals of Marketing
LAW 250 Principles of Law
Double Major: Business students may pursue a double-major in business administration. Students should consult with the chair of the second major department early in their program. A minimum of twenty-one additional School of Business
credits is required for the second major with no more than six credits being double counted in the second major. All requirements of both majors must be met.

## Graduate Programs in Business

The School of Business offers the M.B.A. in International Business, the Master of Science and Business Education certifications. See the Graduate Catalog or the Director of Graduate Business Programs for details of these programs.

## Accounting

S. Moscove, Chair; P. A. Budwitz,
A. Cooperstein, D. M. De la Rosa,
D. Loss, T. McNulty, M. Roxas, H. Shakun, J. Stoneback, J. Walo, M. Vinci (Dept. phone 832-3220)

The Accounting program prepares its graduates for advanced graduate study and professional careers in public, industrial, and governmental and other nonprofit accounting. The program provides the background necessary in such diversified areas as cost accounting, auditing, taxes, budgeting, systems analysis and management advisory services.

The Accounting program satisfies the educational requirements of the Connecticut State Board of Accountancy for eligibility to take the Connecticut CPA examination. Information regarding Connecticut CPA requirements, as well as those of other states, may be obtained from the chair of the Accounting Department.

Students must complete the Common Business Core (see column 1 on this page) of 27 credits plus an additional 30 credits of specific Accounting course work as follows:

## Accounting

AC 301
AC 311 Intermediate
Cost Accounting
Credits Accounting I
AC 312 Intermediate Accounting II
AC 313 Intermediate Accounting III

AC 401
AC 440
AC 445
Federal Income Tax I 3 Accounting Information Systems 3 Auditing

Choose one of the following Business elective courses':
AC $420 \quad \begin{aligned} & \text { Managerial Analysis } \\ & \text { and Cost Control }\end{aligned}$
or
AC 402
Federal Income Tax II

## Additional Directed Accounting Electives

The accounting program requires completion of 6 credits from the following list of courses. Consultation with an adviser is recommended if a student wishes to pursue a specific career goal.
AC 330 Accounting for NonProfit Institutions 3
AC 403 Estate Taxation and

$$
\text { Probate Accounting } 3
$$

AC 407 Advanced Accounting 3
AC 408 Contemporary
Accounting Problems 3
AC 455 Internal Auditing 3
AC 496 Practicum in Accounting
AC 497 Independent Study in Accounting

## Total 6

'The course not chosen here may be used as an additional directed Business elective.

## Business Education

(Post Baccalaureate)<br>G. F. Claffey, Coordinator (Phone 832-3210)

The Business Education faculty offers programs to prepare students to teach business subjects in secondary schools. These programs are offered at the graduate level, but students may complete some of their teacher preparation requirements while undergraduates. In order to do this, it is important for students to plan their programs with the Coordinator for Business Education.

Students who plan to seek teacher certification should complete an undergraduate major in the School of Business.

# Entrepreneurship 

W. E. Tracey, Jr., Chair, Management<br>Dept. (Phone 832-3275); G. Baten

The Entrepreneurship program prepares students for entrepreneurial careers in a new venture creation or managing familyowned or other small business enterprises. The program provides a basic foundation in the knowledge necessary to search for and evaluate new venture opportunities, and to finance, operate and manage new or growing businesses. Students are required to complete a field study experience.

Students must complete the School of Business 27-credit Common Business Core (see column 1 on page 64) plus the following 30 credits.

Entrepreneurship Credits
ENT 301 Entrepreneurship and New Venture Creation 3
ENT 305 Financing Entrepreneurial Ventures
ENT 320 Managing a Growing Business
ENT 499 Field Studies in Entrepreneurship
Directed Electives

Total 30

## Directed Business Electives

The Entrepreneurship program requires completion of 9 credits selected from the following list of courses:

## Credits

AC 301 Cost Accounting I 3
AC 420
Managerial Analysis and Cost Control 3
FIN 301 Intermediate Managerial Finance3

FIN 310 Principles of Investments 3

MGT 305 Human Resource Management 3
MGT 426 Business Organizational Behavior

MKT 330 Sales Technique and Training
MKT 340 Product Development/ Management

MKT 423 Marketing Research 3
Total 9

## Business Electives

Students must complete 9 credits of 300or 400 -level courses offered by the School of Business (if prerequisite(s) are met) only to be determined in consultation with adviser.
Business Electives total

## Finance

L. K. Wang, Chair; M. M. Cutler, K. Czyrnik, B. Poole, J. M. Sfiridis, P. Tulin (Dept. phone 832-3260)

The Finance program prepares graduates for managerial careers in corporations, financial institutions and governmental organizations. Financial professionals evaluate all business and financial risks and returns in business decisions. Using economic theory and the techniques of accounting and statistics, financial managers direct funds acquisition, funds management and investment. Graduates may
pursue careers in corporate financial management, banking, insurance, investments and government.

Students in Finance must complete the 27 -credit Common Business Core (see column 1 on page 64) requirements plus the following 30 credits.

## Finance

FIN 301

FIN 310

FIN 320

Directed Finance Electives 3 Business Electives

Total 30

## Directed Finance Electives

The Finance program requires completion of 12 credits selected from the following list of courses. Consultation with an adviser is recommended if the student wishes to pursue a specific concentration or career goal.

Credits
Intermediate Managerial
Finance
Principles of
Investments
3
Financial Markets and Institutions3

## G. F. Claffey, Chair; (Dept. phone 832-3210). Also see Management Information Systems.

The International Business program prepares its graduates for advanced graduate study and for entry-level positions in global and international business enterprises. The program provides students with a broad general education which includes language, culture and international courses and, at the same time, provides students with a core of international business courses and selected specializations in the functional business areas. Students will be provided with study abroad opportunities.

Students in International Business must complete the Common Business Core (see column 1 on page 64) requirements and the following 30 credits:

## International Business

MGT 321 International Management
MKT 321 International Marketing

International Financial

FIN 430

ECON 430 Management

## Total 30

## International Business Functional Specializations

Students will select one of the following functional specializations:
Accounting (AC 301, 311 and 330)
Finance (FIN 301, 310 and 320)
International (IB 491, 495 and 498 or an advanced business course approved by the chair)
Management (either MGT 345, 348 and 426; or MGT 305, 425 and 431)
Marketing (MKT 423, either MKT 305 or 413, and one of MKT 306, 307, 330, 340, 350, 460, 495)
Management Information Systems (MIS 400, 410 and 415)

## Business Electives

Students must complete 9 credits of 300or 400 -level courses offered or suggested by the School of Business (if prerequisites are met) - only to be determined in consultation with adviser in the student's major.

## Business Electives total

## Management and Organization

W. E. Tracey, Jr., Chair; G. Baten, R. I. Blanco, S. Cavaleri, D. S. Fearon, W. J. Ferguson, C. Harrison, W. Lee, M. Mitchell (Dept. phone 832-3275)

The Management and Organization Department prepares students for the managerial dimensions of roles they will play in their careers in business, government, healthcare and not-for-profit organizations, as well as preparing students for graduate study. The program provides a basic foundation in management theory and practices. Graduates can expect to pursue careers in such diverse areas as

Total 9
human resources and personnel management, small business management, healthcare management, international management, not-for-profit management or other management-oriented program interests that are designed by student and faculty adviser consultation.

Students in the Management major must complete the 27 -credit Common Business Core (see column 1 on page 64) requirements and the following 30 credits:

## GENERAL MANAGEMENT CORE

Required in all specializations except Human Resource Management.

Credits
MGT 345 Organizational Theory 3
MGT 348 Management Systems 3
MGT 426 Business Organizational Behavior
MGT 449 Strategic Management 3
General Management Core Total

## GENERAL MANAGEMENT

SPECIALIZATION: Choose courses
from the following list to fashion a
Management curriculum which will satisfy career interests, such as international management, healthcare management, non-profit management or advanced study in the discipline. All students using this specialization may take courses only after meeting with a faculty adviser and adopting a planned program that must be
9 approved by the department chair.
Specialization Courses:
MGT 305 Human Resource Management
MGT 321 International Management
MGT 403 Social Issues for Managers
MGT 425 Management and Collective Bargaining
MGT 431 Compensation and Benefits
MGT 460 Staffing and Development
MGT 462 Issues in Human Resource Management 3
MGT 470 Organizing and Managing for Quality 3
MGT 472 Developmental Management
MGT 473 Organizing and Managing for Innovation

MGT 474 Essentials of Systems Dynamics 3
MGT 478 Designing HighPerformance Systems 3
MGT 481 Management of Not-for-
MGT 40
MGT 490 Management Topics 3
MGT 494 Entrepreneurship 3
MGT 496 Practicum in Management and Organization3

MGT 498 Management Seminar 3
Other courses may be selected that are consistent with career goals if such selection is in consultation with the student's adviser and approved by the department chair.

## Specialization Courses Total

## Business Electives

Students must complete 9 credits of 300or 400 -level courses offered by the School of Business (if prerequisite(s) are met) - to be determined in consultation with adviser.

## Business Electives total

Major Total

## HUMAN RESOURCE <br> MANAGEMENT SPECIALIZATION:

For students interested in preparing for careers in human resource management or personnel administration in a variety of business and non-business settings.

All students who choose the Human Resource Specialization may take courses only after meeting with a faculty adviser and adopting a planned program which must be approved by the department chair.

MGT 462 Issues in Human Resource Management 3
MGT 490 Management Topics 3
Specialization Courses Total

## Business Electives

Students must complete 9 credits of 300 or 400 -level courses offered by the School of Business (if prerequisite(s) are met) to be determined in consultation with adviser in the student's major.
Business Electives total

## Management Information Systems

George F. Claffey, Chair (phone

832-3210); F. Cohen, M. J. D'Onofrio,
R. D. Frost, P. Makhijani, R. Papp (Dept.
phone 832-3290)
The Management Information Systems (MIS) program prepares graduates for advanced graduate study and careers in organizations as information systems specialists focusing in the areas of application programming, data base administration, information systems management and systems analysis and design.

The program emphasizes the importance of information as an organizational resource to be managed for the generation of timely, quality information for business decision making. The use of information to make decisions in the areas of accounting, finance, management and marketing of an enterprise is stressed.

Students must complete the 27 -credit Common Business Core (see column 1 on page 64) requirements plus the following 30 credits:

## Management Information

Systems (core)

## Credits

MIS 210
Application Program Development I
MIS 220 Contemporary Business Applications
Development
Distributed
Processing -
Networks and Telecommunications

MIS 415 Database Program Development
Structured Systems Analysis and Design
Directed Electives
Business Electives

## Total

## Directed Management Information Systems Electives

The Management Information Systems (MIS) program requires completion of 9 credits selected from the following list of courses. Consultation with an adviser is recommended if the student wishes to pursue a specific concentration and career goal.

## Credits

MIS 311 Application Program Development II 3

MIS 400 Decision Support and Expert Systems
MIS 450
Enterprise Strategies and Transformations3

MIS 460 Emerging Technologies for Business3

MIS 494 Independent Study in MIS
MIS 496 Practicum in Management Information Systems
MIS 498 Information and Decision Sciences Seminar

## Total

## Business Electives

Students must complete 6 credits of 300or 400 -level courses offered or suggested by the School of Business (if prerequisites are met) - only to be determined in consultation with adviser in the student's major.
Business Electives total

## Marketing

R. A. DeCormier, Chair; E. Astarita, A. Jackson, B. Lofman, K. Mead, J. Mellon, K. Mitra, D. Scherban (Dept. Phone 832-3305; e-mail: decormier@ccsu.edu)
3
designed to allow students the opportunity to focus their education by selecting courses that best fit their interests and needs. CTMP's can be tailored for such areas as advertising, hospitality, business-to-business, international and a host of other marketing fields. Graduates can expect to pursue careers in such diverse professions as advertising, sales, research, distribution, product development, marketing management and more.

Our faculty is constantly striving to help our majors excel. As part of this endeavor, they partner up with students through internships and independent studies designed to help them expand their educational experiences.

Finally, the Department places a significant emphasis on quality teaching and strongly encourages both students and
faculty to do individual research and scholarship.

Marketing Core (6 credits) Credits
MKT 305 Consumer Behavior 3
MKT 423
Marketing Research

Directed Marketing Electives (15 credits) In consultation with a faculty advisor, students complete the Marketing major by selecting five additional courses from the directed electives listed below (except for MKT 494, 496, 497) or as approved by the department chair.

MKT 306
Marketing
Communication
MKT 307 Sales Administration
MKT 308 Introduction to Hospitality
MKT $311 \quad$ Retailing
MKT 313 Merchandising
MKT 321 International
Marketing
MKT $330 \quad$ Sales Techniques and Training
MKT $340 \quad$ Product Development and Management
MKT $350 \quad$ Marketing Channels
MKT $358 \quad$ Relationship Marketing
MKT 375 Services Marketing
MKT 413 Industrial Marketing
MKT 443 Advanced Concepts in Retailing
MKT $450 \quad$ Competitive Strategy
MKT $460 \quad$ Export Marketing
MKT $470 \quad$ Marketing
Communications
Campaign
MKT $480 \quad$ Marketing for NonProfit Organizations
MKT 494 Independent Study in Marketing
MKT $495 \quad$ Field Studies in International Marketing
MKT 496 Practicum in Marketing
MKT $497 \quad$ Marketing Internship
MKT 498 Marketing Seminar

## Business Electives (9 credits)

Students must complete 9 credits of 300 -or 400 -level courses offered or suggested by the School of Business (providing prerequisites are met) - to be determined only in
consultation with advisors in the students' major. The Department considers MKT 494, 496 and 497 as business electives.

## Concentrations for Business Majors in Subjects Other Than Business

A student may choose a concentration (at least 18 credits) in a subject from the School of Arts and Sciences or the School of Technology. A student selecting this option will have to take more than the 122 credits to graduate. The appropriate department determines the requirements for this concentration.

## Concentrations for Non-Business Majors

Concentrations in Business require 18 credits of Business courses and may be taken by students pursuing majors other than business. Students should consult with the chair of their major department to determine if a concentration is required for their program.

Concentrations in Business focus upon specific functional areas of business, such as accounting, finance, management, MIS or marketing. Selection of specific courses is made in consultation with a faculty adviser or chair of the appropriate department. The 18 -credit concentration is structured as follows:

Lower-division business core (9 credits) Any three courses from the common business core: AC 211, AC 212, MC 207, MIS 201, LAW 250, FIN 200, MGT 295 or MKT 295

## Upper-division functional area (9 credits)

Three courses, taken in residence, from a specific functional area: i.e., Accounting, Finance, Management, MIS or Marketing. "Capstone" and some special project courses, such as Independent

Study, may be excluded. (Prerequisites must be taken as shown for course listings given elsewhere in this catalog.)

## Student

## Organizations

A variety of student honorary and professional organizations have been organized in the School of Business to reflect the interests of students in a professional school. Experience and leadership gained from participation in these organizations provide students with important lifetime skills. The following is a list of student organizations: Accounting Society, Dean's Student Advisory Board, Delta Mu Delta, Delta Pi Epsilon, Finance Club, Management Club and Sales Club.

# SCHOOL OF EDUCATION AND PROFESSIONAL STUDIES 

Richard I. Arends, Dean

Roger Zieger, Associate Dean
Ronald J. Moss, Assistant Dean
Mary Pat Hager, Associate Counselor
Phone: (860) 832-2100
The School of Education and Professional Studies offers programs leading to the Bachelors of Science Degree in Education, Nursing, Health Fitness, and Athletic Training. In addition, the School has a variety of programs that lead to teaching certification in the state of Connecticut. Currently, the School of Education and Professional Studies is organized into six academic departments:

- Health and Human Service

Professions

- Educational Leadership
- Physical Education and Health Fitness Studies
- Reading and Language Arts
- Special Education
- Teacher Education

The departments of Educational Leadership and Reading and Language Arts do not offer undergraduate programs. Information about these departments and their graduate programs can be found in the Graduate Catalog.

The aim of programs in the School of Education and Professional Studies is to prepare individuals who are both liberally educated and in command of the requisite professional knowledge to be able to provide exemplary practice in their chosen field. Programs and curricula in professional schools draw their content from theoretical foundations in the arts and sciences, as well as from the world of professional practice.

## Degree Programs and Certification

To understand fully the programs in the School of Education and Professional Studies requires understanding of the distinction between obtaining a degree from Central Connecticut State University and obtaining a teaching certificate from the state of Connecticut. Also, it requires an understanding of the differences between
acquiring a subject-matter major and acquiring a degree in education.

Central Connecticut State University has the authority to grant a bachelor's degree to any student who successfully completes all the requirements of a particular program of studies. A degree, however, does not automatically lead to a teaching certificate.

The state of Connecticut grants the teaching certificate after a candidate completes a bachelor's degree and an approved program of professional studies, passes required tests for teachers and is recommended by the Office of the Dean of the School of Education and Professional Studies.

Every elementary, early childhood, middle level, secondary and special subject school teacher in the state of Connecticut is required to have a major in a particular subject field. This is referred to as the subject matter major. The various subject matter majors are listed elsewhere in this catalog under elementary, secondary and special subjects education.
Teacher candidates at Central Connecticut State University, in addition to acquiring a subject matter major, are required to fulfill professional course work and laboratory experiences in education which lead to a degree in education and to certification.

## Undergraduate Degree

## Programs Leading to Teacher Certification

The following programs lead to a Bachelor of Science degree and prepare a student for teacher certification in the State of Connecticut.

- Early Childhood Education
- Elementary Education
- Middle Level Education (program is currently closed to new students)
- Secondary Education in the following fields: Biology, Business*, Chemistry, Earth Science, English, French, General Science, German, Italian, Mathematics, Physics, Social Studies, Spanish.
- NK-12 Education in the following fields: Art, Music, Physical Education, Technology Education
- Special Education


#### Abstract

*The Business Education faculty offers programs to prepare students to teach business subjects in secondary schools. Students may complete some of their teacher preparation requirements while they are undergraduates. Most work, however, is done at the graduate level. Students who plan to seek teacher certification should complete an undergraduate major in business. Please contact the Coordinator for Business Education to learn more about this program (832-3210).


Although requirements vary from program to program, in general each undergraduate teacher education program has the following characteristics and procedures:
General Education. All teacher education candidates are expected to satisfy general education requirements. Most of this work is completed during the student's first three years at CCSU, or at a Connecticut community technical college.

Subject Matter Majors and Subject
Matter Areas. All teacher education candidates are required to become competent in the subject fields they will teach. These requirements vary from field to field and are described elsewhere in this catalog.

Selective Admissions. The state of Connecticut requires that students be admitted to programs in teacher education only after they have met certain criteria.
These criteria and the admission process are described below. Admission as an undergraduate student at CCSU does not automatically guarantee admission to a teacher education program. The selective admission process requires considerable advanced planning.

Restricted Professional Course Work. Most courses offered in particular teacher education programs are open only to students who have been formally admitted to a teacher education program. Students who have not been admitted to a teacher education program may not enroll in restricted courses.

Retention Criteria. Once admitted to a teacher education program, a teacher candidate is expected to maintain a 2.70 grade point average for all CCSU course-
work and also for all college coursework. If a candidate's GPA drops below this level he or she may be denied enrollment to restricted courses until the GPA reaches the approved level.

## Admission to Teacher Education for Undergraduate Students

Many of the procedures for admitting students to the teacher education programs leading to teacher certification are governed by state of Connecticut regulations. Admission in a timely fashion requires a degree of advanced planning on the part of teacher candidates. The procedures described below do not apply to programs in athletic training, health fitness or nursing. These programs have their own admission procedures and are described elsewhere in this catalog. For any aspect of the admission process which requires clarification, please contact the Assistant Dean of Education.
Preparing to be a teacher and being admitted into a teacher education program consist of the following phases.
Phase I: Pre-Teacher Education. When students first enter the University or one of the Connecticut community technical colleges, they are not education majors. Instead, they select a subject matter major and pursue (under the guidance of an adviser in the department where the major is housed) course work in general education and in the major. Toward the end of the second or in the third year of study, most full-time students are ready to request admission to a teacher education program. Prior to this application, students are required to:

- Complete 45 credits (of which 15 have been earned at Central Connecticut State University). Graduates of Connecticut community technical colleges may have this requirement waived; see the Assistant Dean of Education for details.
- Pass the Praxis I Computer Based Test (CBT) (basic skills test in reading, writing and mathematics) or be qualified to have this test waived. This must be done at least one semester before application can be
made to the Professional Program. Praxis I (CBT) may be waived if:
(1) SAT Waiver: A total score of 1,000 on the SAT, with neither the mathematics nor the verbal subtest scores below 400 points from any test administration on or prior to March 31,1995 , or a combined score of 1,100 or more with no less than 450 on either the verbal or the mathematics subtests from test administrations on or after April 1, 1995.
(2) ACT Waiver: No less than 22 on the English sub-test and no less than 19 on the mathematics sub-test on the American College Testing (ACT) program assessment from test administrations on or after October 1989, or the equivalent ACT scores of no less than 20 on the English and 17 on the mathematics, from test administrations prior to October 1989.
(3) a student passes a similar test in another state with which Connecticut has certification reciprocity agreements, or
(4) a student has a Prueba de Aptitud Academica (PAA) score equivalent to a SAT score of 1000 , with neither the math nor verbal subtest scores below the equivalent of 400 .

Registration booklets and information are available outside the Dean's office in Barnard 248. Waiver applications are also available.

- Have a minimum of a 2.70 grade point average at CCSU and also for all college work. For exceptions, please see the Assistant Dean, Barnard 248.
- Complete courses for specific departmental programs (early childhood, elementary and middle level education, special education or the subject matter major) as prerequisites for application to a teacher education program. Consult with the chair of the department or your adviser for specifics.
- Fulfill certain laboratory requirements involving working with children. Details are available from the appropriate department and are listed
on the Professional Program application packet as well.

Phase II: Application. Phase II consists of making the application. Admission to teacher education is done twice a year. The deadline for fall semester application is September 10 for early childhood, elementary and middle level programs, and September 21 for all other programs. Applications for spring semester are due by February 10 for early childhood, elementary and middle level programs, and February 21 for all other programs. Students should apply for admission to teacher education at least three semesters (one year for secondary students) prior to the semester in which they plan to student teach. Application packets are available in the information racks outside the Dean's Office (Barnard 248).

- The application packet includes: instructions, an application blank, a transcript release form, forms for letters of recommendation from persons who can attest to student's suitability to be a teacher and directions for writing an essay which shows command of English. Praxis I (CBT) must be satisfied prior to the application process, and a copy of the Praxis I "Pass" letter or "Waiver" letter must be attached to the School of Education's Professional Program application. Some departments have additional requirements, such as experience working with children or an extra essay.
- Students must complete an interview with their departmental faculty.
- Once the application packet is completed, it will be reviewed by the Assistant Dean and department. A grade point average of all attempted college work requirements will be verified. A letter will be sent to each student indicating whether the student has been admitted, deferred until certain specified requirements have been fulfilled or rejected.

Phase III: Admittance. Students receiving a letter granting admission to a Professional Program may now start tak-
ing the restricted professional courses in education and participate in required advanced laboratory experiences.

## Post-Baccalaureate Programs Leading to Teacher Certification Only

Students who already hold a bachelor's degree may pursue teacher certification through our post-baccalaureate programs. These programs prepare students for teacher certification and do not result in a master's degree. Students can seek certification in the following fields.

- Elementary Education
- Middle Level Education (program is currently closed to new students)
- Secondary Education in the following subjects: Biology, Business, Chemistry, Earth Sciences, English, French, General Science, German, History, Italian, Mathematics, Physics, Social Science and Spanish
- NK-12 Education in the following subjects: Art, Music, Physical Education, TESOL, Special Education, Technology Education.
Technically, post-baccalaureate students are considered graduate students and so must apply to the School of Graduate Studies for admission.

When prerequisites have been met, students should apply for admission to the Professional Program by completing an application package for the Professional Program. (See "Phase II: Application" on the previous page for deadlines.)

The application packet includes: instructions; an application blank; a transcript release form, forms for letters of recommendation from persons who can attest to student's suitability to be a teacher; directions for writing an essay which shows command of English. The essay also asks the student to provide reasons for becoming a teacher and to describe experiences working with children. Some departments have special assignments (mathematics majors must write two essays) or other requirements which must be completed.

Applications are available outside Barnard Hall 248 or may be obtained by writing to the Dean of the School of Education and Professional Studies.

While the application packets differ from program to program, post-baccalaureate students must meet the 2.70 grade point average requirement for all CCSU coursework and also for all college coursework.

The state's Praxis I CBT (basic skills test in reading, writing and mathematics) must also be satisfied prior to the application process, and a copy of the Praxis I CBT "Pass" letter or "Waiver" letter must be attached to the application. Waiver qualifications include meeting one of the following criteria:

- a student has a Scholastic Aptitude Test (SAT) score totaling $1000^{*}$ with a score of no less than 400 in either the verbal or math subtests;
- a student has an American College Test (ACT)* composite score of no less than 25 , with no less than 22 on the English subtest and 19 on the math subtest;
- a student passes a similar test in another state with which Connecticut has certification reciprocity agreements; or
- a student has a Prueba de Aptitud Academica (PAA) score equivalent to a SAT score of 1000 with neither the math nor verbal subtest scores below the equivalent of 400 .
*Subject to Legislative change by the state.
Once the application packet is complete, it will be reviewed by the Assistant Dean and the department. The grade point average of all attempted college work requirements will be verified. A letter will be sent to each student indicating whether the student has been admitted, deferred until certain specified requirements have been fulfilled, or rejected.

Admission to the School of Graduate Studies as a post-baccalaureate student will depend upon and follow the School of Education and Professional Studies' Professional Program evaluation and admission decision.

Program Planning. Post-baccalaureate students must meet all course and labora-
tory requirements specified in particular teacher education programs. Even though they already have a bachelor's degree, students in post-baccalaureate programs also are required to satisfy certain general education and subject matter major requirements - some of these requirements are deemed important by particular departments at CCSU; others are deemed important by the state of Connecticut. Putting together a "Program of Study" is the process of ensuring students that they will satisfy all certification requirements. The "Program of Study" also becomes the contract between the baccalaureate student and his or her adviser.

- Each "Program of Study" must be approved by the School of Graduate Studies. Students are responsible to insure that their "Program of Study" meet all certification requirements that will be in effect at the time they plan to complete their certification programs. Because Connecticut certification regulations are subject to change, and because the regulations that apply are those in effect at the time the student applies for certification, it is essential that students review their "Program of Study" with their adviser regularly.
- Post-baccalaureate students should be sure that they have previously had, or that their "Programs of Study" includes, the following general education courses: at least 39 credits of liberal arts course work including a U.S. History survey course, and two courses in each of the following areas: English, mathematics, natural sciences and social sciences, and one course in foreign language or fine arts. These are requirements of the state of Connecticut and cannot be waived by advisers or the University. A course in developmental or life span psychology is a prerequisite for courses in the Professional Program.
- "Programs of Study" for all teacher education candidates, except for those in Special Education, must include: SPED 315, EDF 400 or 415, a course in Educational

Psychology (EDSC 256 or EDTE 315), methods courses, student teaching, one or more courses in educational technology (such as EDT 210, 415, 490), and other courses as required by the student's adviser. Special Education programs have different requirements.

- Post-baccalaureate students seeking certification in Art, Music, Physical Education, and Technology Education should meet with the chair of the department that houses their program for advice on how to complete the "Program of Study."
- Post-baccalaureate students in elementary and secondary education should meet with the Post-baccalaureate Adviser in the School of Education and Professional Studies to complete the "Program of Study."

Restricted Professional Course Work. Most courses offered in particular teacher education programs are closed to baccalaureate students except those who have been formally admitted to a teacher education program. Students who have not been admitted to a teacher education program should not enroll in restricted courses.

Retention Criteria. Once admitted to a particular teacher education program a post-baccalaureate student is expected to maintain a specified (2.70) grade point average for all CCSU coursework and also for all college coursework. If a student's GPA drops below this level he or she may be denied enrollment to restricted courses until the GPA reaches the approved level.

## Undergraduate Degree Programs Without Teacher Certification

Three programs are offered which lead to a Bachelor of Science degree, but do not include any type of certification. The Department of Physical Education and Health Fitness Studies offers a major in Athletic Training and in Health Fitness. The Department of Health and Human Services Professions offers a major in Nursing.

## Repeat Policy

An exception to the course repeat policy (see page 35) exists in the Department of Teacher Education which requires that departmental permission be granted to repeat any Professional Program course. Students must submit the request for permission to repeat any of these courses to the chair of Teacher Education before adding the course to their schedule for a second time. Once students have the chair's approval, the School of Education and Professional Studies will utilize the most recent CCSU GPA in its calculations of the 2.70 minimum total GPA requirement for continuation in the Professional Program.

## Appeals Process for All Students and Programs

Students who are not allowed to apply to the Professional Program because they fail to meet a requirement and students who are not admitted to the Professional Program may meet with the Assistant Dean of Education to discuss their situation and options and may appeal to the School of Education and Professional Studies Appeals Committee. Information about the appeals process is available from the Assistant Dean.

## Connecticut Certification Procedures

To be eligible to teach in the public schools of the state of Connecticut, a student must meet the certification requirements of the State Board of Education. Certification regulations are subject to change, and, under current state practice, students are subject to the certification regulations in effect at the time they apply for certification.

Recommendations for certification at Central Connecticut State University are made by the Dean of Education and Professional Studies. Questions concerning certification that cannot be answered by your department can be addressed to the Assistant Dean.

Application for certification is made at the beginning of a student's last semester of enrollment by completing a Certification Application Form. Undergraduates obtain these forms and return them to the Office of Registrar
which forwards the application and other related documents to the Assistant Dean of Education for review and approval. Postgraduate certification students obtain the certification application from the Office of the Dean and return the completed application to the same office. Once approved, the application for certification and the CCSU transcript will be mailed to the student. The student then mails the application document and a bank draft in the appropriate amount, to the Bureau of Teacher Certification and Professional Development. Certificates are mailed out by that state agency after they review and approve the application.

While Central Connecticut State University provides an institutional recommendation for students completing its certification programs, the state of Connecticut's Bureau of Certification makes final determinations about who is eligible to receive certification.

## Out-of-State Certification Procedures for CCSU Graduates

 Information about out-of-state certification is available in the University Placement Office. Any application or portion of an application that requires "interstate reciprocity" information or affirmation concerning the completion of an "approved program" should be referred to the Assistant Dean with full information about the graduate's name at the time of completion of Central's program, date of program completion, social security number, current name and address and any particulars concerning the other state's information requirements.
## Educational Leadership

A. Rigazio-Digilio, Chair; F. Abed, Program Coordinator; K. Beyard, C. Carter-Lowery, P. Lisi, C. Shin, O. Sogunro, B. Sponder, A. Vaillant (Dept. phone 832-2130)

The Department of Educational Leadership offers a Master of Science in Educational Technology, a Master of Science in Educational Leadership, a

Sixth-Year Certificate leading to certification as an intermediate administrator or supervisor, and a joint program with the department of Teacher Education leading to a Master in Pedagogy and Leadership.

The department also offers graduate courses in curriculum development, research in education and undergraduate/ graduate courses in Educational Technology.

# Reading and <br> Language Arts 

B. A. Davies, Chair; H. Abadiano, C. Kurkjian, P. L. O'Brien, J. Turner<br>(Dept. phone 832-2175)

The Department of Reading and Language Arts offers both undergraduate and graduate courses in teaching reading and language arts.

At the undergraduate level, required courses and elective courses are provided for students preparing to become teachers.

At the graduate level, the department offers a master's degree and a sixth-year certificate program leading toward certification as a remedial reading and remedial language arts teacher and a reading and language arts consultant.

# Special Education 

M. A. Beck, Chair; F. W. Fischer, L. Hauerwas, E. Pancsofar, M. Williams (Dept. phone 832-2400)

The Department of Special Education offers undergraduate courses in Special Education. Students selecting Special Education as a major will be required to receive certification in Special Education as part of the major.
As a result of the Connecticut State Department of Education certification changes that will occur on July 1, 2003, Special Education certification will not be offered at the undergraduate level beginning July 1, 1999. All students currently admitted to the Special Education program must complete their programs by July 1, 2003. Students seeking Special

Education certification should consider obtaining undergraduate certification in such areas as elementary education or secondary education, and then seek cross endorsement, at the graduate level, in special education. Contact the Department of Special Education for additional information.

## Criteria for Acceptance

Requirements for students who wish to be certified in Special Education are as follows.

1. Formal acceptance into the Professional Program
2. Assignment of an adviser in Special Education to create a planned program of study
3. Documentation of 30 hours direct experience with regular education students and 10 hours with special education students

Program Requirements for Special Education Majors ( $\mathbf{1 3 0}$ credits) General Education. Requirements as follows: ENG 110, MATH 101, MATH 113, HIST 261 or 262.

Professional Education. (20 credits)*
Courses are taken in clusters as follows:
EDTE 210 Education and Teacher Leadership in Diverse Learning Communities
EDT 210 Introduction to Educational Technology

Enrollment in the following courses requires acceptance to the Professional Program in Teacher Education.

RDG 315 Introduction to Literacy
EDTE 315 Principles of Learning
SPED 315 Introduction to Educating Learners with Exceptionalities
and one of the following:
MATH 213 Probability and Geometry
MATH 412 Elementary Mathematical Methods
RDG 412 Literacy in the Elementary School
RDG 414 Literacy Across the Middle Level Curriculum
RDG 440 Literacy in the Secondary School

Specialization Requirements (36 credits)
SPED 430 Characteristics and Education of Individuals with Behavioral/Emotional Disorders
SPED 431 Behavior Management and Social Skills Development
SPED 432 Characteristics and Education of Individuals with Learning Disabilities
SPED 433 Educational Assessment for Exceptional Learners
SPED 434 Characteristics and Education of Individuals with Developmental Disabilities
SPED 435 Curriculum Adaptations and Teaching Strategies for Learners with Exceptionalities
SPED 436 Language Arts for Learners with Exceptionalities
SPED 437 Integrative Seminar for Beginning Special Educators
SPED 438 Student Teaching with Exceptional Learners I
SPED 439 Student Teaching with Exceptional Learners II

Students majoring in Special Education may select a concentration from a variety of academic disciplines outside of the School of Education and Professional Studies. The following concentrations are recommended: mathematics, mathematics and reading, psychology and Spanish. Students should consult the catalog and their Special Education adviser.

Notes:

1. It is the student's responsibility to see his/her adviser on a regular basis, as program policies and procedures are subject to change.
2 . Students must maintain a 2.70 overall grade point average in Special Education courses in the major to be recommended for certification.
2. Students must earn a minimum of 2.00 in each Special Education course, and in each Professional Education course.
3. Students are required to comply with all policies and requirements in force at the time they are admitted into the Special Education Professional Program.
[^2]
## Teacher Education

C. Shmurak, Chair; E. Aaronsohn, R. Casella, G. Cueto, B. DeyChakraborty, M. Ferrara, N. Hoffman, M. Howell, L. Klein, D. Mulcahy, K. Riem, S. Seider, C. Shuster (Dept. phone 832-2415)

Teacher education at CCSU has a general integrating theme of Developing leaders for learning communities. The mission of teacher education at CCSU is to prepare teachers who have the leadership capacity and knowledge base to develop positive and nurturing learning communities in classrooms that are diverse and inclusive. In addition, our mission includes preparing teachers who are able to contribute to the development of learning communities that exist outside of their classrooms; namely in schools, communities that surround schools, and the professional community of education. Teacher candidates, upon graduation from CCSU, will have (1) acquired the capacity to understand and use the knowledge base of teaching; (2) a repertoire of best practice at their command; (3) the ability to reflect and use critical judgment on their own teaching processes; and (4) the ability to contribute their leadership to efforts to improve education in a democratic society.
The Department of Teacher Education is committed to the preparation and continuing professional education of students involved in early childhood, elementary, NK-12 and secondary education teaching programs.
The Department offers certification at the following levels.

Early Childhood Education (Pre-Kindergarten through Grade 3)
Elementary Education (Grades 1-6)
Secondary Education (Grades 7-12)
Nursery/Kindergarten through Grade 12

EARLY CHILDHOOD EDUCATION
(Pre-Kindergarten through Grade 3)
Coordinator: C. Shuster (832-2430)

Program Requirements (130 credits)
General Education.
Requirements as follows: ENG 110, MATH 113, MATH 213, HIST 261 or

262, PSY 236, BIO 211 or other biology course with a laboratory.

Subject Matter Major. (42-43 credits) Students must complete a dual subject matter major including a $24-25$ credit primary subject area and an 18 credit complementary subject area of Human Growth and Development. Students may choose a primary subject area in either English, Mathematics, or General Science. (See Arts and Science sections for specific course requirements.) The required Human Growth and Development courses are: PSY 112, PSY 200, PSY 239, PSY 365, PSY 462 and SOC 233.

Professional Education. (42 credits) Courses are taken in clusters as follows:

EDTE 210 Education and Teacher Leadership in Diverse Learning Communities
EDT 210 Introduction to Educational Technology

Enrollment in the following courses requires acceptance to the Professional Program in the School of Education and Professional Studies.

EDEC 413Principles of Early Childhood Education

EDEC 423Methods and Curriculum for the Early Years
RDG 423 Literacy for Early Childhood
SPED 423 Assessment, Instruction and Curricular Adaptations for Preschoolers

EDT 415 Developing Instructional Materials
EDF 415 Educational Foundations
EDTE 420 Field Experience Practicum
MATH 410Early Childhood Mathematics Methods
RDG 427 Literacy in the Primary Grades

EDEC 426Integrated Curriculum for Early Childhood
EDEC 430Early Childhood Student Teaching
ED 430 Seminar in Leadership and Learning Communities

The completion of a minor or concentration is not required.

ELEMENTARY EDUCATION (Grades 1 through 6)<br>Coordinator: S. Seider (832-2428)

## Program Requirements (130 credits)

General Education.
Requirements as follows: ENG 110, MATH 113, MATH 213, HIST 261 or 262, PSY 236, BIO 211, ESCI 111 or any other ESCI course, and choice of one of the following: PSY 362, 363, 365, 462.

Subject Matter Major. (33-43 credits) Students must choose either a single subject matter major (33-39 credits) or an interdisciplinary subject matter major (42-43 credits). Single subject matter majors include English, Geography, History, Mathematics, Science with a specialization in Biology, or Science with a specialization in Earth Science. Dual Subject Matter Majors require completion of a 24-25 credit primary area and a 18 credit complementary area. Dual Subject Matter Majors prepare students to eventually obtain a second certification at the middle level in addition to the initial elementary certification. Dual Subject Matter Majors include:

- English with a complementary area of Geography
- History with a complementary area of English/Linguistics or English/ Writing
- Mathematics with a complementary area of Biology or Earth Science
See Arts and Science sections for specific course requirements.

Professional Education. (42 credits)
Courses are taken in clusters as follows:

EDTE 210 Education and Teacher
Leadership in Diverse
Learning Communities
EDT 210 Introduction to Educational Technology

## Enrollment in the following courses requires acceptance to the Professional Program in the School of Education and Professional Studies.

RDG 315 Introduction to Literacy EDTE 315 Principles of Learning SPED 315 Introduction to Educating Learners with Exceptionalities

EDF 415 Educational Foundations
EDT 415 Developing Instructional Materials
EDTE 420 Field Experience Practicum
FA 412 Fine Arts Across the Curriculum
MATH 412Elementary Mathematical Methods
RDG 412 Literacy in the Elementary School
SCI 412 Learning and Curriculum Studies in Science

EDEL 422 Elementary Education
General Methods
EDEL 430 Elementary Education Student Teaching
ED 430 Seminar in Leadership and Learning Communities

The completion of a minor or concentration is not required.

## MIDDLE LEVEL EDUCATION

## (Grades 4 through 8)

This program is currently on hold. No new students will be admitted to this program.

## SECONDARY EDUCATION (Grades 7 through 12) and SPECIAL SUBJECT FIELDS (Nursery/Kindergarten through Grade 12) <br> Coordinator: K. Riem (832-2427)

## Program Requirements (130 credits)

General Education.
Requirements for Grade 7 through Grade 12 programs are as follows: 6 credits in English (ENG 110 is required), HIST 261 or 262, PSY 236, 6 credits of Science, and 6 credits in Mathematics (either MATH 105 or STAT 104 is required). For NKGrade 12 program requirements, students should consult the chair of their department to determine the recommended General Education courses.

Major. (36-57 credits)
Students in Secondary Education programs can be certified to teach in specific areas of specialization as follows:

Grade 7 through Grade 12: Biology, Chemistry, Earth Science, English, French, German, Integrated Science, Italian, Mathematics, Physics, Social Studies, Spanish

Nursery/Kindergarten through Grade 12: Art, Music, Physical Education, Technology Education
See Arts and Science or Technology sections for specific course requirements.

Minor or Concentration. (18-24 credits) The completion of a certifiable minor or a non-certifiable concentration is required unless specifically noted in the individual major. Options for certifiable minors for Science majors include Biology, Chemistry, Earth Science, and General Science. Specific course requirements for minors and concentrations can be found in the Arts and Science sections.

Professional Education. (24-34 credits)

## Enrollment in the following courses

 requires acceptance to the Professional Program in the School of Education and Professional Studies.EDTE 315 Principles of Learning
EDSC 375 Principles and Evaluation in Education (NK-12)
or
EDSC 425 Principles of Secondary Education
EDF 400 Philosophy of Education or
EDF 415 Educational Foundations SPED 315 Introduction to Educating Learners with Exceptionalities
EDSC* Student Teaching
Major Methods Course in conjunction with the major academic department
*Course numbers vary based on certification field.
Additional professional education course
work is required in the academic disci-
pline to be taught.

## FIELD EXPERIENCES AND STUDENT TEACHING

Director: M. Ferrara (832-2420)
All students in Early Childhood, Elementary, Secondary Education and NK-12 programs are required to com-
plete student teaching. Prospective student teachers must complete a student teaching application form which is available in the Office of Field Experiences. To student teach in the fall semester, applications must be submitted by March 1. Applications to student teach in the spring semester must be submitted by October 1.

Students should have received a passing grade on the PRAXIS 1 (CBT) examination (or waiver) and been accepted to the Professional Program of the School of Education and Professional Studies prior to applying for student teaching. The letter of acceptance from the Assistant Dean of the School of Education must be included with the application for student teaching.

Student teaching courses (EDEC 430, EDEL 430, EDM 430, EDSC 412, 414, $415,417,419,420,421,429,435)$ may not be repeated without permission of the Director of the Office of Field Experiences, as well as the chairs of the student's major department and teacher education.

## BILINGUAL EDUCATION, B.S. *

Language/Linguistics: ENG 200, SPAN 335, 336 and 6 credits of Spanish electives chosen in consultation with an adviser

Bilingual Education: EDBE 410, ENG 496, 497

[^3]
## Health and Human Service Professions

J. A. Hriceniak, Chair; L. Barile, R. Cohen, H. J. Fried, M. Levvis, J. Malley, N. Organek, J. Rosenberg, D. Wiener, M. J. Williams (Dept. phone 832-2154)

## Nursing

The Department offers a baccalaureate program, the Bachelor of Science in Nursing (B.S.N.), designed to prepare a liberally educated person to function as a professional nurse in a variety of roles and health care settings. The program requires 130 credits.

Upon completion of this program, graduates are expected to be professionally competent generalists in nursing, recognize the need for continued personal and professional development throughout life and possess the educational background for post-baccalaureate study in nursing.

## Major in Nursing, B.S.N.

## Admission

In addition to meeting all requirements established for admission to Central Connecticut State,* the applicant must:

- be licensed currently as a registered nurse in Connecticut**
- carry and provide documentation of adequate malpractice and health insurance
- have completed a minimum of 45 undergraduate credits from an accredited college or university
- have advisement by nursing faculty
- be CPR certified
- meet specific immunization and OSHA requirements
- successfully complete a nursing validation examination or qualify for the state articulation agreement ( 30 credits of nursing transferred from associate degree or diploma school program if the examination is passed) prior to enrolling in NRSE 304
- start clinical courses within one year of passing the validation examination
- complete the B.S.N. program within five years of taking NRSE 302
*Admission to the University does not guarantee advancement to upper division nursing courses.
**Applicants in their final year of a diploma or associate degree may be accepted on a provisional basis.


## Requirements

61 credits including validation examination (lower division nursing credits) of 31 credits and NRSE 300, 301, 302, 303, 304, 306, 401, 402, 404, 406. In addition, BIO 412, 413; PS 448; PSY 428; and MGT 295 are required. Degree program totals 130 credits.

## Counselor Education

The department offers concentrations to students seeking a Master of Science degree in Counseling, leading to initial certification as a school counselor, and study in the areas of Counseling in

Higher Education, Rehabilitation Counseling and Marriage and Family Counseling. See the graduate catalog for more information.

## Physical Education and Health Fitness Studies

J. R. Olcott, Chair; A. B. Capitao, C. Fellows, F. J. Frangione,<br>D. Harackiewicz, J. B. Miller, V. Morley, S. H. Smith, R. E. Trichka, J. R. Webster (Dept. phone 832-2155)

The Department of Physical Education and Health Fitness Studies offers a major in Physical Education for teacher certification, and non-certifiable options in Exercise Science/Health Promotion and Athletic Training.

## Exercise Science and Health

Promotion: A non-teacher certifiable program which prepares students for employment at fitness/wellness centers in corporate, non-profit, clinical and sport settings. Students are given the necessary cognitive and practical experiences for pursuing certification by the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA). Exercise prescription and implementing individualized fitness programs are emphasized.

Athletic Training: A non-teacher certifiable program which prepares students for employment as athletic trainers in schools, colleges, professional sports and sports medicine settings. Students in this program are given the necessary cognitive and practical experiences for certification by the National Athletic Trainers Association and Board of Certification (NATA, BOC).

Major in Physical Education, B.S. Ed. 56-57 credits in Physical Education as follows.

Skill Courses ( 11 credits)
PE 272 Movement Fundamentals
PE 273 Tumbling and Gymnastics

PE 277 Outdoor Adventure Activities
PE 350 Racquet Sports
PE 375 Training for Fitness
DAN 377 Modern Dance \& Theory Choose one from the following, selected in consultation with adviser: REC 232, REC 233, PE 271.

Lecture Courses (44 credits)
PE 111 Orientation to Physical Education
PE 210 Personal and Community Health
PE 213 Anatomy in Physical Education
PE 214 Physiology in Physical Education
PE 216 Kinesiology
PE 300 Developmental Movement
PE 304* Secondary Methods in Physical Education
PE 305* Evaluation in Physical Education
PE 402* Organization and Administration of Physical Education
PE 405* Elementary Methods in Physical Education
PE 406* Adapted Physical Education
PE 408* The Curriculum Process in K-12 Physical Education
PE 409* Psycho-Social Aspects of Physical Education
PE 410 Exercise Physiology
PE 420* Perceptual and Motor Development
PE 422* Motor Learning
Professional Education Courses $(20$
credits)
EDT 315 Educational Technology in the Secondary School Classroom
EDTE 315 Principles of Learning
EDSC 375* Principles and Evaluation in Education (K-12)
EDF 400* Philosophy of Education or
EDF 415* Educational Foundations
EDSC 417* Student Teaching (Elementary P. E.)
EDSC 419* Student Teaching (Secondary School P. E.)

[^4]Required General Education courses: BIO 111, CHEM 111, ENG 110, HIST 261, HIST 262, STAT 104, PHYS 111, PSY 236 and COMM 115

## PROGRAMS NOT CERTIFIABLE FOR TEACHING

## Major in Physical Education: Exercise

 Science and Health Promotion Option, B.S.57 credits in Physical Education as follows.

## Core Courses (51 credits)

PE 110 Concepts in Fitness and Wellness
PE 210 Personal and Community Health
PE 213 Anatomy in Physical Education
PE 214 Physiology in Physical Education
PE 215 Physiological Aspects of the Human Performance of the Aging
or
PE 403 Methods in Physical Activity for the Aging
PE 216 Kinesiology
PE 217 Care and Treatment of Athletic Injuries
PE 307 Human Nutrition
PE 311 Stress Management
PE 380 Leadership in Exercise and Wellness
PE 410 Exercise Physiology
PE 411 Organization and Management of Health Promotion Programs
PE 412 Application of Tort Law to Physical Activity
PE 415 Fitness Assessment and Exercise Prescription
PE 425 Implementation and Evaluation of Health Promotion Programs
PE 450 Practicum in Exercise Science
PE 470 Internship in Exercise Science and Health Promotion

Skill Courses (6 credits)
PE 201 Teaching Aerobics: Dance, Step and Aqua
PE 375 Training for Fitness

| REC 232 | Lifeguard Training |
| :---: | :--- |
| or |  |
| REC 233 | Water Safety Instructor's |
|  | Course |

Required General Education Courses: BIO 111, CHEM 111, ENG 110, HIST 261, HIST 262, STAT 108, CS 115 , PHYS 111, PSY 236 and COMM 140.

Note: No concentration is required with this major.

Major in Physical Education: Athletic
Training Option, B.S.
61 credits in Physical Education as follows.
Lecture Courses (57-58 credits)
PE 110 Concepts in Fitness and Wellness
PE 210 Personal and Community Health
PE 213 Anatomy in Physical Education
PE 214 Physiology in Physical Education
PE 216 Kinesiology
PE 217 Care and Treatment of Athletic Injuries
PE 218 Scientific Basis for Athletic Training
PE 307 Human Nutrition
PE 315 Practicum in Athletic Training I
PE 316 Practicum in Athletic Training II
PE 317 Therapeutics in Athletic Training
PE 332 Psychological Aspects of Sport
or
PE 409 Psycho-Social Aspects of Physical Education
PE 402 Organization and Administration of Physical Education
PE 410 Exercise Physiology
PE 415 Fitness Assessment and Exercise Prescription
PE 422 Motor Learning
PE 440 Therapeutic Modalities in Athletic Training
PE 445 Internship in Athletic Training
IT 380 Emergency Medical Technician

Skill Courses (4 credits)
PE 375 Training for Fitness
REC 232 Lifeguard Training
or
REC 233 Water Safety Instructor's Course

Required General Education Courses: BIO 111, CHEM 111, ENG 110, STAT 104, PHYS 111, PSY 236 and COMM 115.

## School of Education and Professional Studies Centers

The Reading Clinic (Barnard 234) provides a setting for reading and language arts teachers to help children develop reading and language arts skills. Faculty of the Department of Reading and Language Arts direct the operations of the clinic and supervise the activities of students working in the clinic.

The Center for Multicultural
Research and Education (Barnard Hall 260) provides a variety of professional development programs and opportunities for $\mathrm{K}-12$ and university faculty that support development of education that is multicultural. Additional goals of the Center include serving as a resource center in the dissemination of research information, articles and curriculum materials, and supporting efforts to recruit students representing diverse cultural backgrounds to the teacher preparation and professional programs.

The Center for Innovation in Teaching and Technology (CITT), located in Barnard Hall 333, provides faculty and students with opportunities to create learning outcomes through using state-of-the-art technology in multi-media, com-puter-based instruction and other technological delivery systems.

Zdzislaw Kremens, Dean
Olusegun Odesina, Associate to the Dean Phone: (860) 832-1800; Fax: 832-1804

The School of Technology prepares graduates in professional technological fields. It consists of three departments: Engineering Technology, Industrial Technology and Technology Education. The School offers Industrial Technology and Engineering Technology degrees leading to technical careers in industrial management and engineering technology. In conjunction with the School of Education, the bachelor of science degree (in education) prepares individuals for teaching careers in technology education.

The School provides students with an opportunity to develop an understanding of tools, materials and instrumentation; how industry changes the forms of materials, energy and information to increase their value in society; how industry develops products and distributes and services products; and industrial organization and management.

Designated as a "Center of Excellence" by the State of Connecticut, CCSU's School of Technology has taken great pride in its ability to offer a broad range of curriculum options that provide students with a careful balance of classroom theory and practical application.

## Engineering Technology

G. Alungbe, Chair (832-1824); J. Bean, P.E.; A. Gates, P.E.; L. Lema, CMfgE; E. J. Maydock; O. A. Powell, P.E.; Z. Prusak; E. Sarisley, P.E. (Dept. phone 832-1815; Fax 832-1804; Web site: wwwst.ccsu.ctstateu.edu)

The Department of Engineering Technology offers the Bachelor of Science degree in Engineering Technology.

The Department has five technical specializations designed to prepare students to become active partners with engineers and to be team members of the
total technological enterprise that extends from planning and production to construction and/or service.

Students who have chosen a specific track in Engineering Technology will be able to apply scientific, mathematical and basic engineering knowledge and methods, combined with technical skills, in support of engineering activities. The four-year planned course of study includes science, math, computer graphics, communications and mechanics, along with laboratory courses in the technical specialization.

The civil, manufacturing and mechanical engineering technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET), 111 Market Place, Suite 1050, Baltimore, Maryland 21202. Phone: 410/347-7700.

## PLANS OF STUDY

Those students enrolled in the Department of Engineering Technology may attend the University full- or parttime. Courses offered in the late afternoon or evening allow part-time students to maintain full-time employment. Fulltime students may complete their 130credit program in four years. A Co-op experience is suggested for all students.

## ENGINEERING TECHNOLOGY MAJOR, B.S.

## General Education Requirements

Engineering Technology majors are required to complete $40-41$ credits of the following courses as part of their General Education requirements. Study Area I: 3 credits English literature, 6 credits English literature or philosophy or fine arts; Study Area II: 3 credits history, 3 credits economics or geography or political science or history; Study Area III: 3 credits anthropology or psychology or sociology; Study Area IV: PHYS 121 or $125^{* *}$, and PHYS 122 or $126^{* *}$; Skill Area I: ENG $110^{*}$, and COMM 115 or 140 ; Skill Area II: MATH 125 or $122^{* *}$, and MATH 126 or $221^{* *}$; Skill Area III: 0-6 credits of foreign lan-
guage/international; Skill Area IV: PE 244 or ET 150 (for transfer students).

A minimum grade of C - is required in these General Education courses. Students are required to obtain an account and computer certification from the campus Microcomputer Lab in their first year of registration.

* Placement exam may be required before enrolling in mathematics or English courses.
** Recommended


## Engineering Technology Specializations

 The Department currently offers the following five specializations: (i) civil, (ii) composites \& polymer materials, (iii) industrial systems, (iv) manufacturing and (v) mechanical. Each Engineering Technology student should choose one of the specializations based on individual interests and goals. Course requirements for each of the specializations are presented below.(i) Civil Engineering Technology<br>Accredited by TAC of ABET<br>Advisers: G. Alungbe (832-1824); J. Bean, P.E. (832-1820); E. Sarisley, P.E. (832-1817)

This specialization provides students with a background in design support, construction and maintenance of the infrastructure. Graduates may work in consulting firms, construction organizations, testing laboratories, municipal governments and utility companies. Emphasis is on the areas of surveying, materials, structures and use of the computer in the construction industry.

## Specialization Requirements

Fifty (50) credits as follows:
ET 150, 251, 252, 354, 357, 397, 451, $454,457,470,471,498$; either TC 122 or $123,353,356$; five credits of directed technical electives selected in consultation with an advisor.

Additionally, IT 254; TC 113, 233, 351,355 are required.
(ii) Composites \& Polymer Materials Technology
Adviser: E. J. Maydock (832-1818)
This specialization is designed to prepare students for careers involved with the applications of design, development, analysis and manufacture of products made of composites and polymer materials. Graduates of the program will be able to work in areas of research and development, testing and analysis, and/or design of products, tooling and processes for the medical, biotechnology, aerospace and durable goods manufacturing industries.

## Specialization Requirements

Fifty-four (54) credits as follows: ET $150,251,252,256,260,340,354$, $357,358,367,461,463,464,466,467$, 468,498 ; three credits of directed technical electives selected in consultation with an advisor.

Additionally, IT 464; TC 113, 121; CHEM 122, 311 are required.

## (iii) Industrial Systems Engineering Technology <br> Adviser: E. J. Maydock (832-1818)

This specialization combines Industrial Engineering principles with computer applications to increase and improve the quality of a professional's performance. Graduates support both line and staff management personnel. Responsibilities would include scheduling and allocation of human and/or material resources involving sales force, office and plant personnel.

## Specialization Requirements

Thirty-three (33) credits as follows: ET 150, 251, 252, 260, 300, 354, 356, 360,498 ; six credits of directed technical electives selected in consultation with an advisor.

Additionally, IT $359,360,410,432$, 458, 464, 480; TC 113, 121, 233; CHEM 122; CS 473 are required.

## (iv) Manufacturing Engineering Technology

Accredited by TAC of ABET
Advisers: L. Lema (832-1821); Z. Prusak (832-1826)

This specialization develops concepts employed by manufacturing industries to increase productivity, reduce cost and efficiently use tools and machinery. Emphasis is on the areas of manufacturing, process planning, $\mathrm{CAD} / \mathrm{CAM}$, production techniques and the application of mathematics and computers.

## Specialization Requirements

Thirty-eight (38) credits as follows: ET 150, 251, 252, 260, 340, 354, 356, $360,461,462,466,498$; two credits of directed technical electives selected in consultation with an advisor.

Additionally, IT 360, 464, 480; TC $113,121,216,233,316,324,416,446$ are required.

## (v) Mechanical Engineering Technology Accredited by TAC of ABET <br> Advisers: A. Gates (832-1832), O. Powell (832-1820)

This degree program integrates the aspects of energy conversion, mechanism control, heat and mass transfer, machine dynamics and design with computer design and analysis to prepare engineering support personnel to assist in the design of machinery and instrumentation for industrial, transportation and utility applications. The mechanical engineering technologist makes significant contributions in supporting engineering design, testing, production, research and development operations in a wide variety of industrial, aerospace and government organizations.

## Specialization Requirements

Fifty (50) credits as follows:
ET 150, 251, 252, 260, 340, 354, 356, $357,358,367,462,464,466,467,498$; five credits of directed technical electives selected in consultation with an advisor.

Additionally, TC 113, 121, 216, 233, $303,324,334$ are required.

## Industrial

## Technology

P. J. Resetarits, Chair; S. R. Bennett; W. W. Davison; J. A. DeLaura, CMfgE;<br>D. C. Dowty; M. Haase; G. Ku;<br>O. Odesina; R. J. Perreault; S. E. Rich; K. Tracey; P. J. Vernesoni;<br>M. C. Vincenti; D. Zanella (Dept. phone 832-1830; Fax 832-1806; Internet: Resetarits@CCSU.EDU)

The Industrial Technology Department offers the following programs of instruction:

- Bachelor of Science degree in Industrial Technology
- Master of Science degree in Industrial Technical Management

The Industrial Technology Department has nine technical specializations designed to prepare students for technically-oriented supervisory, middle management and industrial sales positions. The program responds to an increasing demand by industry for supervisory, management and sales personnel who have a combination of technical, managerial and general education backgrounds. Therefore, Industrial Technology training includes a basic knowledge of industrial processes and applied technologies, in addition to a background in general studies. The training provides the graduate with experiences which make him or her flexible and adaptable to many kinds of business and industrial organizations with a reasonable amount of in-service or job-oriented training.

## PLANS OF STUDY

Students interested in the Technology programs may attend Central
Connecticut State University full- or parttime. Part-time study permits a student to keep a full-time day job and enroll in courses in the late afternoon or evening. Full-time students may complete the 122 credit program in four years.

## INDUSTRIAL TECHNOLOGY

MAJOR, B.S. (63 credits)
Accredited by NAIT
Industrial Technology majors, regardless of the specialization selected, are
required to complete a common core of 24 credits in technical and management courses as part of their program. Courses included within these common requirements are as follows:*

## Industrial Technology Core Courses Credits

IT 190
Introduction to Quality Assurance
IT 362 Leadership Skills for Supervisors
IT 401 Industrial Internship
IT 410 Industrial Safety
MGT 295 Fundamentals of Management and Organizational Behavior
ENG 403 Technical Writing
AC 210 Principles of Industrial Accounting3

MKT 295 Fundamentals of Marketing

TC - Technical Courses - designed to develop technical competencies; for Industrial Technology, Engineering Technology, and Technology Education majors.
*Requirements are different for Construction Management Specialization.

General Education Requirements
A total of 44-46 credits in General Education studies must be completed as part of all baccalaureate degree programs.

Industrial Technology majors are required to complete the following 3credit courses as part of their General Education: Skill Area I - ENG 110, COMM 115 or 140 ; Skill Area II STAT 104, MATH 115; Study Area II ECON 201; Study Area IV - CHEM 111 with lab, PHYS 111 with lab.

## INDUSTRIAL TECHNOLOGY SPECIALIZATIONS

Each Industrial Technology student should identify a specialization based on individual interests and goals. Nine specializations are available; each is shown with its course requirements.

## Automation

Adviser: W.W. Davison (832-1831),

This specialization is designed to prepare students in the field of automation. Graduates will have a background in electronics, hydraulics and pneumatics; servoand non-servo robotics; automation mechanisms; automated warehousing; data acquisition and feed back mechanisms; and the use of various control devices, including personal computers (PC's), programmable logic controllers 3 (PLC's) and sequence controllers. These technical components, in conjunction with middle management skills, will enable the graduate to enter industry in the areas of production automation, technical sales, project management and supervision of automated systems.

Specialization Requirements Credits
TC 113 Intro. to Information Processing

3
TC 114 Intro. to Energy Processing
TC 118 Intro. to Material Processing
TC 121 Technical Drafting and CAD
MATH 121 Pre-Calculus Mathematics
CS 213 Applications of Computer Programming 3
TC 324 Fluid Power Systems 3
TC 333 Data Acquisition and Control
TC 334 Mechanisms for Automation
TC 463 Programmable Logic Controllers
IT 400 Senior Project
IT 480 Robotics

Electives - Technical and Management, select from the following (total 4):
ET 260 CAD/CAM/CIM 3

IT 481 Mobile Robotics 3
TC 321 Computer-Aided Drafting
TC 363 Digital Circuits
TC 453 Microprocessors

## Construction Management

Advisers: S. R. Bennett (832-1835),
R. J. Perreault (832-1836)

This sequence of courses is designed to supply the student with knowledge and experiences which will enable him/her to operate effectively in a supervisory position in the construction industries. The emphasis is not on specialized skills, but rather on a broad spectrum of subjects pertinent to the field of Construction Management.

Specialization Requirements Credits
Note: In place of IT 410, students will take IT 422.
TC 113 Intro. to Information
Processing

3
TC 155 Construction
Documents
3
TC 345 Heavy and Highway
Construction
Estimating
Estimating for
Construction
3
TC 353 Introduction to Surveying 3
Construction Planning 3
Materials of
Construction
TC 455 Construction Project Management3

IT 125 Construction Graphics 3
IT 150 Construction Practices and Principles

3
IT 245 Heavy and Highway
Construction Practices
3
IT 254
IT 457
Surveying
3
Construction Supervision3

## Electronics Technology

Adviser: D. Zanella (832-1841)
The specialization prepares students to work as a member of an engineering team in applied design, product development, manufacturing, maintenance or technical support/sales services in the electrical and electronic industries which include telecommunications, control systems, manufacturing of electromechanical devices and computer services.

Specialization Requirements Credits TC 462
TC 113 Intro. to Information Processing 3
TC 114 Intro. to Energy Processing
TC 121 Technical Drafting and CAD

3
IT 355
IT 360
3 Electives-Technical and Management 7
Advanced Graphic Arts Techniques 3 Estimating for Printing 3 Production Control 3

TC 223 Basic Electrical Circuits 3
TC 233 Advanced Electrical Circuits
TC 243 Electronic Devices
TC 303 Electro-Mechanical Converters
TC 323 Analog Circuits
TC 363 Digital Circuits
3
TC 443
TC 453 Microprocessors 3
Electives-Technical and Management 6
Choose from the following: TC 313, 333,463 ; IT 480; CS 151 or 213

Note: A concentration is not required for this major.

## Graphic Arts

Advisers: S. E. Rich (832-1832), M. Haase (832-1837), O. Odesina (832-1833)

This specialization is designed to provide the student with knowledge of the various techniques used in the printing industry: composition, photo mechanicals, press work and bindery. The training will be broad in scope, with an emphasis on wide background rather than mechanical skills, and will equip students to work in management as supervisors, estimators, salespersons or production controllers.

Specialization Requirements Credits
TC 112 Digital Imaging for Pre-Press
TC 113 Intro. to Information Processing
TC 114 Intro. to Energy Processing
TC 118 Intro. to Material Processing 3
TC 212 Graphic Arts Industries 3
TC 261 Intro. to Graphic Design and Color
TC 342 Porous Printing and
$\begin{array}{ll}\text { TC } 342 & \text { Porous Printing and } \\ & \text { Post-Press Operations }\end{array}$
TC 442 Printing Production 3

## Graphic Design Management

Advisers: S. E. Rich (832-1832), M.
3 Haase (832-1837), O. Odesina (832-
3 1833)

3 This track of the Graphic Arts specializa3 tion allows students to combine courses
in Graphic Arts, Art and Management to prepare for design management careers in the graphic arts field. Transfer credits from Graphic Design programs at community colleges are accepted.

Specialization Requirements Credits
TC 112 Digital Imaging for Pre-Press 3
TC 113 Intro. to Information
TC 212 Graphic Arts Industries 3
TC 261 Intro. to Graphic
Design and Color3

TC $352 \quad$ Graphic Design and Typography
TC 442 Printing Production 3
TC 462 Advanced Graphic Arts
Techniques
TC 472 Introductory and
Publications
Photography
IT $400 \quad$ Senior Project
DES 222 Graphic/Information Design I
Electives-Technical, Art or Management

Specialization Requirements Credits
TC 113 Intro. to Information
Processing 3
TC 114 Intro. to Energy
Processing
TC 118 Intro. to Material Processing
TC 121 Technical Drafting and CAD
TC 216 Material Processing II
(Metallics)
TC 316 Metals Machining 3
TC 416 Principles of Numerical Control
TC 446 Tool and Die Fundamentals3

IT 359 Plant Layout 3
IT 360 Production Control 3
IT 458 Productivity Improvement 3
ET 356 Materials Analysis 3
Electives-Technical and Management 4

## Environmental and Occupational

 SafetyAdviser: G. Ku (832-1802)

The Occupational Safety and Health Act of 1970, by requiring employers to provide safe and healthful working conditions, has increased the need for trained safety personnel. This specialization in Environmental and Occupational Safety will prepare students for management positions as safety professionals in private industry and federal, state and local government.

Specialization Requirements Credits

TC 113

TC 114

TC 118

TC 121

ET 300

IT 359
IT 411
IT 414

IT 422
IT 456

Intro. to Information
Processing
3
Intro. to Energy Processing 3
Intro. to Material Processing
Technical Drafting and CAD3

Human Factors Engineering 3
Plant Layout 3
Industrial Hygiene 3
Industrial Loss Control Management3

Construction Safety ..... 3

Hazardous Material
Management
BIO 132
$\begin{array}{ll}\text { BIO } 133 & \begin{array}{l}\text { Lab. in Introductory } \\ \text { Ecology }\end{array}\end{array}$
Electives-Technical and Management 3
IT 421 Evaluation Techniques in Industrial Hygiene
or
ET 476
Environmental Technology

## Electro-Mechanical Technology

Adviser: W. W. Davison (832-1831)
This specialization provides the student with knowledge of the various techniques used in the power transmission industry. Training will be provided in the electromechanic areas and will provide students with the background to become supervisors, managers and salespeople in the field of power transmission. This program provides transferability from community colleges and state technical colleges for students enrolled in automotive-related technology programs.

Credits are selected from the following, or from automotive courses transferred from community and/or technical colleges.

Specialization Requirements
Credits
TC 113 Intro. to Info. Processing
TC 114 Intro. to Energy Processing
TC 118 Intro. to Material Processing
TC 121 Technical Drafting and CAD
TC 223 Basic Electrical Circuits 3
TC 303 Electro-Mechanical Converters
TC 313 Electrical Power Systems
TC 324 Fluid Power Systems
TC 333 Data Acquisition and Control
TC 334 Mechanisms for Automation
TC 414 Automated Assembly Cell Design
TC 463 Programmable Logic Controllers
Technical and Management Electives
3
Select one from the following: TC 214, 216; CS 213, 216

3


Note: A concentration is not required for this major.

Technology Management
3 Adviser: Paul Resetarits (832-1834)
allow students to develop a custom plan of study utilizing various existing technical and management courses. Students transferring credits in from other institutions of higher education can use those credits in this specialization. The Technology Management Specialization requires the student to complete the 24 credits in the Industrial Technology core courses plus 39 credits of Technical and Management Electives.

## Specialization Requirements Credits

Technical and Management Electives 39 Courses selected in consultation with, and approved by, advisor. At least one half of the elective credits must be at the 300 or 400 level.

Note: A concentration is not required for this major.

## Quality Management

Adviser: Paul Resetarits (832-1834)
3 This specialization is designed to prepare students for a variety of Quality
3 Management positions in manufacturing and service industries. Graduates will have
3 a solid background in the various quality system standards in use today. They will
3 have expertise in the use of numerous 3 quality control tools and techniques. They will possess the knowledge required 3 to lead and implement quality improvement efforts in a broad spectrum of busi-
3 ness environments.
Specialization Requirements Credits

TC 113 Intro. to Information Processing Intro. to Energy Processing Intro. to Material Processing Technical Drafting and CAD Control and Metrology 3 Plant Layout

| IT 360 | Production Control | 3 |
| :--- | :--- | :--- |
| IT 390 | Auditing Quality |  |
| IT 458 | Systems Standards | 3 |
|  | Productivity |  |
| Improvement | 3 |  |
| IT 490 | Quality by Design | 3 |
| ET 356 | Materials Analysis | 3 |

Electives-Technical and Management,
select from the following (total 6)
ET $300 \quad$ Human Factors Engineering (Ergonomics)
ET $340 \quad$ Geometric Dimensioning and Tolerancing

## Technology Education

M. J. Williams, Chair (832-1853),
J. C. Larkin, P. A. Rodrigues, J. Wright
(Dept. phone 832-1850; Fax 832-1804;
Internet: Williams@ccsu.ctstateu.edu)
The Department of Technology
Education offers the following programs of instruction:

- Bachelor of science degree in Technology Education
- Post Baccalaureate Certification Program in Technology Education
- Master of science programs in Technology Education
- Planned sixth year-no certificate or degree

Specific requirements for the planned fifth year, master of science degree program and sixth-year programs in Technology Education are stated in the graduate catalog.

## TECHNOLOGY EDUCATION

The undergraduate program in Technology Education prepares students for teaching Technology Education in the elementary grades, middle schools, high schools and adult education. The degree is also suitable for students interested in becoming industrial trainers and for vocational teachers who are interested in teaching Technology comprehensively versus a specific occupational skill. The
four-year curriculum provides specific training in Technology Education as well as in the humanities, the social and behavioral sciences, mathematics, natural sciences, fine arts and physical education.

College/university graduates desiring to meet certification requirements for teaching Technology Education in Connecticut should contact Peter Rodrigues (832-1857).

## TECHNOLOGY EDUCATION

 MAJOR, B.S.Advisers: J. C. Larkin, P. A. Rodrigues, M. Williams, J. Wright

## General Education Requirements

A total of 44-46 credits in General Education studies must be completed as part of all baccalaureate degree programs. See the General Education section in this catalog.

Technology Education students are required to take ENG 110, HIST 261, PSY 236, TE 110, PHYS 111, CHEM 111 and MATH 115. These courses count toward the overall General Education requirements.

## Technology Education Professional Requirements

Students are required to take TE 199, 399, 400 and 428. All of these courses may not be available each semester and are seldom available during the summer sessions; refer to the course description section of this catalog for information.

## Technology Education Technical Requirements

Technology Education majors are required to take TC 113, 114, 118, 121, 212, 213, 214, 215, 445 and TE 410, 420, 430, 450. Students may take additional technical courses, indicated by the TC prefix, approved by their Technology Education adviser to fulfill their General Education requirements. Each major in Technology Education must complete at least 6 credits in each of the following areas: communication, production and transportation.

## Professional Education Requirements

Technology Education majors are required to take SPED 315, EDSC 375, EDF 400 or 415 , EDTE 315 , EDSC 414 and 415.

Admission to the Professional Program
Students must make formal application for admission to the Professional Program of Technology Education after completion of 45 credits in course work. At least 15 of these credits must be in TC or TE courses. Applications are available from the Dean of Education and Professional Studies, Barnard Hall, and must be filed prior to September 21 or February 21. Acceptance is prerequisite to taking TE 400, EDSC 375,414 and 415, EDF 400 or 415, EDTE 315 and SPED 315. Students must maintain a minimum 2.50 grade point average in all technology courses. See School of Education and Professional Studies, Admission to Professional Program for additional information.

## VOCATIONAL-TECHNICAL EDUCATION

Coordinator: M. Furtado-Holloway (832-1807)

The certification curriculum in VocationalTechnical Education is designed to prepare teachers of occupational subjects (skilled trades) and trade-related subjects for Connecticut's vocational-technical schools, teachers of trade and industrial occupational subjects for Comprehensive High Schools and health occupation educators. Students planning to qualify for vocational teaching positions within Connecticut's public schools are normally required to meet the following:

## Work-Related Experience:

Trade and Industrial Occupational
Subjects Teachers (Comprehensive
High Schools) - 3 years of appropriate work experience

Trade-Related Subjects Teachers
(CT Vocational-Technical Schools) - 3
years of appropriate work experience Occupational Subjects (CT
Vocational-Technical Schools) - 8 years of appropriate work experience

## Certification Requirements:

18 credits in VTE and 12 credits in Professional Education

## Initial Educator Certificate

VTE Prof.


Credits
VTE 113 Analysis and
Teaching of
VTE I
3

3
*SPED 315 Intro. to Educating
Learners with
Exceptionalities
Provisional Educator Certificate
No course work required - 30 months of successful teaching

Professional Educator Certificate

VTE 328 Shop Organi-
zation and
Management 3
VTE 400 Evaluating
Student
Achievement 3
VTE 415 Principles of
Vocational
Education 3
VTE 455 Labor Market
Trends and Stu-
dent Job Readiness 3
PSY 236 Life-Span
Development
$\begin{array}{ll}\text { RDG } 440 & \text { Literacy in the } \\ & \text { Secondary School }\end{array}$
TC 113 Introduction to
Information
Processing
or
EDT 490 Instructional Computing
Total Credits $18 \quad 12$
*VTE certification students are exempt from Admission to the Professional Program.

## Teacher Coordinator of Cooperative Education, Diversified Occupations**

Recommended courses for certification as a Teacher-Coordinator of Cooperative
Work Education, Diversified Occupations:

Initial Educator Certificate<br>VTE 415 Principles of Vocational Education<br>VTE 450<br>Principles and Organization of Cooperative Work Education<br>VTE 455<br>Labor Market<br>Trends and Student Job Readiness

**Prereq.: Holds or is eligible for secondary-level certification. One year work experience, three years teaching experience required.

## Institute for Industrial and Engineering Technology

The Institute, located in downtown New Britain at 185 Main Street, is the outreach function of the School of Technology. The Institute provides the business and industrial communities with economic development services through six centers. The Technical Training Center assists companies in technical updating, ranging from quality assurance to engineering design and analysis. The Manufacturing Applications Center is designed to help small manufacturers make the transition to advanced technology in their manufacturing processes. The Center for Flexible Manufacturing Networks is designed to help link small manufacturers together. The Procurement and Technical Assistance Center assists small- and medium- sized companies in the bidding process for government procurement. The Human Resource Development Center assists business, government and not-for-profit agencies in educational and training programs for their workforce. Programs range from basic business skills to advanced computer training. The Institute also has a Conference Center and houses the New Britain Industrial Museum.

## Credits

## 3

 directly to CCSU's School of Technology.The Technology Pathway for entry into CCSU's School of Technology consists of core courses that will serve as the foundation of the bachelor of science degree in Engineering Technology, Industrial Technology and Technology Education. Continuation at Central will require a minimum course grade of C and completion of the following college credits. Credits

| English Composition | 3 |
| :--- | ---: |
| Oral Communications | 3 |
| Elective (fine arts) | 3 |
| Elective (literature) | 3 |
| Elective (philosophy or foreign |  |
| $\quad$ language) | 3 |
| General Chemistry with lab | 4 |
| Physics | 4 |
| College Algebra | 3 |
| Precalculus | 3 |
| Elective (history) | 3 |
| Elective (economics) | 3 |
| Elective (psychology or sociology) | 3 |
| Computer-Aided Drafting | 3 |
| Materials Science | 3 |
| Introduction to Energy | 3 |
| Introduction to Computers | 3 |
| Statistics | 3 |
| Directed Elective | 3 |
| Directed Elective | 3 |
| Technical Elective | 3 |
| Technical Elective | 3 |
| Total credits | 65 |

The College of Technology offers students:

- a clear pathway from a two-year college to a four-year university, without loss of credit or repeated course work
- the opportunity to begin their education on a full- or part-time basis at any of Connecticut's 12 community-technical colleges
- low costs by completing the first two years of study at a community-technical college
- direct admission into CCSU's School of Technology


## Technology Pathway Program

The CSU-CCSU Technology Pathway Program is an integrated curriculum allowing individuals to begin their studies at any CSU campus (Southern, Eastern or Western) and advance directly to any program in the School of Technology at Central Connecticut State University. The Pathway Program will provide the foundation or the initial two years of a bachelor of science degree.

The School of Technology at Central Connecticut State University offers the only programs of study in Technology Education, Industrial Technology and Engineering Technology in the Connecticut State University System. Each degree program has a variety of technical specializations designed to provide students with a balance of classroom learning (theory) and activity-based laboratory (practical application) courses. In addition, the School of Technology's cooperative education program provides opportunities for students to work with major industries in a variety of technical and engineering areas. Graduates of the programs enter the workforce with the knowledge and confidence needed to compete and succeed in today's industrial and technological marketplace.

This program provides a direct entry to the School of Technology at CCSU without loss of credit or having to repeat course work. A student can complete a minimum of 30 credits or up to 60 credits at any CSU campus with at least a grade " $C$ " in each course before continuing at Central.

The pathway coordinator has been identified at each CSU campus. For information, contact the Associate Dean of the School of Technology at CCSU.

## COOPERATIVE EDUCATION PROGRAM

Cooperative Education is an academic program which integrates classroom study with career-related work experiences. Coop work experiences are paid, full-time, six-month positions related to academic and career interests. Co-op is an optional and, in most cases, non-credit program.

Central Connecticut State's program, the largest in Connecticut and one of the largest in New England, combines five months of on-campus study with six months of paid Co-op employment. Thus, students apply textbook learning to on-the-job training. The money earned often helps students finance their University education.

Co-op students are assigned to a Cooperative Education coordinator who guides their career development and develops appropriate Co-op placements. In the Co-op Career Development Seminar students receive instruction in skills that make the difference in today's job market: résumé writing, interviewing techniques, career planning and jobseeking strategies.
Through participation in the Co-op program, students can graduate with up to two years of career-related work experience and, possibly, with a job offer. A sizeable number of Central Connecticut State's Coop students are offered permanent positions with their Co-op employers upon graduation. Nationwide, graduates of Coop programs are hired at higher salaries and promoted faster than other employees. For students unsure of a career, Co-op is a no-risk way to test job options. For those set in their goals, Co-op provides a direct route from campus to career.

## How Co-op Works

- Co-op work blocks run from January through June (Group A) and from July to December (Group B).
- Students may participate in either one, two, three or four Co-op work blocks.
- Students may enroll in the Co-op program after they have completed 45 credits.
- Students must enroll in a Co-op Career Development Seminar during the semester prior to the first work experience.


## Enrolling in the Co-op Program

Once enrolled at Central Connecticut State, the first step in becoming a Co-op student is to attend a Co-op Information Session. These are offered weekly in the Co-op Office, Willard Hall Room 100. The session provides details about how the program works, how to enroll and the benefits the student can expect as a Coop student at Central Connecticut State. It gives students an opportunity to ask questions and receive current literature about the program.

After the Information Session, students meet with a coordinator to formally enroll in the program. Students should plan to enroll in the program at least one semester prior to the first planned work block. Group A students must apply no later than the third week of the fall semester; Group B students must apply no later than the third week of the spring semester. Applying a semester in advance of the work block ensures: 1) a place in the program; 2) sufficient time for the Co-op staff to develop appropriate Co-op positions; and 3) sufficient time for students to complete the Career Development Seminar prior to their work experience.

## The Career Development Seminar

The Career Development Seminar is designed to teach students life-long career skills. They learn to write a résumé, interview effectively, make career decisions, explore occupations and discover where the jobs are in their field. This one-credit course is taught by the Co-op staff.

## Cost and Eligibility

The Co-op program is available to all full- and part-time students in good academic standing, who have completed 45 credits. Currently, it costs $\$ 400$ per year to be enrolled in the Co-op program. Students are billed $\$ 200$ per semester.

CCSU offers an interdisciplinary degree program in International Studies, with specializations leading to the bachelor of arts degree for students in Arts and Sciences.

Concentrations in African Studies, East Asian Studies, Latin American Studies, Slavic and East European Studies and European Union/Western European Studies are also offered.

Each student planning to major in International Studies should contact the International Studies Curriculum Coordinator (832-2921). Students planning a concentration in a region, or those interested in a region as part of the B.A. major program, should contact the coordinator of the appropriate area studies program.
A multidisciplinary program leading to the Master of Science in International Studies is also offered.

## International Studies

INTERNATIONAL STUDIES MAJOR, B.A.

Fifty-seven (57) credits as follows:
Core Curriculum ( 12 credits)
IS 225 The World as a Total System
IS 475 Senior Project
and two of
GEOG 120 World Regional Geography
HIST 122 World Civilization II
PS 104 The World's Political Systems

## Regional Specialization (18 credits)

 Courses in the language, literature and social or behavioral science of a particular world region selected in consultation with a faculty adviser.
## Modern Language ( 18 credits)

Courses in a single modern language or demonstration of competency in reading, writing, speaking and understanding of a single modern language equal to completion of the 226 level, as determined by a CCSU instructor of the language and/or the chair of the Modern Languages Department.

Directed Electives (9 credits)
Courses in either the Regional Specialization or a related area, or those
designated International, or those labeled International Studies; selected in consultation with a faculty adviser.

## Structured International or Multicultural Experience

At least one semester of faculty-supervised, in-depth exposure to another way of life.

Note: Students will be encouraged to select a Regional Specialization coinciding with existing CCSU Area Studies programs, although a specialization from other world regions may be selected if desired and courses are available.

Note: The Modern Language selected must be related to the Regional Specialization.

Note: Students who complete the Modern Language component with fewer than 18 credits must take additional courses, in either the Regional Specialization and/or Directed Electives, selected in consultation with a faculty adviser.

Note: Ideally, International Studies majors will spend one academic year abroad. As an alternative, IS faculty will assist students to develop a local multicultural experience related to the student's academic track or regional specialization.

Note: A concentration is not required for this major.

## African Studies

E. Newman-Phillips, Coordinator (8322617); G. Alungbe, A. Antar, C. Austad, W. Brown-Foster, T. Darko, G. El-Eid, G. Emeagwali, P. English, S. FafunwaNdibe, P. Kyem, P. LeMaire, C. C. MateKole, A. Moemeka, S. Odesina, P. Osei, W. Perry, T. Rickard, R. T. White

Concentration in African Studies, B.A. or B.S.
18 credits including HIST 375,376 , PS 421, 434 and 6 credits of electives as approved by the program coordinator.

## Major

Students wishing to construct a major program in African Studies may do so using the framework provided by the B.A./B.S. in International Studies.

# East Asian Studies 

X. Shen, Coordinator (832-2794);
G. Altman, Y. Ju, K. H. Kim, C. S. Lien,
J. McKeon, P. Petterson, S. Tomoda

Concentration in East Asian Studies, B.A. or B.S.

18 credits of electives in East Asian courses, subject to approval of the coordinator. Courses used for a major may not be used to fulfill the requirements of the concentration.

## Major

Students wishing to construct a major program in East Asian Studies may do so using the framework provided by the B.A./B.S. in International Studies.

## European Union/ West European Studies

Coordinator to be announced; D. Engwall, P. Lapuerta, A. Morales, M. Passaro, C. Pesca-Cupola, P. Petterson, T. Rickard, K. Ritzenhoff, M-C. Rohinsky, R. Stowe, M. Vincenti, M. Wallach, L. Williams

## Concentration in European Union/

 West European Studies, B.A. or B.S. 18 credits, including ECON 430, GEOG 452, HIST 444, PS 336 and competency at the intermediate (126) level in a West European language. Students achieving this competency with fewer than 6 credits should take courses in language, culture or other suitable regional courses in consultation with an adviser.
## Major

Students wishing to construct a major program in European Union/West

European Studies may do so using the framework provided by the B.A./B.S. in International Studies.

## Latin American Studies

J. Snaden, Coordinator (832-2799);
R. Fernandez, Director of Caribbean

Studies; W. Brown-Foster, G. Claffey, G. Cueto, F. Donis, F. Gagliardi,
A. Garcia-Lozada, S. Mendez-Mendez, G. Miller, T. Mione, A. Richard

A brochure describing the programs in depth is available from the coordinator.

## Concentration in Latin American <br> Studies, B.A. or B.S.

18 credits including GEOG 434, 436; HIST 381, 382; and 6 credits from the following: ANTH 428; ECON 435; GEOG 459*; HIST 483, 484, 493*; HUM 490*; IS 240, 245, 490*; PS 235, 420; SPAN 261, 316, 376.
In addition, students will use 6 credits from the following to satisfy their General Education requirements, except when exempted: SPAN 125 and 126 or SPAN 225 and 226.
*Courses can be used to satisfy program requirements with the approval of the Program Coordinator. Courses taken as a part of this concentration may not also be used to fulfill requirements of the student's major. Note prerequisites where applicable.

## Concentration in Caribbean Studies,

 B.A. or B.S.18 credits including IS 240, 245, GEOG 434 and 9 credits from the following: ANTH 428, ECON 435, GEOG 459, HIST 483, PS 420, SPAN 316. Note prerequisites where applicable.

Students selecting these concentrations must register with the Program Coordinator.

## Major

Students may specialize in Latin America within the International Studies Major.

## Middle Eastern Studies

A. Antar, Coordinator (832-2932);
F. Abdollahzadeh, K. Beyard, A. Cannella,
G. El-Eid, G. Emeagwali, N. Mezvinsky,
A. Papathanasis, T. Rickard, N. Sadanand

## Concentration in Middle Eastern

 Studies, B.A. or B.S.18 credits including HIST 472, PS 434, 439 and 12 credits from HIST 473, 474, PS 339, 439, 491.

## Major

Students wishing to construct a major program in Middle Eastern Studies may do so using the framework provided by the B.A./B.S. in International Studies.

## Slavic/East

 European StudiesP. Karpuk, Coordinator (832-2883);
G. Altman, R. Benfield, J. Bergman,
S. Blejwas, D. Kideckel, B. Sommers

## Concentration in Slavic/East European

 Studies, B.A. or B.S.18 credits, including at least 9 selected from the following: ANTH 426, GEOG 448, HIST 348, 350, 356, PS 435. RUS 125 and 126, or study of another East European language at an equivalent level, are strongly recommended. Courses in Polish Studies may be applied to a Slavic/ East European concentration (see Polish Studies Center).

## Major in Russian Studies

Students wishing to construct a major program in Russian Studies may do so using the framework provided by the B.A./B.S. in International Studies. For a sample program please contact the coordinator.

## Major in Slavic/East European Studies

 Students wishing to construct a major program in Slavic and East European Studies may do so using the framework provided by the B.A./B.S. in International Studies.
## African-American Studies

F. Best, Director (832-2910 or 2817); African-American Studies Committee: G. Alungbe, D. Blitz, J. Buxton, C. Carter-Lowery, G. Emeagwali, W. Brown Foster, B. Johnson, M. Mentzer, S. Pease, W. Perry, E. Phillips, H. Salahu-Din, R. White

The African-American Studies concentration offers a broad curriculum dedicated to the study of Black life in the Americas and the Diaspora from 1350 to the present. The African-American Studies Program develops and coordinates an interdisciplinary curriculum. Its objectives are to encourage all students and faculty to examine the African-American experience, to facilitate a cultural and intellectual atmosphere on campus that will be favorable to such studies, and to develop a program of research and community service. The program also has a "nationally recognized" African-American lecture series, featuring nationally and internationally known scholars in the field of Black Studies.

The African-American Studies Center, located in Marcus White 101, has a lending library for students and faculty. In addition to the ongoing lecture series the program also hosts the traditional celebration of Black History Month during February with rich and diverse activities such as a film series, art exhibits and student debating contests.

## Concentration in African-American

 Studies, B.A. or B.S.Students completing a minor concentration in African-American Studies must have 21 credits, including AFAM 110; HIST 369 and 469; and PHIL 360 which is required of all students. In addition, students must have fifteen credits of electives which may be selected from the following courses: HIST 497 (African History Through Film and African-American Women's History); HUM 490 (African Civilization: A Voyage into the Past and Present); REL 361 (African-American Religion); PHIL 360 (African-American

Philosophy); ART 100; ENG 212, 345; CRM 478 (Gender, Race and Crime); SOC 231; ANTH 200, 220, 300, 316, 352, 424; PSY 430; COMM 415, 495 (African-American Speakers); IT 402 (Technology of African Americans).

## American Studies

R. Dunne, Coordinator (832-2756);
C. Doyle-Stott, H.M. Prescott, R. Todd,
M. Warshauer

The American Studies concentration gives students the opportunity to explore the diverse culture of the United States in an interdisciplinary context. In consultation with an American Studies adviser, students are encouraged to shape an individualized course of study to meet their own academic goals.
The certificate in American Studies is primarily for international students who come to the United States for an introductory program in American Studies or who wish to take such a program at a CCSU extension college abroad.

## Concentration in American Studies,

 B.A. or B.S.18 credits, distributed as follows: ENG 211, HIST 262, and PS 110; 3 credits of electives selected in consultation with an American Studies adviser from each of the areas listed below.

1. ENG 210, ENG 212*, ENG 341, ENG 343, ENG 345*, ENG 448, HIST 261, HIST 330, HIST 369*, HIST 425, HIST 426, HIST 427, HIST 428, HIST 465, HIST 469*
2. ANTH $352^{*}$, ANTH 422, CRM 110, CRM 231', GEOG 241, GEOG $330^{*}$, GEOG 490, PS 331, PS 332, PS 430, PS 431, SOC 231*1
3. ART 414, ART 415*, MUS 401², PHIL 382², PHIL $400^{2}$, REL $257^{2}$, TH 275
Other course options may be available if they focus specifically on some aspect of American culture; consult the
American Studies coordinator for current options.

At least 6 credits must be on the 300400 level, and at least 3 credits must repre-
sent diversity in American society. Courses that satisfy this requirement are indicated by an asterisk (*).

## Certificate in American Studies

15 credits, distributed as follows: ENG 211, HIST 262 and PS 110 and 6 credits from two of the three categories listed above.
At least 3 credits must be on the $300-$ 400 level, and at least 3 credits must represent diversity in American society. Courses that satisfy this requirement are indicated by an asterisk (*).
Other certificate options are available, including non-credit certificates. See the program coordinator for information.
${ }^{1}$ Note prerequisites
${ }^{2}$ Under section or topic approved by the American Studies Committee

## Hospitality and Tourism Studies

K. P. Mead, Interim Director (832-3227);<br>E. Astarita, R. Benfield, J. Mellon,<br>T. Rickard, B. Sommers, J. Weinberger

Hospitality and Tourism involves the business of attracting, transporting, lodging, entertaining and providing food and beverages to people. It is one of the fastest growing segments in Connecticut's economy. This course of study is designed as an interdisciplinary program between the Geography Department of the School of Arts and Sciences and the Marketing Department of the School of Business, leading to a B.S. degree in Hospitality and Tourism.

## Major in Hospitality and Tourism, B.S.

 This 54 -credit program consists of 21 credits of Foundation Courses in Business and Geography, 15 credits of Upper Division Major Courses, 18 credits in hospitality or tourism including a 3 -credit internship with a hospitality/tourism organization.
## Foundation Courses

| AC 211 | Intro. to Financial |  |
| :--- | :--- | :--- |
|  | Accounting | 3 |
| MIS 201 | Introduction to MIS | 3 |

GEOG 120 World Regional Geography 3
GEOG 290 Geography of Tourism 3
FIN 200 Introduction to Finance 3
MGT 295 Fundamentals of Management and Organizational Behavior 3
MKT 295 Fundamentals of Marketing 3
21 credits

Upper Division Major Courses
MKT 308 Introduction to Hospitality
MKT 358 Relationship Marketing 3
GEOG 450 Tourism Planning
GEOG 454 Geography of Tourism Marketing

3
ENG 382 Travel Writing
15 credits
Hospitality Track
18 credits of courses approved by a faculty advisor. All courses must be taken at a state Community-Technical College. Similar courses from other institutions may be substituted with the approval of program coordinator.

HRSM*202 Introduction to Beverage
HRSM 203 Food Purchasing/ Preparation
HRSM 214 Human Resources Management
HRSM 231 Consumer Research and Marketing
HRSM 241 Hotel Management
HRSM 270 Cooperative Education/ Internship

3
*Not a CCSU course designator. Refers to a commu-nity-technical course.

OR

## Tourism Track

Courses approved by faculty advisor.
GEOG 451 Tourism Development in
Southern New England 3
GEOG 453 Recreational Planning 3
GEOG 455 New Directions in Tourism 3
GEOG 425 or MKT 497
Internship in Hospitality/ Tourism Industry
Regional Geography Courses
3
Student may choose any two courses listed below:

GEOG 330 United States and Canada
J. McKeon (Philosophy), Adviser; B. Baldwin (Sociology), F. Best

3 (Philosophy), G. Gigliotti (English), A. Adams (Anthropology), N. Mezvinsky
(History) (Phone 832-2915)
GEOG 434 Mexico, Central America, and the Caribbean
GEOG 435 Japan and Korea
GEOG 436 South America
GEOG 437 China
GEOG 439 Urban Geography
GEOG 446 Sub-Saharan Africa
GEOG 448 Russia and Neighboring Regions
GEOG 490 Connecticut

## 18 credits

Free Electives Approximately 21 credits Sufficient to arrive at 122 credits.

Note: In no case may a student exceed 27 business credits.

General Education and Skill Areas
Approximately 47 credits
Total credits

## Religious Studies

## Concentration in Religious Studies,

B.A. or B.S., Secondary

18 credits of approved courses, including one 3-credit course from each of the four specified course areas.

1. Comparative Religion (REL 110);
2. Religious Texts (ENG 360, ENG 361);
3. Historical/Social Science (HIST 377, 378, 435, 436, 441, 469, 473; ANTH 440);
4. Philosophical/Religious Thought (PHIL 232, 250, 255, 275, 276, 401, 492; REL 105, 257, 361, 492).

## Urban Studies

J. Mitrano and B. Sommers, Coordinators (832-3145, 832-2792); A. Moran, E. Phillips, M. Triebwasser, R. White, A. Zottola

Urban Studies is an interdisciplinary field that combines theory and practice in addressing the major questions and issues of life in the city. Urban Studies explores the factors that shape the growth and development of cities as well as the city's role as an arena for human activities.

The Urban Studies concentration provides students with the academic foundation necessary to understand the issues and problems confronting our urban areas. Beyond building understanding, the concentration also gives students the tools necessary to engage in solutions to those problems.

## Concentration in Urban Studies, B.A.

 18 credits as follows: URS 300 and 15 credits from ANTH 300, 323, ECON 420, GEOG 439, 441, PS 230, 432, SOC 232, 332, URS 420, 430. Courses must be taken from at least three different departments.
## Women's Studies

H. M. Prescott, C. L. White, Coordinators (832-2809, 832-2695); Advisory<br>Committee: E. Aaronsohn, A. Adams,<br>C. Doyle, M. A. Ertel, C. Ford, M. Gavin, S. Gilmore, E. Godway,<br>J. Higgins, T. Hogan, K. Larsen,<br>L. Levine, M. Levvis, M. Mentzer,<br>A. Moran, L. Perdue, E. Phillips,<br>K. Ritzenhoff, M. Rohinsky, C. Shmurak,<br>G. Sunshine, L. Uribe, M. Wallach,<br>J. Weinberger, R. White, R. Wolff<br>\section*{Concentration in Women's Studies, B.A. or B.S.}<br>18 credits with at least nine credits on the 300-400 level, including WS 200, and 15 credits from Theoretical (PHIL 100*, 222, 382* WS 400), Historical (ESCI 218, HIST 330, 331, 335, SOC 475*), Cultural (ANTH 350, ART 409*, COMM 435, ENG 215, 288*, 448*, 458*, 488*, HUM 150*), Social (COMM 495*, PS 241, PSY 448, 498*, SOC 240). At least one course (three credits) must be taken from three of the four areas listed.

Note: Students whose needs are not met by available courses may take up to three credits of independent studies,
pending approval of the appropriate department chair and the Women's Studies coordinator.
*Under section or topic as approved by the Women's Studies Advisory Committee

## Special Studies Major

With the help of an academic adviser, an undergraduate student may design a major to fit his or her own interests and needs. A Special Studies major must consist of $30-40$ credits if a conventional concentration is taken, or 48-60 credits if no concentration is taken. At least half of the program must consist of 300 - or $400-$ level courses. A proposal for a Special Studies major will only be considered when it is clearly shown that no present major offered by the University meets the same need. The major will consist of existing courses, and all academic requirements of the University, as well as all course requirements, including prerequisites must be met. All Special Studies programs total a minimum of 122 credits.
To be eligible for such a Special Studies major leading to a B.S. or B.A. degree, the student must be in good standing. The application must be approved by a faculty adviser, chairs of departments from which there are three or more courses in the major and the dean of the school of the adviser. Applications normally should be filed prior to the completion of 60 credits. The student must have completed at least 12 credits at CCSU or have transferred at least 30 credits prior to filing.
Approval of Special Studies majors is by a majority of a committee composed of the chair of the Curriculum Committee; the chairs of the Arts and Sciences, Business, Education and Professional Studies and Technology subcommittees; and the dean of the School of Arts and Sciences or his or her representative. Information about Special Studies programs in all four schools is available in the office of the Dean of Arts and Sciences.

# Intensive English Language Program 

The Intensive English Language Program (IELP) offers full-time and part-time English language, business English and American culture instruction to international students and faculty, foreign professionals, and members of the Connecticut community.

The IELP is dedicated to ensuring that students have a positive experience. Each session's courses are tailored to meet the needs of the students enrolled at that time. Its classes are small, so teachers get to know and offer support and encouragement to each student individually. Instructors holding professional degrees provide cutting-edge multimedia technology as a means to strengthen the classroom learning experience. Activities arranged by the IELP offer students the opportunity to meet and interact with American students and local culture.
Living in another country is an exciting adventure and a challenge. The members of the IELP understand this and are here to help in every way possible. The IELP and the Center for International Education staff are always available to answer questions about visas, adjusting to American culture, academic planning and other issues.

## Honors Program

The Honors Program provides an interdisciplinary, team-taught approach to General Education for intellectually motivated and academically superior students. The program is open to all qualified students, regardless of major. Graduating high school students, students in their first year at the university, high school graduates returning from work or family responsibilities, and transfer students from community colleges or other universities are eligible to apply. Applicants must satisfy writing and interview requirements. Candidacy is by invitation of the Director of the Honors Program. A limited number of full or half merit scholarships are available; for more infor-
mation on scholarships, please refer to the Financial Aid section of this catalog.

The Honors Program is divided into four general areas: Western Culture, Science and Society, World Cultures and the Writing and Research component. All Honors Program courses satisfy general education requirements, with modal and area restrictions where noted. Honors students are required to complete the following 34 credits of courses, which are offered over a three year period and are available only to Honors Program students.

## Western Culture

HON 110 Western Culture I (Ancient World: Greece and Rome)
HON 210 Western Culture II (Middle Ages to Enlightenment)
HON 211 Western Culture III (19th Century Culture)
HON 310 Western Culture IV (20th Century Culture)

## Science and Society

HON 120 Science and Society I (Natural Sciences and Sociery)
HON 220 Science and Society II (Social Sciences and Sociery)

## World Cultures

HON 130 World Cultures I (Introduction to World Cultures)
HON 230 World Cultures II (Topics in World Cultures)
HON 330 World Cultures III (Further Topics in World Cultures)

Writing and Research
HON 140 Writing and Research I (Critical Thinking and Persuasive Writing)
HON 440 Writing and Research II (Thesis Preparation and Proposal)
HON 441 Writing and Research III (Honors Research)

Honors Program students may choose to graduate without a minor or concentration. Students who complete the Honors Program with a grade point average of 3.20 or higher for their honors courses and for all their university courses will receive the designation "Honors Program Scholar" on their diploma. Inquiries
should be addressed to Dr. David Blitz, Director of the Honors Program, Department of Philosophy, Marcus White Hall, telephone 832-2916 or e-mail Blitz@CCSU.EDU. Further information on the program is available at its web site: http://honors.ccsu.ctstateu.edu.

## Pre-Professional

## Programs

## Pre-Law

Students intending to apply to law school should consult with one of the pre-law advisers early in their academic careers, and no later than the junior year.
Since law schools do not prescribe a particular academic program, students considering a career in law may select any undergraduate major. Information regarding academic planning and requirements for application to law school is available from the following pre-law advisers: Antonia Moran, Associate Professor of Political Science, and Karen Hansen, Associate Dean, Student Affairs.

## Pre-Health/Pre-Medical

A Pre-Health Professional Advisory Committee is available to students interested in preparing for careers in medicine, dentistry, veterinary medicine, optometry and related fields in the health sciences for which pre-professional training is required prior to admission to other institutions. The Pre-Health Professional Advisory Committee consists of faculty members from the School of Arts and Sciences.

Students interested in pre-health professional programs should consult Professor Peter Osei, Program Coordinator for the health professions, Department of Biological Sciences, Copernicus Hall 339 (832-2657).

## Cooperative <br> Programs

Also see School of Technology and School of Arts and Sciences sections.

## Central-UConn Exchange

## Program

Under certain conditions, Central Connecticut State students may take courses at the University of Connecticut or its branches without paying additional fees. Only courses not offered at Central Connecticut State may be taken on this basis.

Admission to the courses will be on a space-available basis within pre-established class limits. To be eligible, Central Connecticut State students must have paid maximum tuition and fees for fulltime study. University officials must approve the student's qualifications for taking the course in question.

Interested students may contact their academic dean for further information.

## OnlineCSU

OnlineCSU is the virtual classroom of the Connecticut State University System (CSU) - Central, Eastern, Southern and Western. CSU strives to meet the academic and support needs of our learners. Responding to the emerging trends of learning-on-demand, CSU designed OnlineCSU to ensure that the education it has traditionally made available in the classroom can now be offered without regard to time, distance or circumstance.

Online learning, also known as distance education, takes place using computer technology and the Internet when the faculty and students are separated by distance, i.e., not in the same room. Within semester limits, OnlineCSU offers asynchronous learning, which means the instructor and the students need not be in the same room at the same time or on the computer at the same time. This means students may sign on any time, 24 hours a day, seven days a week. Except where the faculty have set test dates, chat room sessions, etc., students do not need to sign on at the same time as other students or at the same time as the instructor.

OnlineCSU offers both graduate and undergraduate courses, and new courses are added every semester. CSU faculty, who design and teach the courses, are at the core of this distinctive learner-centered program. CSU campuses are fully accredited, and courses offered through OnlineCSU are approved for credit by
the university offering the course. Credits earned online are eligible for credit towards a degree.
Full-time and part-time matriculated students (students who have formally applied and been admitted to a CSU university) who already have a faculty advisor should continue to consult with that advisor regarding online courses. Non-matriculated students do not need a faculty advisor to register for an online course.
For information on OnlineCSU courses, stop by the OnlineCSU site at www.OnlineCSU.ctstateu.edu.

## Reserve Officers Training Corps (ROTC)

Army and Air Force ROTC programs are offered to Central Connecticut State University students at the University of Connecticut's main campus at Storrs. The introductory, one-credit Army ROTC courses are also held at Middlesex Community Technical College in Middletown.
Without paying extra tuition, Central Connecticut State University students may pursue commissions in the Active, Reserve or Guard forces of the Army and Air Force. The 100 -level courses carry no military obligation and are open to all students. The 200 -level courses require prerequisites and permission of the appropriate department head.
Scholarships are available which pay full tuition up to $\$ 16,000$ a year, $\$ 150$ tax free a month and $\$ 450$ towards books. Additionally, each student in the 200 -level courses receives the $\$ 150$ a month tax free.
Interested students should contact the Army ROTC office at 860/486-6081 or Air Force ROTC office at 860/486-2224 or visit the Web site at www.armyrotc.uconn.edu/.

## AIR FORCE AEROSPACE STUDIES

Aerospace Studies I. Both semesters. One credit each semester. One class period and one two-hour leadership laboratory period.
A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems and an introduction to communication skills.

Aerospace Studies II. Both semesters. One credit each semester. One class period and one two-hour leadership laboratory period.
A survey course designed to facilitate the transition from Air Force ROTC cadet to Air Force ROTC officer candidate. Featured topics include: Air Force heritage, Air Force leaders, Quality Air Force, an introduction to ethics and values, introduction to leadership, group leadership problems and continuing application of communication skills.

Aerospace Studies III. Both semesters. Three credits each semester. Three-hour class period and one two-hour leadership laboratory period. Prerequisite: Air Force Aerospace Studies I and II, or six weeks field training and consent of Professor of Aerospace Studies.

A study of leadership and quality management fundamentals, professional knowledge, leadership ethics and communication skills required of an Air Force officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied.

Aerospace Studies IV. Both semesters. Three credits each semester. Three-hour class period and one twohour leadership laboratory period. Prerequisite: Air Force Aerospace Studies III.

Examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communication skills.

## AVIATION GROUND SCHOOL

AFR 201. Aviation Ground School. Both semesters. One credit each semester.

Designed for private pilot applicants and students interested in acquiring an understanding of the principle of flight. Provides the necessary aeronautical knowledge for students preparing for the Federal Aviation Administration written test for private pilot certification. Meets the requirements for pilot applicants who must present evidence showing completion of a course of study (required by Federal Aviation regulations). One two-hour class period per week for twelve weeks.

## MILITARY SCIENCE

MISI 131. General Military Science I-A. One credit. One class period.

This introductory course focuses on the organization of the Army, values and ethical decision making, leadership doctrine and communication. There are also opportunities for experience in land navigation, physical fitness, field training exercises, and drill and ceremony. No military obligation.

MISI 132. General Military Science I-B. One credit. One class period.

This introductory course focuses on the leadership development program, squad tactics, writing in the Army style, land navigation, after-action reviews, and the duties of officers, warrant officers and NCOs. Students may also participate in land navigation labs, physical fitness training, field training exercises, and drill and ceremony. No military obligation.

MISI 145. General Military Science II-A. One credit. One class period.

This intermediate-level course focuses on operations orders, squad movement techniques, leadership doctrine, officer and NCO duties, risk assessment, and training the individual and the team. There are opportunities to participate in land navigation labs, physical fitness training, field training exercises, and drill and ceremony. No military obligation.

MISI 146. General Military Science II-B. One credit. One class period.

This intermediate-level course focuses on counseling and motivation techniques, leadership doctrine, squad tactics, resolving ethical dilemmas, land navigation, military customs and traditions, and briefing on military history. There are also opportunities for experience in land navigation, physical fitness, field training exercises, and drill and ceremony. No military obligation.

MISI 252. General Military Science III-A. Three credits. One three-hour class period, physical training sessions and leadership laboratory. One weekend field training exercise.

Leadership principles, techniques and the responsibilities of command. Military instruction techniques. Includes student class presentations. In all cases, permission of the Professor of Military Science is required.

MISI 253. General Military Science III-B. Three credits. One three-hour class period, physical training sessions and leadership laboratory. One weekend field training exercise.

Dynamics of small unit tactics and branches of the Army. In all cases, permission of the Professor of Military Science is required.

MISI 297. General Military Science IV-A. Three credits. One three-hour class period, physical training sessions and leadership laboratory. One weekend field training exercise.

Army staff organization, unit administration and management, logistics, military intelligence, leadership seminar, the international system and strategic doctrine. In all cases, permission of the Professor of Military Science is required.

MISI 298. General Military Science IV-B. Three credits. One three-hour class period, physical training sessions and leadership laboratory. One weekend field training exercise.

Military law, obligations and responsibilities of an officer, contemporary human problems and a staff ride. In all cases, permission of the Professor of Military Science is required.

## Study Abroad <br> Programs

Central Connecticut State University can place students to study almost anywhere in the world through a variety of arrangements. International experiences may
range from two weeks to one year in duration. CCSU offers two distinct types of programs - semester or academic year study abroad and courses abroad taught by our own faculty.

The study abroad immersion programs are typically available on an exchange basis, allowing students to pre-pay tuition, and in some cases room or board, to CCSU and enroll overseas to study at one of our partner universities. Study abroad programs are available in the United Kingdom, Spain, France, Germany, Poland, Sweden, Ghana, Puerto Rico, Jamaica, Barbados, Korea and the Turkish Republic of Northern Cyprus. To plan a study abroad program, contact the Study Abroad Coordinator in the Center for International Education, Barnard Hall (832-2043). The application deadline is April 1 for all programs in the upcoming academic year. As it can take up to eight months to properly prepare for a program, it is advisable for students to begin investigating their choices well in advance of their desired departure date. The cost is often little more than studying at Central Connecticut State University, and financial aid applies to all CCSU programs. With proper planning, all course work will transfer to Central Connecticut State University and be applied toward graduation requirements.

Students may also take a course taught abroad by a CCSU professor in Winter or Summer Sessions. Students may choose from a dozen courses offered each year by faculty in a variety of disciplines. Foreign language proficiency is generally not required. Registration for courses taught abroad in Summer or Winter Sessions takes place at the Enrollment Center/ Office of Continuing Education, Willard Hall. Students must also declare their participation with the Center for International Education.


## Course Numbering

A summary of eligibility of students at the several levels: 001-099 Non-credit courses
100 Search course
101-199 Courses normally open to first-year students, and in general to all undergraduate students.
200-299 Courses normally open to sophomores, and in general to all undergraduate students.
300-399 Courses normally open to juniors, and in general to sophomores, juniors and seniors.
400-499 Courses normally open to seniors, and in general to juniors, seniors and graduate students. Additional work may be required for graduate credit.
500-599 Graduate courses; undergraduate students must have a 2.70 GPA and senior standing; also requires permission of adviser, chair of department offering the course, and permission of the graduate dean prior to registration. The necessary form is available in the Office of Registrar and in the School of Continuing Education.
600-699 Open to master's and sixth-year candidates.

## When Courses Are Available

The marking of courses as available in an odd year (O) or an even year (E) refers to the whole academic year. Thus, a course scheduled for (O), odd year, would be given in an odd-starting academic year, such as 1999-2000, that fall or the next spring. One marked (E), even year, would be available in an evenstarting academic year, such as 2000-2001, that fall or the next spring. If unspecified, the course is offered both semesters.

## Computer Usage

Courses with the letter [c] may have computer use activity in some or all sections and may require Central Connecticut State computer use certification.

## International Courses

Courses with the letter [I] have been designated as fulfilling the international component of the General Education requirements. See page 40.

## General Education: Courses Under the Study and Skill Areas

The General Education program embraces four Study Areas and four Skill Areas. First-year students starting in Fall 1998 and all students entering in the Fall 1999 or later are subject to the following program. Consideration will be given to students transferring from State of Connecticut Community/Technical Colleges. Credit requirements for each area are listed on page 39. Students entering prior to Fall 1999 should refer to the previous General Education program on page 99.

The Study Areas are:
I. Arts and Humanities
II. Social Sciences

III. Behavioral Sciences<br>IV. Natural Sciences

The Skill Areas are:
I. Communication Skills
II. Mathematics
III. Foreign Language Proficiency
IV. University Requirement

## STUDY AREA I

ART 100 Search in Art
ART 110 Introduction to Art History
ART 112 History of Western Art I
ART 113 History of Western Art II
ART 120 Design I
ART 124 Three-Dimensional Design
ART 130 Drawing I
ART 224 Illustration I
ART 230 Drawing II
ART 240 Printmaking I
ART 250 Watercolor Painting
ART $252 \quad$ Painting I
ART 260 Ceramics I
ART 261 Sculpture I
ART 264 Design-Handcraft Materials and Techniques I
DES 126 Introduction to Graphic/Information Design
ENG 205 British Literature I [I]
ENG 206 British Literature II [I]
ENG 210 American Literature I
ENG 211 American Literature II
ENG 212 African-American Literature
ENG 215 Introduction to Women Writers [I]
ENG 220 Shakespeare [I]
ENG 250 Contemporary Literature
ENG 260 Introduction to Poetry
ENG 261 Introduction to Fiction
ENG 262 Introduction to Drama [I]
ENG 288 Studies in Literature
FR 302 Masterpieces of French Literature [I]
GER 305 Literary Masterpieces Since 1800 [I]
GER 360 Literary Masterpieces to 1800 [I]
HON 110 Western Culture I
HON 210 Western Culture II
HON 211 Western Culture III
HUM 100 Search in the Humanities
HUM 150 Topics in European Literature [I]
ITAL 304 Literary Masterpieces to 1700 [I]
ITAL 305 Literary Masterpieces Since 1700 [I]
MUS 109 Fundamentals of Music
MUS 110 Listening to Classical Music [I]
MUS 111 Music of the World's Peoples [I]
MUS 112 Computer Applications to Music
MUS 113 History of Jazz
PHIL $100 \quad$ Search in Philosophy
PHIL 101 Through Time and Culture
PHIL 112 Introduction to Philosophy
PHIL 135 Nature, Mind and Science
PHIL 144 Moral Issues
PHIL 150 Socrates
PHIL 235 Philosophy of Social Science
PHIL 248 Philosophy of the Arts
PHIL 250 Introduction to Asian Philosophy [I]
PHIL 255 Philosophy of Religion
PHIL 260 African Philosophy (IJ
PHIL 275 Chinese Philosophy [I]




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## General Education：Courser Cinder the Modes











The Areas are:
A. Communication Skills
C. Supplemental
B. Foreign Language/
D. Physical
International

## MODE 1: PHILOSOPHICAL/RELIGIOUS

AFAM 110 Introduction to African-American Studies [I]
HHSP 246 Health Care Ethics
HON 110 Western Culture I
HON 130 World Cultures I [I]
HON 140 Writing and Research I
HON 210 Western Culture II
HON 211 Western Culture III
HON $220 \quad$ Science and Society II
HON 230 World Cultures II [I]
HON 310 Western Culture IV
HON 330 World Cultures III [I]
HON $440 \quad$ Writing and Research II
PHIL $100 \quad$ Search in Philosophy
PHIL 101 Through Time and Culture
PHIL 112 Introduction to Philosophy
PHIL 144 Moral Issues
PHIL 150 Socrates
PHIL 220 Introduction to Logic
PHIL 222 Philosophy and Gender
PHIL 230 Ancient Greek Philosophy
PHIL 232 Medieval and Renaissance Philosophy
PHIL 240 Ethical Problems in Business
PHIL 241 Environmental Ethics
PHIL 242 Ethical Problems in Technology
PHIL 248 Philosophy of the Arts
PHIL 250 Introduction to Asian Philosophy [I]
PHIL 255 Philosophy of Religion
PHIL 260 African Philosophy [I]
PHIL 275 Chinese Philosophy [I]
PHIL 276 Buddhist Philosophy [I]
PHIL 320 Modern Logic
PHIL 330 Rationalism and Empiricism
PHIL 332 The Age of Ideology [I]
PHIL 346 Ethical Theory
PHIL 349 Philosophy of Law
PHIL 366 Existentialism [I]
PHIL 382 Special Topics in Philosophy
PHIL 401 Seminar in Asian Philosophy [I]
REL 105 Development of Christian Thought
REL 110 World Religions [I]
REL 257 Special Topics in Religion
MODE 2: MATHEMATICAL/LOGICAL
A minimum of one course designated as Mathematics or Statistics is required in Mode 2.
CS 113 Introduction to Computers
CS 115 Workshop in Computer Science
CS $151 \quad$ Computer Science I
CS 207 Introduction to Computer Graphics
CS 213 Applications of Computer Programming
CYS $210 \quad$ Multimedia Computing
$\dagger$ MATH 105 Fundamentals of Mathematics
MATH 110 Finite Mathematics
$\dagger$ MATH 113 Structure of Mathematics I: Number Systems
MATH 115 Trigonometry
MATH 119 Precalculus with Trigonometry
MATH 121 Pre-Calculus Mathematics
MATH $122 \quad$ Calculus I
MATH 125 Applied Calculus I
MATH 126 Applied Calculus II
MATH 213 Structure of Mathematics II: Probability and Geometry
MATH 221 Calculus II

STAT 104 Elementary Statistics
STAT 108 Introduction to Biostatistics
STAT 200 - Business Statistics I
STAT $215 \quad$ Statistics for the Behavioral Sciences I
STAT 216 Statistics for the Behavioral Sciences II
STAT 217 Elementary Survey Sampling
STAT 453 Applied Statistical Inference
$\dagger$ No student is permitted to use both MATH 113 and MATH 105 to satisfy the General Education requirements.

## MODE 3: LITERARY

ENG 111 Introduction to Literature
*ENG 205 British Literature I [I]
*ENG 206 British Literature II [I]
*ENG 210 American Literature I
*ENG 211 American Literature II
ENG 212 African-American Literature
ENG 215 Introduction to Women Writers [I]
*ENG 220 Shakespeare [I]
*ENG 250 Contemporary Literature
$\dagger$ ENG 260 Introduction to Poetry
$\dagger$ ENG 261 Introduction to Fiction
$\dagger$ ENG 262 Introduction to Drama [I]
ENG 288 Studies in Literature
ENG 332 Medieval English Literature
ENG 333 The English Renaissance
ENG 334 Seventeenth-Century Poetry and Prose
ENG 335 Restoration and Eighteenth-Century Literature
ENG 336 The Romantic Age [I]
ENG 337 The Victorian Age [I]
ENG 339 Modern British Literature [I]
ENG 340 Early American Literature
ENG 341 The American Renaissance
ENG 342 American Realism and Naturalism
ENG 343 Modern American Literature
ENG 345 Modern African-American Literature
ENG 360 The Bible as Literature: Old Testament
ENG 361 The Bible as Literature: New Testament
ENG 362 Greek and Roman Literature
ENG 365 The Modern European Novel [I]
ENG 445 American Drama
ENG 448 Studies in American Literature
ENG 449 Major American Author
ENG $450 \quad$ Chaucer
ENG 451 Milton
ENG 458
ENG 461
ENG 462
ENG 463
ENG 464
ENG 470
ENG 474
ENG 475
ENG 476
ENG 477
ENG 478
ENG 480
ENG 486
ENG 487
ENG 488
FR 301
FR 302
GER 305
GER 360
HON 110
HON 130
Writing and Research I
HON 210 Western Culture II
HON 211 Western Culture III
HON 220 Science and Society II
HON $230 \quad$ World Cultures II [I]

HON 310
HON 330
HON 440
HUM 100
HUM 150
ITAL 304
ITAL 305 Literary Masterpieces to 1700 [1]
Chinese Philosophy [I]
PHIL 366 Existentialism [I]
SPAN 304 Literary Masterpieces to 1700 [I]
SPAN 305 Literary Masterpieces Since 1700 [I]
SPAN 375 Spanish American Literature I (I)
$\dagger$ No credit given to students who have taken ENG 111.
*Sophomore standing recommended.
MODE 4: ARTISTIC
ART $100 \quad$ Search in Art
ART 110 Introduction to Art History
ART 120 Design I
ART 124 Three-Dimensional Design
ART 130 Drawing I
ART 230 Drawing II
ART 240 Printmaking I
ART 250 Watercolor Painting
ART 252 Painting I
ART 260 Ceramics I
ART 261 Sculpture I
ART 264 Design - Handcraft Materials and Techniques I
ART 343 Silkscreen I
ART 360 Ceramics II
ART 408 The Art of Greece in the Bronze Age
ART 409 Studies in Art History
ART $410 \quad$ Greek Art
ART 411 Roman Art
ART 412 Oriental Art [I]
ART 414 American Art
ART 416 Modern Art [I]
ART 418 Renaissance Art
ART 420 Issues in Contemporary American Art
ART 452 Advanced Painting I
ART 466 Jewelry - Design
ART 494 Location Studies - Art [I]
DES 126 Introduction to Graphic/Information Design
ENG 386 The Language of Film
FA 490 Integrating the Fine Arts for the Young Learner
HON 110 Western Culture I
HON 130 World Cultures I [I]
HON 140 Writing and Research I
HON 210 Western Culture II
HON 211 Western Culture III
HON 220 Science and Sociery II
HON 230 World Cultures II [I]
HON 310 Western Culture IV
HON 330 World Cultures III [I]
HON 440 Writing and Research II
MUS 109 Fundamentals of Music
MUS 110 Listening to Classical Music [I]
MUS 111 Music of the World's Peoples [I]
MUS 112 Computer Applications to Music
MUS 113 History of Jazz
MUS 140 Ensemble
MUS 141 Chorus
MUS 142 Symphony Band-Wind Ensemble
MUS 143 Orchestra
MUS 170 Theory of Music I
MUS 177 Applied Music
MUS 250 Piano Class I
MUS 251 Piano Class II
MUS 264 Voice Class
MUS 270 Theory of Music II
MUS $350 \quad$ Piano Class III

MUS 351
MUS 401
MUS 470
PHIL 248
TH 110
TH 111
TH 115
TH 117
TH 121
TH 135
TH 143
TH 145
TH 212
TH 217
TH 222
TH 246
TH 253 Script Analysis for the Theatre
TH 275 American Theatre Today
TH $489 \quad$ Studies in Theatre/Drama

## MODE 5: HISTORICAL

The following courses are particularly recommended for Mode 5:
HIST 100 Search in History
HIST 121 World Civilization I
HIST 122 World Civilization II [I]
HIST 142 Western Civilization I
HIST 143 Western Civilization II [I]
HIST 231 Ancient Civilization
HIST 232 Medieval Civilization
HIST 261 History of American Life I
HIST 262 History of American Life II
The following courses are also acceptable in Mode 5:
HIST 310 Communities in American History
HIST 330 History of Women in the United States, 1620-1865
HIST 331 History of Women in the United States, 1865-Present
HIST 335 Women, Marriage and Family in Early Modern Europe
HIST 341 English History to 1715
HIST 342 English History Since 1715 (I]
HIST 344 History of Modern Germany [I]
HIST 347 History of Russia I [I]
HIST 348 History of Russia II [I]
HIST 350 History of Poland [I]
HIST 351 East Asia to 1800
HIST 352 East Asia Since 1800 [I]
HIST 356 History of East Central Europe Since 1919 [I]
HIST 361 The West in United States History
HIST 369 African-American History
HIST 375 History of Africa to 1800
HIST 376 History of Africa Since 1800
HIST 377 History of Christianity I
HIST 378 History of Christianity II
HIST 381 Latin American History to 1823
HIST 382 Latin American History Since 1823 [IJ
HIST 410 Researching and Writing Local History
HIST 423 Colonial Period of American History
HIST 424 Establishment of a New Nation
HIST 425 Era of National Development
HIST 426 The United States, 1850-1896
HIST 427 The United States, 1890-1933
HIST 428 The United States Since 1933
HIST 429 Women and Reform in American Society, 1870 to 1920
HIST 430 Economic History of Europe [I]
HIST 433 History of Ancient Greece
HIST 434 History of Ancient Rome
HIST 435 History of Early Medieval Europe
HIST 436 History of Later Medieval Europe
HIST 441 Renaissance and Reformation
HIST 442 European History, 1650 to 1815
HIST 443 European History, 1815-1918 [I]
HIST 444 European History, 1918 to Present [I]

HIST 445
HIST 446
HIST 453
HIST 454
HIST 456
HIST 457
HIST 463
HIST 465
HIST 466
HIST 469
HIST 472
HIST 473
HIST 474
HIST 480
HIST 483
HIST 484
HIST 488
HIST 489
HIST 490
HIST 497
HON 110
HON 130
HON 140
HON 210
HON 211
HON 220
Wone and Society II
HON 310
Western Culture IV
HON 330 World Cultures III [I]
HON $440 \quad$ Writing and Research II
PHIL 232 Medieval and Renaissance Philosophy

## MODE 6: BEHAVIORAL

ANTH 140
ANTH 150
ANTH 151
ANTH 160
ANTH 170
Introduction to Cultural Anthropology (I)
Dimensions of Diversity and Inequality
ANTH 210 The Ancient World
ANTH 215 Before History
ANTH 220 African-American Archaeology
ANTH 265 Human Evolution
ANTH 300 City Life and Culture
ANTH 316 Archaeology of Africa
ANTH 318 New England Prehistory
ANTH 322 Historical Archaeology
ANTH 323 Urban Archaeology
ANTH 324 Archaeology of the State
ANTH 325 Human Ecology
ANTH 329 Experimental Archaeology
ANTH 330 North American Prehistory
ANTH 339 Work and Culture
ANTH 345 Laboratory in Biological Anthropology
ANTH 350 Women and Men in Different Cultures
ANTH 352 Ethnicity and Ethnic Identity
ANTH 365 The Anthropology of Human Differences
ANTH 370 Applying Anthropology
ANTH 374 Field Research Methods
ANTH 422 Native Americans [I]
ANTH 424 Peoples and Cultures of Africa [I]
ANTH 426 People and Cultures of Eastern Europe [I]
ANTH 428 Cultures of Latin America [I]
ANTH 430 Theories of Culture
ANTH 440 The Supernatural
ANTH 445 Folklore and Myth
ANTH 450 Archaeological Field School
ANTH 451 Field School in Cultural Anthropology (I)
ANTH 465 The Evolution of Human Behavior
ANTH 470 Anthropology and Modern World Issues [I]
COMM 295 Communication and Elements of Human Relations

COMM 315
COMM 443
CRM 110
CRM 220
CRM 245
CRM 337
CRM 338 Correctional Theory and Practice
CRM 439 Juvenile Delinquency
ENG 200 Introduction to Linguistics
ENG 230 The Study of Language
ENG 300 Language Acquisition
ENG 400 Linguistic Analysis
ENG 430 Studies in Linguistics and the English Language
ENG 431 The History of the English Language
HON 110 Western Culture I
HON 130 World Cultures I [I]
HON 140 Writing and Research I
HON 210 Western Culture II
HON 211 Western Culture III
HON 220 Science and Society II
HON 230 World Cultures II [I]
HON 310 Western Culture IV
HON 330 World Cultures III [I]
HON 440 Writing and Research II
IS 225
IS 226
IS 230
IS 240
IS 245
PSY 112
PSY 200
PSY 236
PSY 240
PSY 281 Cognitive Psychology
PSY 363 Adolescent Psychology
PSY 365 Psychology of the Exceptional Child
PSY $428 \quad$ Adult Development and Aging
PSY $430 \quad$ Psychology of Diversity
PSY 435 Organization and Personnel Psychology
PSY 448 Psychology of Women
PSY 454 Drugs and Behavior
PSY $480 \quad$ Psychology of Dying and Death
SOC 110 Introductory Sociology
SOC 111 Social Problems
SOC 112 Race, Class and Gender
SOC 225 Social Stratification
SOC 231 Racial and Ethnic Relations
SOC 233 The Family
SOC 234 Social Interaction
SOC 240 The Sociology of Gender
SOC 332 The Sociology of Poverty
SOC 335 Sociology of Power
SOC 336 Sociology of Deviance
SOC 340 Sociology of Aging
SOC 440 Death and Dying: Sociological Implications
SW 441 Puerto Ricans in Transition: A Social Work Perspective [I]
SW 442 The Social Consequences of Immigration [I]
URS 300 Introduction to Urban Studies
WS 200 Introduction to Women's Studies

## MODE 7: SOCIAL SCIENTIFIC

ECON 200 Principles of Economics I
ECON 201 Principles of Economics II
ECON 250 Contemporary Economic Issues
ECON 435 Economic Development [I]
ECON 450 Money, Credit and Banking
ECON 462 Industrial Organization
ECON 465 Government and Business
ECON 470 Managerial Economics
ET 497 Engineering Economy
GEOG 100 Search in Geography

GEOG 110
GEOG 120
GEOG 220
GEOG 241
GEOG 244
GEOG 256
GEOG 266
GEOG 272
GEOG 275
GEOG 276
GEOG 290
GEOG 330
GEOG 374
GEOG 433
GEOG 434
GEOG 435
GEOG 436
GEOG 437
GEOG 439
GEOG 440
GEOG 441
GEOG 442
GEOG 443
GEOG 446
GEOG 448
GEOG 450
GEOG 451
GEOG 452
GEOG 453
GEOG 454
GEOG 455

GEOG 490
HON 110
HON 130
HON 140
HON 210
HON 211
HON 220
HON 230
HON 310
HON 330
HON 440
IS 225
IS 226
IS 230
IS 240
IS 245
PHIL 349
PS 104
PS 110
PS 230
PS 231
PS 232
PS 235
PS 241
PS 260
PS 291
PS 315
PS 330
PS 331
PS 332
PS 334
PS 335
PS 336
PS 338
PS 339
PS 343
PS 344
PS 345

Field Studies in Regional Geography (only 3 credits may be applied to General Education) [I]
Introduction to Geography
World Regional Geography [I]
Human Geography [I]
Introduction to Planning
Economic Geography [I]
Maps and Map Reading
Air Photo Interpretation
Physical Geography
Soils and Vegetation
Elementary Cartography
Geography of Tourism [I]
United States and Canada
Climatology
Issues in Environmental Protection
Mexico, Central America and the Caribbean [I]
Japan and Korea [I]
South America [I]
China [I]
Urban Geography
Rural Land Use Planning
Community and Regional Planning
Field Methods in Geography
Transportation Planning
Sub-Saharan Africa (I)
Russia and Neighboring Regions [I]
Tourism Planning
Tourism Development in Southern New England
European Union [I]
Recreation Planning
Geography of Tourism Marketing
New Directions in Tourism [I]

Connecticut
Western Culture I
World Cultures I [I]
Writing and Research I
Western Culture II
Western Culture III
Science and Society II
World Cultures II [I]
Western Culture IV
World Cultures III [I]
Writing and Research II
The World as a Total System [I]
Intercultural Sensitivity [I]
Topics in International Studies (II
Caribbean Cultural Patterns [I]
Puerto Rico (I]
Philosophy of Law
The World's Political Systems [I]
American National Government
American State and Local Government
Conduct of American Foreign Policy [I]
Ancient and Medieval Political Thought
International Relations [I]
Women and American Law
Public Administration
Special Topics in Political Science
Technology, Business and Politics: A Telecommunications Focus
American Parties and Interest Groups
American Constitutional Law
Civil Liberties
Modern Political Thought
American Political Thought
West European Governments [I]
International Organization (I)
International Law [I]
Political Leadership
Interpretation of Political Data
International Terrorism [I]

PS 380
PS 415
PS 420
PS 421
PS 425
PS 430
PS 431
PS 432
PS 433
PS 434
PS 435
PS 436
PS 439
PS 448
SOC 232
TE 110
URS 300

Conflict and Negotiation [I]
Government, Business and Public Policy
Government and Politics of Latin America [I]
Government and Politics of Africa [I]
Asian Politics [I]
The American Presidency
The Legislative Process
Urban Politics and Government
Twentieth Century Political Thought
Government and Politics of the Middle East and
North Africa [I]
Russia and Eastern Europe [I]
Personnel and Human Resources in the Public Sector
U.S. Middle East Policy [I]

The Politics of Human Services
Cities and Urban Life Styles
Technological Systems
Introduction to Urban Studies
MODE 8: NATURAL SCIENTIFIC
BIO 100 Search in Biology
BIO 107 Plants and Civilization
BIO 111 Introductory Biology
BIO 112 Introductory Biology Laboratory
BIO 120 Plants of Connecticut
BIO 121 General Biology I
BIO 122 General Biology II
BIO 132 Introductory Ecology
BIO 133 Laboratory in Introductory Ecology
BIO 150 Marine Studies Institute
BIO 211 Concepts in Biology
CHEM 102 Chemistry of Nutrition
CHEM 111 Introductory Chemistry
CHEM 121 General Chemistry I
CHEM 122 General Chemistry II
ESCI 110 Introduction to the Earth
ESCI 111 Elementary Earth Science
ESCI 117 Introduction to the Solar System
ESCI 118 Introduction to Stars and Galaxies
ESCI 121 Physical Geology
ESCI 122 Historical Geology
ESCI 123 Geology Laboratory
ESCI 129 Introduction to Meteorology
ESCI 178 Planetary Astronomy
ESCI 179 Stellar Astronomy
ESCI 218 Women's Contributions to Stellar and Galactic Astronomy
ESCI 278 Observational Astronomy
ESCI 424 Geomorphology
ESCI 450 Environmental Geology
HON 120 Science and Society I
ISCI 104 Science Connections
PHYS 111 Introductory Physics I
PHYS 113 The Sound of Music
PHYS 115 Physics of Sailing
PHYS 121 General Physics I
PHYS 122 General Physics II
PHYS 125 University Physics I
PHYS 126 University Physics II
PHYS 339 Computer Electronics I
PHYS 340 Computer Electronics II
SCI 117 Physical Science
AREA A: COMMUNICATION SKILLS
COMM 115 Fundamentals of Communication
COMM 140 Public Speaking
COMM 280 Business and Professional Speaking
COMM 353 Interviewing Theory and Practice
COMM 360 Parliamentary Law and Politics
ENG 108 ESL Writing I

ENG 109
ENG 110
ENG 202
ENG 235
ENG 236
ENG 371
ENG 372
ENG 373
ENG 374
ENG 376
ENG 377
ENG 378
Feature Writing
ENG 381 Editorial Writing
ENG 382 Travel Writing
ENG 401 Advanced Composition
ENG 403 Technical Writing
ENG 416 Magazine Writing
ENG 418 Studies in Journalism
HON 110 Western Culture I
HON 130 World Cultures I [I]
HON 140 Writing and Research I
HON 210 Western Culture II
HON 211 Western Culture III
HON 220 Science and Society II
HON 230 World Cultures II [I]
HON 310 Western Culture IV
HON 330 World Cultures III [I]
HON 440 Writing and Research II
MC 207 Managerial Communications**
*An acceptable CCSU English Placement Test score or an appropriate equivalent is required for ENG 110. See under Skills Testing and Remediation Policy. The requirement of ENG
110 may be waived for a student by the English Department, but the 6 -credit requirement in
Area A will nor be reduced.
Students who have not completed their ENG 110 requirement prior to achieving junior
standing (61 credits) will be required to take ENG 202 instead.
**Business majors do not receive Area A credit for course.

## AREA B: FOREIGN LANGUAGE/INTERNATIONAL

FR 111
FR 125

FR 226

IS 490
IS 497

CHIN 111
CHIN 112
CHIN 125
CHIN 126
FR 112
FR 126
FR 225
GER 111
GER 112
GER 125
GER 126
Intermediate German II [I]
R 225 German Composition and Diction [I]
German Structure and Idiom (I)
HON 110 Western Culture I
HON 130 World Cultures I (I)
HON 140 Writing and Research I
HON 210 Western Culture II
HON 211 Western Culture III
HON 220 Science and Society II
HON 230 World Cultures II [I]
HON 310 Western Culture IV
HON 330 World Cultures III [I]
HON 440 Writing and Research II

TAL 11
ITAL 11
ITAL 120 Intensive Elementary Italian [I, 3 credits only
ITAL 125

## Elementary Chinese I

Elementary Chinese II [I]
Intermediate Chinese I [I]
Intermediate Chinese II (I)
Elementary French I
Elementary French II [I]
Intermediate French I [I]
Intermediate French II (I]
Essential Skills in French I [I]
Essential Skills in French II (I]
Elementary German I
Elementary German II [I]
Intermediate German I [I]

Field Studies Abroad [I]
Seminar in International Studies [I]
Elementary Italian I
Elementary Italian II [I]
Intermediate Italian I (I]

ITAL 126
ITAL 190
ITAL 225 Italian Composition and Diction [I]
ITAL 226 Italian Structure and Idiom [I]
ITAL 260 Introduction to Business Italian [I]
ITAL 488 Italian Life and Culture [I]
JAPN 111 Elementary Japanese I
JAPN 112 Elementary Japanese II [I]
JAPN 125 Intermediate Japanese I [I]
JAPN 126 Intermediate Japanese II [I]
JAPN 225 Japanese Composition and Diction [I]
JAPN 226 Japanese Structure and Idiom [I]
LAT 111 Elementary Latin I
LAT 112 Elementary Latin II
POL 111 Elementary Polish I
POL 112 Elementary Polish II [I]
POL 125 Intermediate Polish I [I]
POL 126 Intermediate Polish II (I)
RUS 111 Elementary Russian I
RUS 112 Elementary Russian II [I]
RUS 125 Intermediate Russian I [I]
RUS 126 Intermediate Russian II [I]
RUS 225 Russian Composition and Diction (I)
RUS 226 Russian Structure and Idiom [I]
SPAN 111 Elementary Spanish I
SPAN 112 Elementary Spanish II [I]
SPAN 114 Basic Spanish Review [I]
SPAN 115 Spanish for the Professions [I]
SPAN 120 Intensive Elementary Spanish [I, 3 credits only]
SPAN 125 Intermediate Spanish I [I]
SPAN 126 Intermediate Spanish II [I]
SPAN 190 Spanish for Spanish Speakers I [I]
SPAN 191 Spanish for Spanish Speakers II (I)
SPAN 225 Intermediate Spanish III [I]
SPAN 226 Intermediate Spanish IV [I]
SPAN 290 Spanish for Spanish Speakers III [I]
SPAN 291 Spanish for Spanish Speakers IV [I]

## AREA C: SUPPLEMENTAL

Courses below and/or any courses in the above Modes or Areas may be used for Area C.
AC 211 Introduction to Financial Accounting*
AC 401 Federal Income Tax I*
COMM 230 Introduction to Mass Media
CNSL 299 Human Services in the Residence Halls
EDTE 210 Education and Teacher Leadership in
Diverse Learning Communities
Introduction to Engineering Technology
ET 150
ET 356
ET 454
ET 497
FIN 200
FIN 210 Personal Financial Planning and Investing*
IT 150
IT 360
IT 410
IT 411
IT 414
LAW 250
MGT 101
MGT 102
MGT 103 Exploring Management: The Founders of World Class Organizations*
MGT 295 Fundamentals of Management and Organizational Behavior*
MKT 295 Fundamentals of Marketing*
PE $110 \quad$ Concepts in Fitness and Wellness
PE 210 Personal and Community Health
PE 213 Anatomy in Physical Education

RDG 140 Reading Efficiency
SPED 315 . Introduction to Educating Learners
with Exceptionalities
STAT 201 Business Statistics II
TC 113 Introduction to Information Processing
TC 114 Introduction to Energy Processing
TC 118 Introduction to Material Processing
TC 121 Technical Drafting and CAD
TC 212 Graphic Arts Industries
TC 213 Electrical Energy
TC 214 Mechanical Energy
TC 215 Materials and Processing
TC 216 Material Processing II (Metallics)
TC 313 Electrical Power Systems
TC 333 Data Acquisition and Control
TC 342 Porous Printing and Post-Press Operations
TC $352 \quad$ Graphic Design and Typography
TC 356 Materials of Construction
TC 462 Advanced Graphic Arts Techniques
TC 463 Programmable Logic Controllers
TC 472 Introductory and Publications Photography
TH 465 Creative Dramatics for Children
VTE 415 Principles of Vocational Education
VTE 440 Human Relations in the Workplace
WP 204 Introduction to Word Processing
*Business majors do not receive Area C credit for course.
AREA D: PHYSICAL
DAN 151 Modern Dance
DAN 152 Beginning Ballet
DAN 153 Intermediate Ballet
DAN 155 Dancercize
DAN 156 Slimnastics
DAN 157 Beginning Jazz Dance
DAN 158 Intermediate Jazz Dance
PE 244 Fitness/Wellness Ventures
REC 104 Self-Defense
REC 105 Intermediate Self-Defense
REC 120 Physical Fitness Activities
REC 124 Downhill Skiing
REC 141 Volleyball
REC 142 Softball
REC 162 Badminton
REC 166 Tennis
REC 168 Weight Training
REC 169 Golf
REC 200 Beginning Swimming
REC 230 Intermediate Swimming
REC 232 Lifeguard Training
REC 233 Water Safety Instructor's Course

## ACCOUNTING

Note: Enrollment in 300- and 400-level Business courses requires admission to the School of Business or permission of the Assistant to the Dean.

## AC 210 PRINCIPLES OF INDUSTRIAL ACCOUNTING

An introductory study of the measurement of financial position, net income, manufacturing costs, cost behavior, direct costing, standard costs and budgeting. Emphasis on the managerial uses of accounting data in industry. IT majors only.

## AC 211 INTRODUCTION TO FINANCIAL ACCOUNTING

3
Prereq.: MATH 101 or equivalent and sophomore standing. Basic concepts and practice of accounting's role in providing information to external users to aid their decision-making activities. Topics include the preparation of financial statements and accounting for cash, receivables and payables, inventories, prepaid expenses and long-term assets. Business majors cannot receive General Education credit for this course. Area C [c]

## AC 212 INTRODUCTION TO MANAGERIAL ACCOUNTING

Prereq.: AC 211, MIS 201 (may be taken concurrently) and sophomore standing. Basic concepts and practice of accounting's role in providing information to managers to assist in their planning, control and decision-making activities.
Topics include cost accounting systems, cost behavior relationships, analysis for managerial decisions, and the budget process. No credit given to students with credit for AC 303 (Managerial Accounting).

AC 301 COST ACCOUNTING
Prereq.: AC 212. Development of principles of cost accounting. Emphasis on job order, process, activity-based, operations, just-in-time and standard costing procedures, including implications of resulting cost information for management.

## AC 311 INTERMEDIATE ACCOUNTING I

Prereq.: AC 212. Analysis of enterprise economic resources and obligations, including methods of measurements and recognition. Current financial reporting issues are studied with reference to the FASB Conceptual framework and pronouncements of authoritative standard- setting agencies.

## AC 312 INTERMEDIATE ACCOUNTING II

3
Prereq.: AC 311. Continuation of Intermediate Accounting I, with special emphasis on measurement and recognition issues pertaining to noncurrent assets, long-term liabilities, contributed capital and retained earnings.

## AC 313 INTERMEDIATE ACCOUNTING III

Prereq.: AC 312. Continuation of AC 312. Designed to further prepare students for professional competency. Topics include accounting for taxes, post employment benefits, leases, cash flows, earnings per share, changes and errors, ratio analysis and price level changes.

AC 330
ACCOUNTING FOR NON-PROFIT INSTITUTIONS
Prereq.: AC 211 and 212. Comprehensive survey of governmental and other non-profit institution accounting as it relates to budgeting, cost accounting and financial reporting. Statutory influences which direct and control operation funds, bonded debt, fixed assets, investments, revenue and expenditure classification, general property taxes and inter-fund relationships are subjected to detailed study.

AC 401
FEDERAL INCOME TAX I
Prereq.: AC 212 and permission of instructor. Covers the federal tax structure facing the individual, gives practice in preparing federal tax forms and emphasizes the source of tax law. Area C (for non-business majors)

AC 402 FEDERAL INCOME TAX II
Prereq.: AC 401 or permission of instructor. Detailed course on taxability of corporation income, allowable and unallowable deductions, net operating losses and capital transactions. Also contains material on corporate reorganizations, personal
holding companies and potentialities of taxes on undistributed surplus. Includes background of partnership, estate and trust tax law and history of tax legislation.

AC 403 ESTATE TAXATION AND PROBATE ACCOUNTING
Prereq.: AC 401. A basic course in estate taxation and probate accounting. Area coverage includes: post-mortem tax planning, examination of the U.S. Estate \& Fiduciary tax returns and probate accounting rules.

AC 407 ADVANCED ACCOUNTING 3
Prereq.: AC 313. Partnership accounting, consignments and installation sales, parent and subsidiary accounting, consolidations and mergers, agencies and branches.

AC 408 CONTEMPORARY ACCOUNTING PROBLEMS
Prereq.: AC 313 or permission of instructor. Advanced topics in contemporary accounting theory. Integrated review for students majoring in accounting.

## AC 420 MANAGERIAL ANALYSIS AND COST CONTROL

Prereq.: AC 301. Previously AC 302. Advanced topics in managerial and cost accounting. Emphasis on the analysis of accounting information for management decision making and cost control. Cases and problems.

AC 440 ACCOUNTING INFORMATION SYSTEMS
Prereq.: Senior standing. The role of accounting in the analysis, design, and implementation of effective information systems is stressed. Methods of collecting accounting data and communicating these data to aid management's planning and control functions are examined. Developing of internal controls for organizational systems is emphasized. [c]

## AC 445 AUDITING

3
Previously AC 410. Prereq.: AC 440. Duties and responsibilities of auditor, kinds of audits, review of accounting theory in its application to work of auditor, internal control and relationship to auditing procedures, auditing working papers, financial statements and reports.

AC 455 INTERNAL AUDITING
Prereq.: AC 440. Duties and responsibilities of Internal Auditors within the management team of the organization are explored. Topics include the organization of the Internal Audit Department, staff qualification and development and the elements of Internal Auditing.

AC 496 PRACTICUM IN ACCOUNTING
Prereq.: Permission of department chair. Students work on a real world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be repeated for a maximum of 6 credits. On demand.

AC 497 INDEPENDENT STUDY IN ACCOUNTING
Prereq.: Senior standing and permission of instructor. Research-oriented project in a special area of accounting. On demand.

## ACTUARIAL SCIENCE

Prereq.: MATH 221. Previously MATH 335. Theory and applications of the theory of interest. Topics include simple and compound interest, installment buying, annuities certain, sinking funds, amortization, depreciation, bonds and related securities. Spring. (E)

## ACTL 465 ACTUARIAL MODELS I

Prereq.: STAT 315. Topics chosen from survival distributions and life tables, life insurance, life annuities, net premiums, premium reserves, multiple life functions and multiple decrement models. Fall. (O)

ACTL 466 ACTUARIAL MODELS II 4
Prereq.: STAT 416 (may be taken concurrently) and ACTL 465. Continuation of ACTL 465. Topics chosen from survival models, frequency and severity models, compound distribution models, stochastic process models and ruin models. Spring. (O)

ACTL 480 TOPICS IN ACTUARIAL SCIENCE
Prereq.: Permission of instructor. Topics chosen from theory of interest, risk theory, demography and graduation. Spring.

ACTL 481 REVIEW—SOA/CAS COURSE 1 3
Review and extension of the principles of calculus and probability as related to the material on the SOA/CAS Course 1 exam. Spring.

ACTL 482 REVIEW—SOA/CAS COURSE 2
Prereq.: ACTL 335 and permission of instructor. Review and extension of the principles of theory of interest, economics and finance as related to the material on the SOA/CAS Course 2 exam. Fall. (O)

ACTL 483 REVIEW-SOA/CAS COURSE 3
Prereq.: ACTL 466 (may be taken concurrently). Review and extension of the principles of actuarial models as related to the material on the SOA/CAS Course 3 exam. Spring. (O)

ACTL 484 REVIEW—SOA/CAS COURSE 4
Prereq.: STAT 425 (may be taken concurrently), 467, 475. Review and extension of the principles of modeling, estimation and fitting of frequency, severity and survival distributions, regression, time series, forecasting and credibility theory as related to the material on the SOA/CAS Course 4 exam. Spring. (E)

## AFRICAN-AMERICAN STUDIES

$\begin{array}{ll}\text { AFAM } 110 & \text { INTRODUCTION TO AFRICAN-AMERICAN } \\ & \text { STUDIES }\end{array}$ to today, focusing on key figures and on discussion of a wide range of contemporary issues. Fall. Mode 1/Study Area II [I]

## ANTHROPOLOGY

ANTH 140 INTRODUCTION TO ANTHROPOLOGY
Major fields of anthropology, prehistory and ethnology, with emphasis on the distinctive perspectives of anthropology as a cultural and human science. Cannot be used for credit toward the major in Anthropology. Mode 6/Study Area III

ANTH 150 INTRODUCTION TO ARCHAEOLOGY
Survey of methods used in the acquisition, analysis and interpretation of archaeological data and how those data are used in culture reconstruction. Mode 6/Study Area III

ANTH 151 LABORATORY IN INTRODUCTORY ARCHAEOLOGY
An introductory archaeology laboratory course to accompany, or follow, ANTH 150. During the semester four full days of field and/or lab work are required, ordinarily on weekends. Not open to students who have taken ANTH 450. Mode 6

## ANTH 160 INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY

3
Introduction to the anthropological study of the human species. Course will cover humans as members of the primate order, human genetics, evolution and variation, stressing anthropological perspective of interaction of physical, environmental and cultural factors. Mode 6/Study Area III

## ANTH 170 INTRODUCTION TO CULTURAL

## ANTHROPOLOGY

Human ways of life and how to investigate them. Introduces basic skills and knowledge necessary for the description, analysis and understanding of cultures. Mode 6/Study Area III [I]
$\begin{array}{ll}\text { ANTH } 200 & \text { DIMENSIONS OF DIVERSITY } \\ & \text { AND INEQUALITY }\end{array}$
Cross-cultural examination of human diversity focusing on class, race, gender and ethnicity. Consideration of the ways that cultural differences figure in the development of social, political and economic inequality. Mode 6/Study Area III

ANTH 210 THE ANCIENT WORLD
A scientific examination of the mysteries of the ancient world. Astronomical, mathematical, architectural and medical achievements of prehistoric peoples are considered, as well as possible explanations for these, ranging from ancient astronauts to human ingenuity. Fall. Mode 6/Study Area III

ANTH 215 BEFORE HISTORY
The human past before the development of writing. Investigates the archaeology of the first four million years of human existence from our earliest upright ancestors to the evolution of complex civilization. Spring. Mode 6/Study Area III

ANTH 220 AFRICAN-AMERICAN ARCHAEOLOGY 3 Examination of early African-American life via analysis of archaeological remains. Consideration of issues such as diversity of populations, health and diet, labor conditions. Spring. Mode 6

ANTH 265 HUMAN EVOLUTION
3
Prereq.: ANTH 140 or 160 or permission of instructor. The story of the human species from the earliest primate to modern Homo sapiens. Includes basic genetics, evolutionary theory and skills for studying the fossil record. Fall. Mode 6/Study Area IV

ANTH 300 CITY LIFE AND CULTURE 3
Exploration of the historical and contemporary development of urban spaces in the United States and Hartford area. Development of diverse cultural identities through neighborhood, social and religious institutions will be examined. Spring. (O) Mode 6

ANTH 316 ARCHAEOLOGY OF AFRICA
Examines pre-historic and early historic period of Africa via archaeological, documentary and oral historical data. Spring. (O) Mode 6

ANTH 318 NEW ENGLAND PREHISTORY
Prereq.: ANTH 140 or 150 or permission of instructor. An examination of the prehistoric people of New England through analysis of fragmentary remains of their villages, burial grounds and trash deposits. Focus will be on sites excavated by the Anthropology Department at Central Connecticut State.
3 Spring. (E) Mode 6
ANTH 322 HISTORICAL ARCHAEOLOGY
Anthropological study of Euro-American cultural history, using documentary and artifactual data to interpret changing cultural patterns in post-contact New England. Specialized techniques of document research, field excavation and artifact analysis in historical archaeology are studied. Fall. (O) Mode 6

ANTH 323 URBAN ARCHEOLOGY
Cross-cultural examination of the archeology of urban life. Views the nature of urban centers and populations of the past and their relation to the social systems in which cities are located. Irregular. Mode 6

ANTH 324 ARCHAEOLOGY OF THE STATE
Discusses the forces leading to the emergence of the state in both the distant and more recent past. Focuses on prehistory and early history of the world's first complex civilizations. Irregular. Mode 6

ANTH 325 HUMAN ECOLOGY
Prereq.: 100 level anthropology course or permission of instructor. Explores the relationship between humans and their environments. How humans have changed the face of the earth and to what extent different environments have influenced human biological and cultural evolution. Spring. Mode 6

3 ANTH 329 EXPERIMENTAL ARCHAEOLOGY 3
Prereq.: ANTH 150 or permission of instructor. An investigation of the techniques used by archaeologists in the reconstruction of prehistoric technology.

This course will include actual experiments in tool manufacture and use. Fall. Mode 6

ANTH 330 NORTH AMERICAN PREHISTORY
Surveys the pre-historic past of the North American continent. Begins with the archaeology of the earliest human settlement and continues until the period of human contact in the sixteenth and seventeenth centuries A.D. Fall. (O) Mode 6

ANTH 339 WORK AND CULTURE
3
A cross-cultural exploration of humanity as creator and tool user. The nature of work, innovation, invention and the beliefs and values surrounding them in various cultures. Spring. (E) Mode 6

## ANTH 345 LABORATORY IN

BIOLOGICAL ANTHROPOLOGY
Methods, skills and techniques of biological anthropology. Includes exercises in genetics, human biological variation, pedigree analysis, adaptability, non-human primates, human skeletal anatomy and the analysis of skeletal remains for fossils and forensic studies. Fall. (O) Mode 6
$\begin{array}{ll}\text { ANTH } 350 & \text { WOMEN AND MEN IN } \\ & \text { DIFFERENT CULTURES }\end{array}$
3
Cross-cultural, historical overview of gender differences. Consideration of gender biases in social science research. Students will examine relations between men and women in different societies to better understand such relations in their own lives. Spring. Mode 6

ANTH 352 ETHNICITY AND ETHNIC IDENTITY
Examination of the processes by which ethnic groups and identities are created, maintained or modified. Comparison of ethnic sub-cultures focusing on Connecticut groups. Spring. (E) Mode 6

## ANTH 365 THE ANTHROPOLOGY OF

HUMAN DIFFERENCES
Prereq.: 100 level anthropology course or permission of instructor. The biological and cultural processes which have brought about the individual, sexual and "racial" variation of the human species. Spring. Mode 6

## ANTH 370 APPLYING ANTHROPOLOGY

3
Views methods and techniques to apply anthropolitical knowledge for practical results. Examines role of anthropology in medicine, education, social service, and the development and implementation of public policy in the U. S. and cross-culturally. Fall. Mode 6

ANTH 374 FIELD RESEARCH METHODS
Examines field research methods with focus on qualitative techniques such as participant-observation, applied and action research, and ethnographic interviewing. Quantitative techniques include time budget analysis and single subject design. Fall. Mode 6

ANTH 375 ANTHROPOLOGICAL DATA ANALYSIS
Prereq.: STAT 104 or equivalent. Investigation of techniques in numerical analysis of anthropological data. Covers statistical methods of correlation, spatial analysis and factor analysis. Focuses on the application of various statistical methods to actual anthropological data. Spring. Anthropology majors only.

ANTH 400 THE INDIVIDUAL IN CULTURE
3
Study of differences across cultures in individual thoughts, emotions, motivations and identities. Consideration of how culture shapes individual mentalities.
Examination of research and theories about such questions in the context of contemporary anthropology. Spring. (O)

ANTH 422 NATIVE AMERICANS
Native American cultures, their distinct life ways and contemporary problems. Fall. Mode 6 [I]

## ANTH 424 PEOPLES AND CULTURES OF AFRICA

Samples the diversity of African peoples, their cultures and related social relations. Primary focus on colonial and contemporary life, African liberation move-
ments, and the influence of global political economy on life in modern Africa. Fall. (E) Mode 6 [I]

## ANTH 426 PEOPLE AND CULTURES OF EASTERN EUROPE

A survey of culture in the nations of Eastern Europe concentrating on their contemporary aspects. Spring. (E) Mode 6 [I]

## ANTH 428 CULTURES OF LATIN AMERICA

Prereq.: ANTH 140 or ANTH 170 or SOC 110. Introduction to modern and tribal societies in Latin America. Objectives include tracing the historical roots of social and economic relations in Latin America today, and the diverse responses Latin Americans have made and are making to rapid social change. Fall. Mode 6 [I]

ANTH 430 THEORIES OF CULTURE 3
Prereq.: ANTH 140 or 170 or permission of instructor. A historical survey of major schools of thought in socio-cultural anthropology. Includes critical analysis of Evolutionist, Historicist, Functionalist, Structuralist, Interpretive and Marxist explanations with focus on post-1960s period. Fall. Mode 6

ANTH 433 INDEPENDENT STUDIES IN ANTHROPOLOGY
Prereq.: Senior standing and permission of department chair. Directed study in anthropology. On demand.

ANTH 437 INTERNSHIP IN ANTHROPOLOGY
3 Prereq.: Permission of instructor and written acceptance of sponsoring organization. Anthropologically-relevant work experience in an appropriate local, national or international venue. Includes consultation with faculty, analysis of related resources and preparation of final report. On demand.

ANTH 440 THE SUPERNATURAL
A study of the beliefs in gods and spirits, visions, rites relating to beings and powers of other realms, and the effects of religion, magic and witchcraft on human lives. Contrasts diverse forms of spirituality with varieties of naturalistic, materialistic and atheistic perspectives. Fall. Mode 6

ANTH 445 FOLKLORE AND MYTH
3
The characteristics, meanings and functions of myths, legends, heroic epics, fairy tales, animal fables, proverbs, riddles, toasts, jokes and graffiti. From the folklorist and anthropological perspectives. Spring. (O) Mode 6

ANTH 450 ARCHAEOLOGICAL FIELD SCHOOL 3-6
3 Provides instruction in survey techniques, mapping, scientific excavation, photographic and laboratory skills and analysis. Field schools are operated in both historical and prehistorical archaeology. Enrollment is limited. Send letter of application to department. May be repeated. Summer. Mode 6

ANTH 451 FIELD SCHOOL IN CULTURAL ANTHROPOLOGY
Prereq.: Permission of instructor. Development of qualitative research skills central to cultural anthropology through language study, home stays, seminars, speakers and excursions. Normally involves travel outside the United States. Irregular. Mode 6 [I]

ANTH 465 THE EVOLUTION OF HUMAN BEHAVIOR 3
Prereq.: ANTH 160 or permission of instructor. Examination of human behavior from the perspective of ethology, including behavioral responses to our unique cultural environment. Spring. (E) Mode 6

ANTH 470 ANTHROPOLOGY AND MODERN WORLD ISSUES
Prereq.: ANTH 140 or SOC 110 or 111, or permission of instructor. Anthropological approaches to understanding and addressing contemporary world problems, such as population, underdevelopment, ecological degradation,
3 war and diplomacy, and cultural extinction. Fall. (E) Mode 6 [I]
ANTH 475 TOPICS IN ANTHROPOLOGY

## ANTH 490 SENIOR THESIS

Semester-long supervised research and thesis preparation, including in-class dis cussion and oral presentation. Fall.

## ART

*A successful portfolio review is required before enrollment.

## ART 100 SEARCH IN ART

Introduction to nature and structure, processes and implications of selected topics in fine and applied arts. Titles and contents may vary from section to section. Mode 4/Study Area I

## ART 110 INTRODUCTION TO ART HISTORY

General survey of historical development of visual arts in Western architecture, painting and sculpture. Credit not given to students who have taken ART 112 or ART 113. Mode 4/Study Area I

## ART 112 HISTORY OF WESTERN ART I

A survey of paintings, sculpture and architecture from prehistoric times to the Renaissance. Study Area I

ART 113 HISTORY OF WESTERN ART II
Prereq.: ART 112. Continuation of ART 112. A survey of paintings, sculpture and architecture from the Renaissance to the present. Study Area I

## ART 120 DESIGN I

Exploration of spatial division, color, aesthetic theories and their relationships to typical design problems in two dimensions. Mode 4/Study Area I

ART 124 THREE-DIMENSIONAL DESIGN
Introduction to design elements of architecture, environment design, sculpture, etc. Construction of three-dimensional assemblages required. Mode 4/Study Area I

ART 130 DRAWING I
An investigation of the components of drawing: line quality, volume, value, space and composition. Exercises are designed to strengthen the student's ability to see, while developing hand to eye coordination. Mode 4/Study Area I

## ART 200 ART EDUCATION THEORY \& PRACTICE I

3
Contemporary principles and practices in education through art in the elementary schools. Materials and processes recommended for these levels will be explored and evaluated. Open to Art Education majors only.

## ART 201 PRACTICUM IN ART EDUCATION I

Prereq.: ART 200. Actual teaching experience in Central Connecticut State's Saturday Art Workshop as a pre-student teaching requirement, accompanied by weekly seminars. Open to Art Education majors only.

## *ART 224 ILLUSTRATION I

Prereq.: ART 130 or DES 322. Introduction of a variety of illustration techniques and procedures. Emphasis upon the selection and application of illustration techniques suitable for translating written or suggested material into visual form. Study Area I

## ART 230 DRAWING II

Prereq.: ART 130. Continuation of Drawing I. An in-depth study in drawing techniques as applied to individual expression. Mode 4/Study Area I

ART $240 \quad$ PRINTMAKING I
Prereq.: ART 120 or ART 130. Introduction to the technical processes and the aesthetic possibilities of lithography, intaglio and silkscreen. Fall. Mode 4/Study Area I

ART 250
WATERCOLOR PAINTING
Prereq.: ART 120 and 130. Styles and techniques of painting in transparent and opaque watercolors, with emphasis on individual creative expression. Mode 4/Study Area I

3 ART 252 PAINTING I 3
Prereq.: ART 130. Exploration of techniques of painting in still life, landscape and creative composition. Mode 4/Study Area I

ART 260 CERAMICS I 3
Functional and non-functional design in clay and glaze using various techniques. Mode 4/Study Area I

## ART 261 SCULPTURE I

Prereq.: ART 124. Introduction to creative sculpture: modeling, carving, constructing and assembling. Clay, firebrick, mass-produced objects and plaster will be used to develop figurative, abstract and non-objective sculpture.
Mode 4/Study Area I

## ART 263

CRAFTS I
Creative structuring of materials and ideas into art forms through the use of tools and processes. Open to majors only.

## ART 264 DESIGN—HANDCRAFT MATERIALS AND TECHNIQUES I

Prereq.: ART 120 or 130 . Varied handcrafts and materials are included. May not be substituted for ART 263. Mode 4/Study Area I

## ART 300 ART EDUCATION THEORY \& PRACTICE II

Prereq.: ART 200 and 201. Contemporary methods for art teachers of children in grades 7-12. Comprehensive curriculum planning, materials and processes, and evaluation of teaching methods. Open to Art Education majors only.
*ART 324 ILLUSTRATION II
Prereq.: ART 224. Continuation of Illustration I.

## ART 341 INTAGLIO I

Prereq.: ART 240. Investigations in hardground, softground, aquatint, spitbite, sugarlift, drypoint and monotype procedures using single and multicolor applications. Spring.
*ART 343 SILKSCREEN I ..... 3
Prereq.: ART 240. Single and multicolor water-based explorations in the follow-ing stencil techniques: photo emulsion, paper, tape, screen filler, fluid drawingand handcut film. Fall. Mode 4
*ART 344 LITHOGRAPHY I

Prereq.: ART 240. Emphasis on techniques of working directly on the litho stone, including the use of dry and wet media, additive and subtractive approaches, photo transfers, and single and multicolor inkings. Spring.

## *ART 352 PAINTING II

Prereq.: ART 252. Continuation of Painting I.

## *ART 353 PAINTING III

Prereq.: ART 352. Continuation of Painting II.
ART 360 CERAMICS II
Prereq.: ART 260. Continuation of ART 260, with emphasis on wheel skills and glaze calculation. Mode 4
*ART 361 SCULPTURE II
Prereq.: ART 261. Continuation of Sculpture I.

## ART 362 SCULPTURE III

Prereq.: ART 361. Further refinement of a particular sculpture theme via materials and techniques.

## *ART 366 HANDWROUGHT JEWELRY

Prereq.: ART 120 or 130 . The basic principles of handwrought jewelry construction will be explored with emphasis on use of materials, tools and processes as they may be utilized in a simple studio setup.

ART 401 PRACTICUM IN ART EDUCATION 2
Prereq.: ART 201. Must be taken concurrently with or after completion of EDSC 429. Supervisory, mentoring, evaluatory experience in addition to supply ordering and exhibition installation for the CCSU Saturday Art Workshop. Art Education majors only.

## ART 408 THE ART OF GREECE IN THE

 BRONZE AGEPrereq.: ART 110 or 112 or 113 . An introduction to the art of Greece in the Bronze Age. The artistic and cultural development of mainland Greece, Crete, the Aegean Islands and Western Asia Minor from the Paleolithic to the end of the Bronze Age. Emphasis on the art of flourishing Minoan and Mycenaean civilizations. Mode 4

## ART 409 STUDIES IN ART HISTORY

Prereq.: ART 110 or 112 or 113 . Selected topics in the history of art, announced each semester. Students may not take this course under the same topic more than once. Mode 4

## ART 410 GREEK ART

Prereq.: ART 110 or 112. Historical development of painting, sculpture and architecture from the Bronze Age through the Golden Age of Greece to the end of the Hellenistic Era. Fall. Mode 4

## ART 411 ROMAN ART

Prereq.: ART 110 or 112. Historical development of painting, sculpture and architecture from Romulus to Constantine. Spring. Mode 4

## ART 412 ORIENTAL ART

Historical development of visual arts of Far Eastern societies: architecture, painting, sculpture and minor arts of China, India, Japan and Korea. Irregular. Mode 4 [I]

ART 414 AMERICAN ART 3
Prereq.: ART 110 or 112 or 113. Historical development of painting, sculpture and architecture in America from the 17th century to the present. Mode 4

ART 415 THE AFRICAN DIASPORA
Prereq.: ART 110 or 112 or 113 . Introduction to the fine arts contributions of African-American artists as expressed through their culture. Focus is on individual research and presentations on historical and contemporary topics. Irregular.

## ART 416 MODERN ART

3
Prereq.: ART 110 or 112 or 113 . Historical development of painting, sculpture and architecture from the late 19th century to the present. Mode 4 [I]

ART 418 RENAISSANCE ART
Prereq.: ART 110 or 112 or 113 . Historical development of European painting, sculpture and architecture from 1400 to 1600. Irregular. Mode 4

ART 420 ISSUES IN CONTEMPORARY
AMERICAN ART
3
Prereq.: ART 110 or 112 or 113 . American art post-World War II to the present with emphasis on topics such as post modernism, public sculpture, feminist art, multiculturalism and contemporary art criticism. Includes visits to Hartford and New York galleries. (O) Mode 4

## *ART 424 ILLUSTRATION III

3
Prereq.: ART 324. Topics in the development of individual media techniques.
*ART 430 COLOR DRAWING
3
Prereq.: ART 230 or 252 or 431 . Advanced course in drawing using a painterly approach. Strengthening of individual direction through an exploration of space composition, color and surface in a variety of color drawing mediums. Fall.
*ART 431 LIFE DRAWING I
Prereq.: ART 130 or 435 . Structural approach to drawing the nude and clothed model with focus on gesture, proportion and the figure in the environment. Open to majors only.
*ART 432 LIFE DRAWING II 3
Prereq.: ART 431 or permission of instructor. Continuation of Art 431. Open to majors only.
*ART 435 ADVANCED DRAWING 3
Prereq.: Permission of instructor. Emphasis on development of expressive use of line and value. Various materials used including ink, pencil, conti crayon, chalk, wire, charcoal and others.

ART 441 INTAGLIO II
Prereq.: ART 341, graduate standing or permission of instructor. Continuation of Intaglio I. Spring.
*ART 443 SILKSCREEN II of Silkscreen I. Fall.
*ART 444 LITHOGRAPHY II
Prereq.: ART 344 or graduate standing or permission of instructor. Planographic printing techniques as a means of creative and artistic expression. Spring.
*ART 447 PHOTOGRAPHY
Prereq.: ART 120 or 130. Exploration of photography techniques as they may be used for individual creative expression. A camera is required.
*ART 450 ADVANCED WATERCOLOR PAINTING AND RELATED MEDIA
Prereq.: ART 250 or permission of instructor. This course will explore the various watercolor processes and the effects unique to each, i.e., tempera, aquarelle, water acrylics and colored inks. Historical and contemporary examples of watercolor techniques will be discussed.

ART 452 ADVANCED PAINTING I
Prereq.: ART 230, 352 and/or 431. Exploration of varied qualities of painting media, historical and contemporary techniques and styles. Mode 4

ART 460 CERAMICS III
Prereq.: ART 360. Advanced clay and glaze techniques.
ART 462 ADVANCED SCULPTURE I 3
Prereq.: ART 124. Students pursue directed assignments in several sculptural areas. Past and present styles discussed. Studio and seminar.
*ART 464 DESIGN—HANDCRAFT MATERIALS AND TECHNIQUES II
Prereq.: ART 264 or 435. Continuation and extension of ART 264. Varied hand-crafts, materials and processes are explored as modes of ạristic expression.
*ART 465 STUDIO TOPICS
Prereq.: To be stipulated at time of course offering. Selected topics in studio art, announced each semester. Students may not take this course for credit under the same topic more than once.

ART 466 JEWELRY—DESIGN 3
Prereq.: ART 120 or 366 or 435 . Course exploring possibilities of materials and equipment in jewelry and metal work, with emphasis on design. Mode 4
*ART 468 CERAMICS IV
3
Prereq.: ART 460. Thesis-clay and glaze design used to express a statement in form.
*ART 469 ADVANCED CERAMICS I 3
Prereq.: ART 468. Emphasis on skills in wheel use, glazing and firing techniques.
ART 490 CURATORSHIP
Theory and practice in collection management, gallery and museum programming and exhibition design. On demand.

ART 494 LOCATION STUDIES - ART
3 or 6
Direct contact with cultural resources internationally. Consideration of principles common to all arts and those unique to art and architecture. Field trips to
exhibits, private collections, artist's ateliers, operas, and museums. Preparatory reading, discussion, critical analysis and concluding projects. Summer. Mode 4 [I]

## ART 498

## INDEPENDENT STUDY

Formal application to Art Department chair following procedure approved by the Art Department faculty. Individually planned program of independent study in Art or Art Education for students who wish to pursue specialized areas not covered in regular course offerings or go beyond that provided for in the program. Must be requested three weeks before new semester.

## BIOLOGY

BIO 100 SEARCH IN BIOLOGY
3
Examination of various topics, contemporary issues and problems in biological sciences. Some sections may include two lectures and one two-hour laboratory per week. No credit given toward biology major, minor or concentration. Irregular. Mode 8/Study Area IV

BIO 107 PLANTS AND CIVILIZATION
How and when agriculture originated, when and where our most important crops became domesticated, need for conservation of germ plasm of wild relatives of crops, medicinal plants, economics and social importance of plants. No credit given toward biology major, minor or concentration. Spring. (O) Mode 8/Study Area IV

## BIO 111 INTRODUCTORY BIOLOGY

Humans and the biological world, with emphasis on structure and function of the human organism, including topics on disease, heredity and evolution. BIO 121 or 122 may be substituted for this course. Cannot be used to meet requirements for major, minor or concentration in biology. Three lectures per week. Mode 8/Study Area IV

## BIO 112 INTRODUCTORY BIOLOGY LABORATORY

Prereq.: BIO 111 which may be taken concurrently. Laboratory course to accompany BIO 111. Cannot be used to meet requirements for major, minor or concentration in biology. One three-hour laboratory per week. Mode 8/Study Area IV

BIO 120
PLANTS OF CONNECTICUT
From sea lettuce to mountain laurel-introduction to the plants of Connecticut. Naturalistic approach dealing with common names and practical information.
Field walks and plant collections required. Two lectures and one three-hour laboratory per week. Not open to Biology majors. Summer. Mode 8/Study Area IV

## BIO 121 GENERAL BIOLOGY I

Structural and physiological organization of cells involved in growth and inheritance of living organisms is discussed. Consideration of growth of flowering plants and comparisons of levels of specialization reached among major groups within the plant kingdom. Lecture topics are paralleled in laboratory, where living, prepared and preserved materials are used for study and dissection. Three lecture and one three-hour laboratory per week. [c] Mode 8/Study Area IV

## BIO 122 GENERAL BIOLOGY II

Prereq.: BIO 121. Consideration of major animal groups, emphasizing diversity of animal life and its wide distribution. Vertebrate type is used to illustrate differentiation, division of labor, and development of organ systems, stressing integration to make unified whole. Embryology, evolution and ecology. In laboratory, living, prepared and preserved materials are used for study and dissection. Three lectures and one three-hour laboratory per week. [c] Mode 8/Study Area IV

## BIO 132 INTRODUCTORY ECOLOGY

Introductory biology lecture course which examines the inter-relationships of plants, animals and their environment. The biological aspects of man's place in the environment will be stressed. Three lectures per week. Cannot be used to meet requirements for major in Biology. Mode 8/Study Area IV

BIO 133

## LABORATORY IN INTRODUCTORY ECOLOGY

Introductory biology laboratory course in field ecology to accompany, or follow, BIO 132. One three-hour laboratory or field trip per week. Cannot be used to meet requirements for major in Biology. Mode 8/Study Area IV

BIO 150 MARINE STUDIES INSTITUTE
Environmental simulation exercise on a site along Long Island Sound. On-shore and on-water activities in marine biology, geology and meteorology, in seamanship and piloting and in coastal zone management. Lectures and laboratories. Summer. Mode 8/Study Area IV

BIO 201 PRINCIPLES OF CELL AND MOLECULAR BIOLOGY
Prereq.: BIO 122. Introduction to the major principles of cell biology including cell compartmentalization; flow of genetic information; protein structure, synthesis, and trafficking; signal transduction; and molecular responses resulting in changes in cell activity, cell division, or apoptosis. Three hours of lecture and one three-hour laboratory per week. [c]

## BIO 202 PRINCIPLES OF ECOLOGY AND EVOLUTION

Prereq.: BIO 122. Study of how organisms interact with each other and their physical environment, integrated with study of changes within species, speciation, and the relatedness of organisms. Life history, population biology, community ecology, population genetics, and systematics are included. Laboratories, many of which are field-oriented, will include gathering, analyzing, and interpreting data. Three hours of lecture and one three-hour laboratory per week. [c]

BIO 211 CONCEPTS IN BIOLOGY
Introduction to cellular, genetic, evolutionary and ecological principles with laboratory emphasis on application of basic concepts. Two lectures and one twohour laboratory per week. [c] Mode 8/Study Area IV

BIO 306 GENETICS
Prereq.: BIO 201 or permission of the department chair, and CHEM 121. Historical development of basic principles and modern concepts of genetics. Integrated survey of each of the major fields of genetics is presented. Three lectures and one three-hour laboratory per week. [c]

## BIO 316 MICROBIOLOGY

Prereq.: BIO 201 or permission of the department chair, and CHEM 121. Genetics and metabolism of bacteria, focusing on microorganisms that affect human health and the environment. Discussion areas include biochemistry, molecular genetics, immunology, biotechnology, infectious diseases, and environmental microbiology. Laboratory exercises deal with bacterial growth and control, diagnostic identification, bacterial genetics, and the roles of bacteria in humans and the world. Three-hours of lecture and one three-hour laboratory per week. [c]

BIO 318 ANATOMY AND PHYSIOLOGY I
Prereq.: BIO 201 or permission of the department chair. Human gross morphology, histology, and physiology of the skeletal integument, muscular, nervous, and respiratory systems, including effects of aging. Three hours of lecture and one three-hour laboratory per week. Fall. [c]

## BIO 319 ANATOMY AND PHYSIOLOGY II

Prereq.: BIO 201 or permission of the department chair. Human gross morphology, histology, and physiology of the endocrine, cardiovascular, lymphatic, renal, digestive, and reproductive systems. Nutrition, metabolism, fetal development and aging will also be covered. Three hours of lecture and one three-hour laboratory per week. Spring. [c]

## BIO 321 INVERTEBRATE ZOOLOGY

Prereq.: BIO 202 or permission of the department chair. Previously BIO 221. Structure, activities, life histories and evolutionary relationships of invertebrate phyla. Three lectures and one three-hour laboratory per week. No credit given to those with credit for BIO 221. Irregular. [c]

Prereq.: BIO 202 or permission of the department chair. Previously BIO 222.
Vertebrate classification and life histories of representative forms. Laboratory
work will emphasize identification of North American species. Three lectures and one three-hour laboratory per week. No credit given to those with credit for BIO 222. Irregular. [c]

BIO 326 NON-VASCULAR PLANTS AND FUNGI
Prereq.: BIO 202 or permission of the department chair. Previously BIO 226. Life histories, reproductive strategies, evolutionary relationships and significance to humans are considered for algae, fungi, slime molds, lichens, liverworts and mosses. Some field trips to local sites will be included in laboratories. Three hours of lecture and three hours of laboratory per week. No credit given to those with credit for BIO 226. Irregular.

BIO 327 VASCULAR PLANTS
Prereq.: BIO 202 or permission of the department chair. Previously BIO 227. Phylogenetic relationships, life cycles, distribution and economic significance of vascular plants. Emphasis is placed on the seed plants. Three lectures and one three-hour laboratory per week. No credit given to those with credit for BIO 227. Irregular. [c]

## BIO 390 SPECIAL PROBLEMS IN BIOLOGY

Prereq.: Written permission of instructor and department chair. Specific projects in various aspects of biology under the supervision of one or more department members. Written report or poster presentation, and portfolio review required. Course may be repeated with a different instructor for a maximum of two credits. On demand. [c]

## BIO 391 INTERNSHIP IN BIOLOGY 1-3

Prereq.: Written permission of instructor and department chair. Projects in Biology under the supervision of one or more department members. Projects generally involve work with associated organizations off campus. Written report or poster presentation, and portfolio review required. On demand. [c]

BIO 400
SEMINAR IN BIOLOGY
Seminar course open to senior biology majors and to graduate students with permission of the department chair. Through individual readings, discussions and presentations, students will study contemporary topics in biology.

BIO 401
HUMAN NUTRITION AND METABOLISM
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122.
Biochemical and physiological processes that affect the nourishment of humans, including newborns and the aging. Interactions among nutrients, the environment and the body resulting in perturbations affecting human health are considered. Spring. [c]

## BIO 405 ECOLOGY

Prereq.: BIO 201 and 202, or permission of department chair. Distribution and abundance of different types of organisms and the physical, chemical, and biological features and interactions that determine survival, growth, and reproduction in changing environments. Ecological theory and quantitative analyses included in lecture and laboratory. Three hours of lecture and one three-hour laboratory per week. Fall. [c]

BIO 410 ECOLOGICAL PHYSIOLOGY
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. A phylogenetic study of animal physiology in which the diversity of physiological adaptations for various habitats is stressed. Three lectures and one threehour laboratory per week. Fall. (E) [c]

BIO 411

## CELLULAR PHYSIOLOGY AND METABOLISM

Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. Cellular environment, some of the homeostatic mechanisms whereby the cell maintains a steady state. Structure of a cell in terms of its chemical composition and physicochemical and functional organization and certain aspects of cellular metabolism: permeability, respiration and energy metabolism, synthesis, and growth and differentiation. Specialized cellular functions such as excitation and contraction. Three lectures and one three-hour laboratory per week. Spring. [c]

BIO 412 HUMAN PHYSIOLOGY
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. Study of the human body and its reactions to internal and external environ-
mental changes. Physiology of the musculoskeletal, nervous, circulatory, respiratory, excretory and endocrine systems is considered. Integrative mechanisms of the system are emphasized. Spring. [c]

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BIO 413
Prereq. or coreq.: BIO 412. Laboratory course to accompany BIO 412. One three-hour laboratory per week. Spring.

BIO 416 IMMUNOLOGY
Prereq.: BIO 201 and 202, or permission of department chair. Introduction to the structure of the immune system, the immunoglobulins, antigen-antibody interactions, infection immunity, lymphocytes, histocompatibility and genetic regulations. Spring. [c]

## BIO 417 IMMUNOLOGY LABORATORY

Prereq. or coreq.: BIO 416. Introduction to the anatomy and histology of the immune system and an introduction to some immunochemical and immunodiagnostic laboratory techniques involving the principles of precipitation, agglutination and immunoelectrophoresis. One three-hour laboratory per week. Spring.

## BIO 418 HUMAN ANATOMY, PHYSIOLOGY, PATHOPHYSIOLOGY

Prereq.: BIO 122 or equivalent, CHEM $450 / 451$ or 311 or permission of instructor. For students in anesthesia and health sciences; others require permission of anesthesia program coordinator. Functional anatomy, physiology and pathophysiology of man. A review of cell physiology is followed by an in-depth analysis of muscular, circulatory, nervous, respiratory, excretory and endocrine systems with special applications to the health sciences. No credit to Biology majors who have received credit for BIO 412 or 318. Summer.

BIO 420 ORNITHOLOGY
Prereq.: BIO 201 and 202, or permission of department chair. Life histories, physical and physiological adaptions, evolution, ecology and behavior of birds. Laboratories will include field identification and other behavioral and ecological research techniques. Three hours of lecture and one three-hour field or laboratory period per week. Spring. (E) [c]

425 AQUATIC PLANT BIOLOGY
Prereq.: BIO 201 and 202, or permission of department chair. Ecology and classification of microalgae, macroalgae and vascular plants from marine, estuarine, and freshwater environments. Laboratories and field trips include collection and identification of plants from Connecticut aquatic habitats. Three hours of lectures and one three-hour laboratory per week. Some Saturday field trips required. Fall. (E) [c]

BIO 434

## ECOLOGY OF INLAND WATERS AND ESTUARIES

Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122. A comparison of freshwater and estuarine environments, with emphasis on physical and chemical parameters influencing the distribution of aquatic organisms, nutrient cycling and factors affecting aquatic productivity. Three one-hour lectures and one three-hour laboratory per week. Some Saturday field trips required. Fall. (O) [c]

## BIO 436 ENVIRONMENTAL RESOURCES

 AND MANAGEMENTPrereq.: BIO 201 and 202, or permission of department chair; CHEM 122. Analysis of the interactions of human population-resource depletion-pollution at local to global scales from an environmental management/protection perspective. Emphasis upon better understanding the impacts of over-population and methods for control, significance and loss of biodiversity, aquatic pollution, and global climate change. Spring. (E) [c]

BIO 438 AQUATIC POLLUTION
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122. Study of the various types of aquatic pollutants, their sources and control/treatment, and the effects of water pollution upon aquatic ecosystems, as well as Federal and State water pollution regulatory programs. Laboratory will include field collection of water samples and measurement of indicators of water quality. Three lectures and one three-hour laboratory per week. Spring. (O) [c]

BIO 440
EVOLUTION
Prereq.: BIO 201 and 202, or permission of department chair. Mechanisms of inter-generational change including mutation, selection, and drift; sexual selection; speciation; and extinction. Irregular. [c]

BIO 444 PLANT TAXONOMY
Prereq.: BIO 201 and 202, or permission of department chair. Scientific approach to identification and classification of locally occurring plants using taxonomic keys. Includes ferns, fern allies, conifers and flowering plants, with emphasis on the latter. Field walks and plant collections required. Two lectures and one three-hour laboratory per week. Irregular. [c]

## BIO 449

PLANT PHYSIOLOGY
3
Prereq.: BIO 201 and 202, or permission of department chair. Basic principles of plant function. Emphasis on the soil-plant-air continuum, phloem transport, photosynthesis and mechanisms of plant responses to the environment. Irregular. [c]

## BIO 450 INVESTIGATIONS IN PLANT PHYSIOLOGY

Prereq.: BIO 449 or permission of instructor. Investigative laboratory in plant physiology. Topics include water potential, transpiration, mineral nutrition, phloem transport, photosynthetic and respirational gas exchange, photosynthetic electron transfer, plant movements and plant hormones. One three-hour lab per week. Irregular.

BIO 462 DEVELOPMENTAL BIOLOGY
Prereq.: BIO 306 or permission of department chair. Fundamental structural and functional aspects of development of organisms are studied. Emphasis on cellular differentiation and primary morphogenesis. Irregular. [c]

BIO 468 ARTHROPOD BIOLOGY
Prereq.: BIO 201 and 202, or permission of department chair. Systematic approach to arthropods, with emphasis on insects. Topics in morphology, physiology, evolution, land economics, importance of various groups are considered. Three hours of lecture and one three-hour laboratory per week. Irregular.

BIO 480
ANIMAL BEHAVIOR
4
Prereq.: BIO 201 and 202, or permission of department chair. Adaptive functions, evolutionary history, control, and development of behavior in vertebrates and invertebrates. Laboratories focus on techniques of observation, experimental design, and data analysis. Three hours of lecture and one three-hour field or laboratory per week. Fall. (E) [c].

## BIO 481 COMPARATIVE VERTEBRATE ANATOMY

Prereq.: BIO 201 and 202, or permission of department chair. Comparative anatomy and functional morphology of representative organ systems of vertebrates. Laboratories include dissection and study of preserved material of representative vertebrates. Two hours of lecture and two three-hour laboratories per week. Irregular. [c]

## BIO 490 STUDIES IN BIOLOGY <br> 1-4

Prereq.: BIO 201 and 202, or permission of department chair. Selected studies in the biological sciences which are not offered presently in the curriculum of the department. May be repeated with different topics. Irregular. [c]

## BIO 491 ADVANCED PROBLEMS IN BIOLOGY

Prereq.: BIO 390, written permission of instructor and department chair. Advanced projects in biology under the supervision of one or more department members. It is expected that this research will be a continuation of or closely related to research begun in BIO 390. Written report or poster presentation, and portfolio review required. May be repeated for a maximum of five credits. On demand. [c]

## BIO 495

MOLECULAR BIOLOGY
Prereq.: BIO 306 or permission of department chair. Introduction to the structure and function of DNA. Emphasis on approaches currently being used to analyze the expression of genes. Examination of regulated gene expression and its relationship to cellular growth and differentiation. Three lectures and one threehour laboratory per week. Irregular. [c]

3 BIO 499 UNDERGRADUATE THESIS IN BIOLOGY
Prereq.: BIO 491 (may be taken concurrently), written permission of thesis advisor and department chair. Student must submit thesis proposal based on project done in BIO 491, to the Biology Department and complete the undergraduate thesis under the supervision of the thesis advisor. The same BIO 491
3 project may not be the subject of both a HON 491 thesis and a BIO 499 thesis. On demand. [c]

## BUSINESS

## BUS 401 MARKETING IN CYBERSPACE

Prereq.: MIS 201, MKT 295. Theory and practice of effective Internet research strategies. Exploration of current practices in Internet-based information system technologies. Examination of the Internet as a marketing medium for product distribution and promotion. Irregular.

## BUSINESS EDUCATION

## BE 410 OFFICE EDUCATION METHODS

Prereq.: Senior status, MIS 201, Keyboarding Proficiency Examination and Word Processing Proficiency Examination or WP 204. Concepts underlying office systems technologies taught at the secondary level. Includes instructional methods and techniques, teaching and reference material, and the use of community resources. Spring. [c]

BE 450

## OFFICE SYSTEMS APPLICATION SOFTWARE AND RECORDS MANAGEMENT

Prereq.: BE 410. Survey of selected office application software and evaluation techniques. Includes a discussion of records management, forms design, formatting and layout. Fall. [c]

## CHEMISTRY

## CHEM 102 CHEMISTRY OF NUTRITION

An introduction to nutrition, the basic nutrients, their chemistry and their role in health. Two lectures and one two-hour laboratory period per week. Fall. Mode 8/Study Area IV

## CHEM 111 INTRODUCTORY CHEMISTRY

Introduction to fundamental concepts of chemistry: descriptive aspects of inorganic and organic chemistry. For Art, Technology, Elementary and other non-science majors. Two lectures and one two-hour laboratory period per week. Mode 8/Study Area IV

## CHEM 121 GENERAL CHEMISTRY I

Emphasizes relationships of basic chemical principles and theories to properties of substances, their reactivity and uses. Contributions to the quality of life are introduced. Intended for science and engineering students. Three hours of lecture, one three-hour laboratory per week. Mode 8/Study Area IV [c]

CHEM 122 GENERAL CHEMISTRY II
Prereq.: CHEM 121. Course places a greater emphasis on quantitative aspects. Three hours of lecture, one three-hour laboratory per week. Mode 8/Study Area IV [c]

CHEM 138 CHEMISTRY PRACTICUM
Prereq.: Permission of instructor. Research experience for freshman or sophomore students under faculty adviser. May be repeated for a total of three credits. On demand.

CHEM 238 INTRODUCTION TO RESEARCH
Prereq.: Permission of instructor. Research experience for sophomore or junior students under faculty adviser. May be repeated for a total of three credits. On demand.

CHEM 250 BASIC ORGANIC AND BIOCHEMISTRY
Prereq.: CHEM 122. Principal family of organic compounds important in biological systems; fundamentals of biochemistry including acid-based properties, and metabolic pathways for energy production and biosynthesis of cellular components. Relevance is made to human health and everyday living. Three lectures and one two-hour laboratory per week. Spring. [c]

## CHEM 301 ANALYTICAL CHEMISTRY

Prereq.: CHEM 122, MATH 121. Theory and practice of gravimetric and volumetric quantitative analysis, introduction to colorimetric analysis and methods of separation. Two lectures and two three-hour laboratory periods per week. Fall. [c]

## CHEM 311 ORGANIC CHEMISTRY I

Prereq.: CHEM 122. Principal classes of aliphatic and aromatic carbon compounds; compounds of industrial significance. Three lectures and one three-hour laboratory period per week. Fall, Summer.

CHEM 312 ORGANIC CHEMISTRY II
Continuation of CHEM 311, with emphasis on special classes of carbon compounds. Three lectures and one three-hour laboratory per week. Spring, Summer Session.

## CHEM 313 ORGANIC PREPARATIONS

Coreq.: CHEM 312. Emphasis on modern procedures for preparation and isolation of organic compounds. Students are introduced to the use of chemical literature. Not open to Chemistry minors or concentrates for fulfillment of program requirements except with permission of department. One three-hour laboratory period per week. Spring.

CHEM 320 BIOPHYSICAL CHEMISTRY
Prereq.: CHEM 312, MATH 125 or 221 , PHYS 122 or 126 . Principles of physical chemistry emphasizing those areas of critical importance to the biological sciences. Topics include thermodynamics, solution equilibria, molecular transport and enzyme kinetics. Fall. [c]

CHEM 321 PHYSICAL CHEMISTRY I
Prereq.: CHEM 301 (may be taken concurrently) CHEM 312, PHYS 126, MATH 221. In-depth examination of solid, liquid and gas behavior, including thermodynamics and kinetics as applied to chemical processes. Fall. [c]

## CHEM 322 PHYSICAL CHEMISTRY II

Prereq.: CHEM 321. Quantum mechanics as applied to atomic and molecular structure. Introduction to symmetry concepts. Theory of rotational, vibrational, electronic and magnetic resonance spectroscopies. Statistical foundations of thermodynamics. Spring. [c]

CHEM 323 PHYSICAL CHEMISTRY LABORATORY
Coreq.: CHEM 322. Experimental work to accompany CHEM 322. Two three-hour laboratory periods per week. Spring. [c]

## CHEM 402 INSTRUMENTAL METHODS IN ANALYTICAL CHEMISTRY

Prereq.: CHEM 301, 312, 322. Theoretical and practical aspects of the most important instrumental techniques used in chemical analysis, including potentiometry, coulmetry, voltammetry, UV/Visible absorption spectrophotometry, florescence spectrophotometry, atomic spectrometry, gas chromatography, and high performance liquid chromatography. Three hours of lecture and one four hour laboratory per week. Fall. [c]

## CHEM 406 ENVIRONMENTAL CHEMISTRY

Prereq.: CHEM 301, 311. Nature and properties of pollutants, their interaction with each other and the environment, preventative and remedial methods of control. Laboratory concerned with sampling and analysis of pollutants. Two lectures and one two-hour laboratory period per week. Spring.

## CHEM 432 CHEMISTRY SEMINAR

Prereq.: CHEM 312, 321. Participants will prepare written and oral presentations on topics of current interest in various fields of chemistry. One conference per week. May be taken a maximum of three times for credit. Spring.

CHEM 435 LITERATURE OF CHEMISTRY
Prereq.: CHEM 301, 311. Survey of English and foreign-language literature of chemistry; preparation of bibliographies and research papers. Journals are available in the University Library for reference. Two lectures per week. Spring.

CHEM 438 UNDERGRADUATE RESEARCH
Prereq.: Permission of instructor. Research participation for senior students under faculty adviser. May be repeated for total a of 3 credits.

## CHEM 450 BASIC ORGANIC AND <br> BIOLOGICAL CHEMISTRY

3
Prereq.: CHEM 122. Selected topics in chemistry of biological processes: classes of organic compounds found in biological systems, their significance in nutrition and metabolism, energy production, and acid-base and related concepts as applied to body fluids as aqueous media. Spring, Summer.

## CHEM 451 BASIC ORGANIC AND

BIOCHEMISTRY LABORATORY
1
Coreq.: CHEM 450. Experimental work to accompany CHEM 450. One laboratory period per week. Spring.

## CHEM 454 BIOCHEMISTRY

Prereq.: CHEM 312, BIO 122 or equivalent. General principles of biochemistry, chemical constituents of cells, metabolic pathways, energies and biochemical regulators. Three lectures per week. Spring.

CHEM 455 BIOCHEMISTRY LABORATORY
Coreq.: CHEM 454. Experimental work to accompany CHEM 454. One laboratory period per week. Spring.

## CHEM 456 TOXICOLOGY

Prereq.: CHEM 312 and BIO 122. Classes of toxic chemicals, and their biotransformation and mechanisms of toxicity in humans. Includes natural and man-made chemicals, methods of risk assessment, environmental and occupational regulatory standards. Fall.

CHEM 459 BIOINORGANIC CHEMISTRY
Prereq.: CHEM 312. Principles of inorganic chemistry as applied to biology.
Focuses on correlation of function, structure and relativity of metals in biological systems. Spring. [c]

CHEM 460 PRINCIPLES OF INORGANIC CHEMISTRY 3
Coreq.: CHEM 322. Electronic structure and theories of bonding as they relate to the structures of inorganic compounds. Three lectures per week. Fall. [c]

## CHEM 461 DESCRIPTIVE INORGANIC CHEMISTRY

 substitution and oxidation-reduction reactions including those of polymeric, bioinorganic, coordination and organometallic compounds. Three lectures per week. Spring. [c] per week. Spring. [c]
## CHEM 472 SPECTROMETRIC IDENTIFICATION OF ORGANIC COMPOUNDS <br> 1 or 2

Prereq.: CHEM 313 or permission of department. A study of physical methods of structure determination, with emphasis on infrared, ultraviolet, nuclear magnetic resonance and mass spectrometry. One or two three-hour laboratory periods per week. Fall.

CHEM 485 TOPICS IN CHEMISTRY
3-9
Prereq.: Permission of instructor. Advanced treatment of chemistry topics in analytical chemistry, inorganic chemistry, organic chemistry and physical chemistry. Three lectures or two lectures and one laboratory period per week depending on topic. May be repeated with different topics for a maximum of 9 credits.

## CHINESE

CHIN 111 ELEMENTARY CHINESE I
Basic sounds and structure patterns of Mandarin-Chinese are established through a direct audio-lingual approach. Not open to students with one year of high school study. Fall. Area B/Skill Area III

CHIN 112 ELEMENTARY CHINESE II
Prereq.: CHIN 111. Continuation of CHIN 111. No credit given to students with previous credit for more advanced course work in Chinese except by permission of the department chair. Spring. Area B/Skill Area III [I]

CHIN 125 INTERMEDIATE CHINESE I
Prereq.: One year of college Chinese or equivalent. Further work on the patterns of Chinese structure with readings and conversation in the language. No credit will be given to students with previous credit for more advanced course work in Chinese except by permission of the department chair. Fall. Area B/Skill Area III [I]

## CHIN 126 INTERMEDIATE CHINESE II

Prereq.: CHIN 125. A continuation of CHIN 125. No credit will be given to students with previous credit for more advanced course work in Chinese except by permission of the department chair. Spring. Area B/Skill Area III [I]

CHIN 341 THE CHINESE HERITAGE I
Prereq.: CHIN 125 or equivalent. Mainstreams of Chinese cultural development. Use of Chinese texts. Fall. Study Area II [I]

CHIN 342 THE CHINESE HERITAGE II 3
Prereq.: CHIN 126 or 341 or equivalent. Continuation of CHIN 341. Spring. Study Area II (I)

CHIN 351 MODERN CHINESE LITERATURE I
Prereq.: CHIN 342 or equivalent. Representative selections from modern Chinese authors are studied in the original texts. Fall. [I]

CHIN 352 MODERN CHINESE LITERATURE II
Prereq.: CHIN 351 or equivalent. Continuation of CHIN 351. Spring. [I]
CHIN 410 BUSINESS CHINESE I
3
Prereq.: CHIN 342 or CHIN 352 or permission of instructor. Development of oral and written skills needed for conducting business in China with business firms. Study of the cultural attitudes of Chinese business people. (E) [I]

## CHIN 411 BUSINESS CHINESE II

Prereq.: CHIN 410 or permission of instructor. Additional practice in the oral and written skill needed for conducting business in China; emphasis on commercial translation. (E) [I]

CHIN 475 CLASSICAL CHINESE I
Prereq.: CHIN 342 or 352, or permission of instructor. Introduction to classical Chinese literature, with an emphasis on etymology, semantics and grammar of classical Chinese. ( $O$ )

CHIN 476 CLASSICAL CHINESE II
3
Prereq.: CHIN 475 or equivalent. Masterpieces of classical Chinese literature, with an emphasis on the moral teachings of Confucius. (O)

## COMMUNICATION

## COMM 115 FUNDAMENTALS OF COMMUNICATION

Basic course offering the student an opportunity to understand and improve communication skills. Performance, observation and evaluation. May not be counted toward Communication major. Area A/Skill Area I

## COMM 140 PUBLIC SPEAKING

Study of and practice in the principal forms of public address. Additional emphasis on the needs and expectations of persons preparing for business and professional careers. Area A/Skill Area I

COMM 201 RADIO PRODUCTION I
Introduction to radio broadcast facilities and programming. Majors only. Offered at Briarwood College. Fall.

COMM 202 RADIO PRODUCTION II
Prereq.: COMM 201. Students develop programming formats and assist in program execution through a simulation of full station operation. Majors only. Offered at Briarwood College. Spring.

COMM 215 INTRODUCTION TO INTERPERSONAL COMMUNICATION
Introductory survey of interpersonal communication theories and the application of these theories in dyadic, group and organizational contexts. Study Area III

COMM 230 INTRODUCTION TO MASS MEDIA 3
Study of the structure, roles and processes of the mass media. Primary emphasis is on radio, television and film. Examination of effects on society. Area C/Study Area III

COMM 231 COMMUNICATION TECHNOLOGIES 3
Prereq.: COMM 230. Examination of how selected telecommunication systems such as satellite, computer networks and teleconferencing influence the way we receive and process information; determine national, corporate and personal priorities and policies; allocate time; learn and are entertained.

COMM 233 INTRODUCTION TO PUBLIC RELATIONS
Prereq.: COMM 230. Survey all aspects of public relations including theories of image-making, events planning, publicity, promotion, media campaigning and crisis management.

## COMM 245 INTRODUCTION TO RHETORICAL STUDIES

Prereq.: COMM 215 and 230. Roots of communication as a discipline and as an intellectual and practical field. Basic principles of persuasion, rhetoric, genres and criticism.

## COMM 253 INTRODUCTION TO

ORGANIZATIONAL COMMUNICATION
Introduction to the structure, function and process of communication in organizational life and modern society. Fall.

## COMM 280 BUSINESS AND PROFESSIONAL SPEAKING

Principles of communication in report making, parliamentary processes, interpersonal conferences and related managerial functions. Emphasis on understanding and practicing patterns of communication in various organized settings. Area A/Skill Area I

## COMM 295 COMMUNICATION AND ELEMENTS OF

 HUMAN RELATIONSExamination of the impact of communication on the creation of social environments of mutual understanding, respect and responsibility in different interactive contexts. Spring. Mode 6/Study Area III

COMM 301 CRITICAL THINKING
Prereq.: COMM 245. Development of critical thinking skills as a basis for thoughtful and effective communication. Analysis of arguments and persuasive appeals.

COMM 302 PROBLEM-SOLVING AND DECISION-MAKING
3 Prereq.: COMM 245. Introduction to small group interaction processes with emphasis on fundamental forms of communication in all discussion settings. May require group meetings outside of class.

COMM 303 CONTROVERSY AND NEGOTIATION

COMM 315 POLITICAL COMMUNICATION
Examines the symbolic nature and dimensions of American politics and the American political system. Emphasis placed on the role, processes and effects of communication in political contexts. Fall. Mode 6

COMM 330 BASIC VIDEO PRODUCTION
Introduction to television production as it relates to verbal and visual communication. Work on individual and crew projects is a requirement

COMM 335 COMMUNICATION MANAGEMENT
Prereq.: COMM 230, 330. Communication management in broadcast, cable, closed-circuit or related environments. Facility planning, scheduling, personnel supervision, programming, sales, marketing strategies and government regulations are explored.

COMM 336 MEDIA LITERACY
Prereq.: COMM 230. A review of current changes in philosophy, content and processes in media use and application as this use affects society and its value system.

COMM 337 MEDIA CAMPAIGNS
Prereq.: COMM 230. Analysis of the media strategies utilized by ad agencies, political agencies and corporations to promote a product, idea or service by influencing attitudes or changing behavior.

## COMM 344 MODELS OF INTERCULTURAL

COMMUNICATION
Prereq.: Permission of instructor. Study and discussion of models of intercultural communication in various contexts. Spring.

COMM 345 RADIO AND TELEVISION SCRIPTING
Prereq.: COMM 330 or permission of instructor. Audio and television script writing for commercial and educational uses. Terminology, formats, appeals, timing and pacing stressed. Students will create, organize and develop sample scripts.

COMM 353 INTERVIEWING THEORY AND PRACTICE
Study and practice of different interview formats (excluding counseling) as a unique context of communication. Special attention given to interviews for employment, appraisal and information gathering. Area $A$

## COMM 360 PARLIAMENTARY LAW AND POLITICS

An introduction to the rules and operation of committees, assemblies and other formal gatherings, with special attention to communication in legislative settings. Area A

## COMM 400 COMMUNICATION THEORY

 AND PROCESSPrereq.: COMM 301 or 302 or 303. An introduction to prevalent theories of communication. Emphasis will be on human communication processes

## COMM 427 TELEVISION PROGRAMMING AND

 PRODUCTION3
Prereq.: COMM 330 or permission of instructor. Study of broadcasting systems. Use of studio television facilities includes investigation of sound, lighting, graphics, production and on-camera presentation. Fall.

## COMM 428 ADVANCED TV PRODUCTION

Prereq.: COMM 427. A technique-centered course which focuses on combining TV studio production with field and remote components for broadcast, cable or corporate application. Spring.

COMM 430 COMPARATIVE MASS MEDIA SYSTEMS
Prereq.: COMM 230. Philosophies and strategies of mass media operation around the world, emphasizing regional rather than national differences. Identification of basic philosophical orientations and theoretical underpinnings. Spring.

## COMM 433 PUBLIC RELATIONS STRATEGIES

AND TECHNIQUES
3
Prereq.: COMM 233. Public relations strategies and techniques through analysis and practical applications.

Examines media constructions and representations of femininity and masculinity. Focus on popular forms of media including television, film and advertising. Spring.

## COMM 443 COMMUNICATION AND SOCIAL INFLUENCE

Prereq.: COMM 115 or 140. Principles and processes of influencing attitudes, beliefs and behavior. Practical illustrations drawn from advertising, speeches and other communicative settings. Spring. Mode 6

## COMM 450 COMMUNICATION SKILLS FOR TRAINING AND DEVELOPMENT

Prereq.: Permission of instructor. Survey and application of communication strategies for training and development in public and private corporate and institutional settings. Irregular.

COMM 452 HEALTH COMMUNICATION CAMPAIGNS 3
Explores the issues related to the development and implementation of health communication campaigns. Basic principles, theories and concepts governing them.

COMM 453 ORGANIZATIONAL COMMUNICATION 3
Prereq.: COMM 253 or permission of instructor. Study of communication theory and processes within organizational contexts. Spring.

## COMM 454 COMMUNICATION STRATEGIES FOR SOCIAL ACTION AND COMMUNITY DEVELOPMENT

Study of the relationship between communication and social change and the impact of socio-political and communication strategies on the achievement of effective community development and social change objectives. Fall. [I]

COMM 480 TELEVISION DOCUMENTARY PRODUCTION
Prereq.: COMM 428 or permission of instructor. An analysis of TV documentary style, techniques and processes with opportunity to build upon TV skills
learned in previous TV production courses by producing a TV documentary.

COMM 490 INTERNSHIP STUDY 1-6
Prereq.: Permission of faculty advisor and department chair. Work in approved organization. Series of consultations and assigned readings and a final paper describing practical experiences in relation to theory are required.

COMM 491 INDEPENDENT STUDY
Prereq.: Permission of adviser and department chair. Reading and research in approved topic under guidance of a faculty member of the Communication Department. May be repeated with different topics for a maximum of 6 credits. On demand.

COMM 492 LEGISLATIVE INTERN EXPERIENCE 3-6
Prereq.: Junior or senior status, permission of faculty and department chair. To be taken concurrently with COMM 490. Work in the state legislature. In addition, a series of seminars, assigned readings and completion of a substantial research project related to work in State Legislature are required.

COMM 495 SPECIAL TOPICS IN COMMUNICATION
Prereq.: Junior or senior standing or permission of instructor. Study of selected topics in Communication. May be repeated once with a different topic.

## COMPUTER SCIENCE

CS 110 INTRODUCTION TO INTERNET PROGRAMMING AND APPLICATIONS
Examination of physical infrastructure of local and wide area networks, internet protocol implementation, world-wide web interface programming, interactive Java applet and Visual Basic web programming. Skill Area II [c]

CS 113 INTRODUCTION TO COMPUTERS
Introduction to computer programming together with the consideration of the impact of computers on society. Emphasis on logical problem-solving and algo-
rithms. No credit given to students with credit for CS 151, 213 or MATH 446, 471. [c] Mode 2/Skill Area II

CS 115 WORKSHOP IN COMPUTER SCIENCE 1-3
Prereq.: ECM 099 or placement test. Topics vary and include application-oriented languages, computer literacy-oriented software packages and human-computer interface procedures. [c] Mode 2/Skill Area IV

CS 151

## COMPUTER SCIENCE I

Prereq.: MATH 115 or placement test. This is a first course in Computer Science. The emphasis is on the analysis of classes of problems, the design of algorithms for solving them and the use of a computer language for implementing them. No credit given to students with credit for MATH 471. [c] Mode 2/Skill Area II

## CS 152

COMPUTER SCIENCE II
Prereq.: CS 151 or MATH 471, and MATH 122 or 125 . Advanced programming and data structures. Emphasis on techniques and procedures appropriate to production of reliable and easily modifiable programs. Stacks, queues, lists and tree structures. [c]

CS 161 C PROGRAMMING
Prereq.: CS 152. Introduction to programming for students with substantial computer science background. [c]

CS 207 INTRODUCTION TO COMPUTER GRAPHICS
Prereq.: ART 110, 112 or 113 and either ECM 099 or placement test. This course will use the computer facilities to produce abstract designs and images, with special emphasis on color forms, shapes, texture and basic design. Spring. Mode 2/Skill Area II [c]

## CS 210 COMPUTING AND CULTURE

Evolution of computing from early data processing to global networking. Examination of how society has accepted and transformed role of digital technology within its cultures and institutions. Emphasis on human-computer interaction, electronic communities and examples of their applications. Online resources will be used. Skill Area IV [c]

## CS 213 APPLICATIONS OF COMPUTER

 PROGRAMMINGPrereq.: MATH 121 or 125 or placement test. This course focuses on the use of programming techniques to solve problems encountered in the areas of mathematics, life science, physical science, engineering, education and social science. Topics include programming, languages with emphasis on FORTRAN and either BASIC or PASCAL, the use of time-shared and batch-oriented computers, and applications of the computer. No credit given to students with credit for CS 151. [c] Mode 2/Skill Area II

CS 216

## C PROGRAMMING IN THE UNIX ENVIRONMENT

Prereq.: CS 151 or 213 . An introduction to the $C$ language and the Unix
Operating System for experienced programmers. No credit given to CS majors. Spring. [c]

## CS 253 DATA AND FILE STRUCTURES

Prereq.: CS 152 and MATH 218. A software design course which develops concepts and techniques for structuring and manipulating data, both in the computer and on external storage devices. Topics include a review of basic data structures, balanced tree structure, graphs, sequential and direct access files, external sorting. An introduction to data base systems is also provided. [c]

## CS 254 COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE PROGRAMMING

Prereq.: CS 151 or MATH 471. Concepts of assembler language, machine language, macro-instructions, subroutines, program checkout, interrupt structure of assemblers and use of operating system. No credit given to students with credit for MATH 472. [c]

CS 290 TOPICS IN COMPUTER SCIENCE 1-3
Prereq.: CS 151 or equivalent, and permission of instructor. This course will provide an opportunity to introduce into the curriculum elementary topics of current interest. May be repeated with different topics for up to 6 credits. [c] Irregular.

CS 300 COMPUTER SCIENCE WORK EXPERIENCE I 3
Prereq.: Permission of department. Students must go through Co-op office prior to receiving credit. A six-month employment experience relevant to the

## taken concurrently. [c]

## CS 301 COMPUTER SCIENCE WORK

 EXPERIENCE IIPrereq.: CS 300 and permission of department. Students must have a job which is different from their CS 300 job. Students must go through the Co-op office prior to receiving credit. A six-month employment experience relevant to the Computer Science program. No more than 6 credits of other course work may be taken concurrently. [c]

## CS 354

DIGITAL SYSTEMS DESIGN
Prereq.: CS 254 and MATH 218. PHYS 338 must be taken concurrently by sis and design of digital systems in terms of logical and sequential networks. Various minimization techniques are studied. [c]

## CS 355 INTRODUCTION TO SYSTEMS

 PROGRAMMINGPrereq.: CS 161, 253 and 254 or MATH 472. Introduction to the design of systems software. Topics include comparative machine organizations, the design of assemblers and loaders, an introduction to operating systems and an introduction to compiler design. [c]

CS 385 COMPUTER ARCHITECTURE 3
Prereq.: CS 354. The architecture of the computer is explored by studying its various levels: physical level, operating-system level, conventional machine level and higher levels. An introduction to microprogramming and computer networking is provided. Spring. [c]

CS 398 INDEPENDENT STUDY IN COMPUTER SCIENCE
Prereq.: CS 152 and 254. Special independent work to meet individual interest in areas not covered by regular curriculum. Work will be under the supervision of a faculty member and in an area and for an amount of credit agreed upon prior to registration for the course. On demand. [c]

CS 407 ADVANCED TOPICS IN COMPUTER SCIENCE
Prereq.: CS 152 and 254 and permission of instructor. This course provides an opportunity to introduce into the curriculum topics of interest and new courses on an experimental basis. May be repeated with different topics for up to 6 credits. [c]

## CS 410 INTRODUCTION TO SOFTWARE ENGINEERING

Prereq.: CS 355. An examination of the software development process from the initial requirement analysis to the operation and maintenance of the final system. The scope of the course includes the organization of software development projects, the verification and validation of systems, the problems of security and privacy and the legal aspects of software development, including software protection and software liability. Irregular. [c]

CS 420

## OBJECT-ORIENTED

PROGRAMMING SYSTEMS
Prereq.: CS 355. Introduction to the theory, concepts and application of objectoriented programming as implemented in today's computing world. This course will include such topics as objects and messages, classes and inheritances, encapsulation and specification, and will present an overview of the currently popular object-oriented systems. Irregular. [c]

CS 423
COMPUTER GRAPHICS
3
Prereq.: CS 253. Wire frame and solid graphics in two and three dimensions, data structure for computer graphics, geometrical transformations in computer graphics, raster and vector display device technologies. Fall. [c]

CS 460
DATABASE CONCEPTS
Prereq.: CS 253. Data base systems are considered from both the designer's and user's point of view. Physical implementation and data access techniques are studied. Irregular. [c]

CS 462 ARTIFICIAL INTELLIGENCE 3
Prereq.: CS 253. Presentation of artificial intelligence as a coherent body of ideas and methods to acquaint the student with the classic programs in the field and their underlying theory. Students will explore this through problem-solving paradigms, logic and theorem proving, language and image understanding, search and control methods and learning. Spring. [c]

## CS 463

ALGORITHMS
Prereq.: CS 253. Topics include algorithms in combinatorics, integer and real arithmetic, pattern matching, list processing and artificial intelligence.
Algorithmic analysis and domain-independent techniques are also considered. Irregular. [c]

CS 464 PROGRAMMING LANGUAGES 3
Prereq.: CS 253. Emphasis on programming languages as one of many tools in the software development effort. Comparison of different language usages of data types, information hiding, control structures, block structure, sub-programs, reentrance and recursion. Irregular. [c]

CS 465 COMPILER DESIGN
Prereq.: CS 355. Current techniques of compiler writing. Introduction to formal grammar and parsing techniques is given. Problems of semantic phase are discussed and some solutions are given. Optimization techniques are discussed. Fall. [c]

CS 473 SIMULATION TECHNIQUES
Prereq.: CS 152 or 213 , and STAT 315 or 215 . Basic principles of simulation methods using digital computers. Topics covered include random number generators, stochastic variate generators, computer models and simulation languages. Irregular. [c]

## CS 481

OPERATING SYSTEMS DESIGN
3
Prereq.: CS 355. Theory and design of computer operating systems. Topics include machine and interrupt structure, memory, processor, device and information management. Spring. [c]

## CS 483 THEORY OF COMPUTATION

3
Prereq.: MATH 218 and CS 463. The concept of algorithm, correctness and efficiency of algorithm, decidable vs. undecidable problems, recursion, halting problem, formal languages, context free and context-sensitive grammars, and introduction to automata and parallel algorithms. Irregular. [c]

CS 485
MICROPROCESSORS
Prereq.: CS 354. Acquaints students with the basic techniques in the design and use of microprocessor software and hardware. Topics include microprocessors, differences and similarities, instructions, software and hardware components, applications and future uses. -Irregular. [c]

## CS 486 INTRODUCTION TO VLSI

Prereq.: CS 385. Introduction to the physics, features and fabrication of Very Large Scale Integrated circuits. Emphasis on VLSI design and applications. Topics include design algorithms, contra-flow and fabrication techniques. Irregular. [c]

CS 490 COMPUTER COMMUNICATIONS NETWORKS AND DISTRIBUTED PROCESSING

3
Prereq.: CS 253 and 254. Study of networks of interacting computers. The problems, rationale and possible solution for both distributed processing and distributed data bases will be examined. Irregular. [c]

LEGAL, SOCIAL, ETHICAL AND ECONOMIC ISSUES IN COMPUTING
Prereq: Permission of instructor. Topics include privacy, security, law of torts in computing, and legal protection of software. Spring. [c]

CS 498 SENIOR PROJECT
Prereq.: Senior standing, 21 credits toward major including one advanced course. Opportunity for student to participate in design and implementation of large problem with small group of people. Problem will be chosen in consultation with instructor. Majors only. [c]

CS 499
SEMINAR IN COMPUTER SCIENCE
Opportunity for student to explore topics of current interest not covered in normal curriculum. Majors only. Irregular. [c]

## COUNSELING

CNSL 299 HUMAN SERVICES IN THE RESIDENCE HALLS
Prereq.: Appointment to the staff (Department of Residence Life) and/or permission of instructor. Topics include competencies in personal development, student development theory and multi-cultural issues. Area C

## CRIMINOLOGY AND CRIMINAL JUSTICE

## CRM 110 INTRODUCTION TO THE CRIMINAL JUSTICE SYSTEM

Previously CJ 110. Introduction to the structure and operation of the criminal justice system in the United States. Attention will be focused on the individual and institutional level. Topics include entrance into the criminal justice system, differential treatment of offenders, and the enforcement, judicial and penal subsystems. Fall. Mode 6/Study Area II

CRM 220 IDEOLOGY AND VIOLENCE
Previously CJ 220. Examination of the causes and consequences of politicallymotivated violent crime. Irregular. Mode 6/Study Area III

## CRM 222 RESEARCH METHODS IN CRIMINAL JUSTICE 3

Previously CJ 222. Techniques for systematic analysis of the criminal justice system, offenders' behavior, crime trends and program effectiveness. Requires computer applications for data coding and analysis. [c]

## CRM 231 CRIMINAL PROCEDURE AND

THE COURTS
Prereq.: CRM 110. Previously CJ 231. Organization and function of American courts, trial procedures, pre- and post-trial motions; legal procedures regarding arrest, interrogation, search and seizure; constitutional protections for the accused. Spring.

CRM 233 LAW ENFORCEMENT AND SOCIETY
Prereq.: CRM 110. Previously CJ 233. Comprehensive examination of the function of law enforcement in society. Emphasis is placed on such areas as police operations, discretion, police-community relations, due process, use of deadly force, and police corruption and deviance. Fall. Study Area III

CRM 245 DIVERSITY AND CRIMINAL JUSTICE
Prereq.: CRM 110. Previously CJ 245. Impact of race, ethnicity and/or gender on the commission of criminal offenses, the likelihood of criminal victimization and the treatment of criminal offenders. Also examined is the impact of race, ethnicity and/or gender on those working in the criminal justice system. Mode 6/Study Area III

CRM 325 VICTIMOLOGY
Previously CJ 325. Current theory and research regarding the victims of crime. Topics include victim vulnerability and culpability, restitution, mediation, treatment and compensation. Irregular.

CRM 330
DOMESTIC VIOLENCE
Previously CJSC 330 and CRSC 330. Theory, research and current policy on domestic violence; patterns and trends, multi-disciplined theoretical explanations, historic and contemporary criminal justice response to domestic violence are critically analyzed. Irregular.

## CRM 337 CRIMINOLOGY

Prereq.: CRM 110 or SOC 110, or permission of instructor. Previously CJSC 337 and CRSC 337. Historical and contemporary overview of the nature of crime and causes of criminal behavior. Examination of the relationship between criminological theory and criminal justice policy and practice. Mode 6

CRM 338
CORRECTIONAL THEORY AND PRACTICE
3
Prereq.: CRM 110 or permission of instructor. Previously CJ 338. Overview of corrections in America to include sentencing, probation, classification, incarceration, community corrections and parole. Critical analysis of goals of sentencing, correctional organization and management, alternatives to incarceration and theories of behavioral change. Irregular. Mode 6

## CRM 340

CRIME AND CAPITALISM
Prereq.: CRM 110, 337. Previously CJ 340. Examines the extent, causes and consequences of white collar, corporate, transnational and government crime. Topics include product safery, U.S. business practices abroad and the U.S. government's role in drug trafficking. Irregular.

## CRM 420

## CURRENT ISSUES IN

 CRIMINAL JUSTICE POLICYPrereq.: CRM 110, 231, 233, 338. Previously CJ 420. Major issues and ethical considerations related to criminal justice policy and practices. Topics may include gun control, mandatory sentencing, death penalty, drug legalization and privatization. Irregular.

CRM 433 INDEPENDENT STUDY IN CRIMINAL JUSTICE
Prereq.: Permission of instructor. Previously CJ 433. Readings and research in selected areas of criminal justice. Student must present a written study proposal to the instructor directing the research prior to registering for the course. May be repeated for a maximum of 3 credits. On demand.

## CRM 435 SUPERVISED FIELD STUDIES <br> IN CRIMINAL JUSTICE I

Prereq.: CRM 110, 231, 233, 337, 338, PS 232; or permission of instructor. Previously CJ 435. Individual or group projects or internships under faculty direction, undertaken in an organization or program related to the criminal justice system.

## CRM 436 SUPERVISED FIELD STUDIES

 IN CRIMINAL JUSTICE IIPrereq.: CRM 435 and permission of instructor. Previously CJ 436. Students will complete hours with agency, write and present a major research paper related to their agency experience as the capstone experience.

CRM 439 JUVENILE DELINQUENCY
Prereq.: CRM 110 or SOC 110. Previously CJSC 439 and CRSC 439.
Multidisciplinary approach to understanding the extent, nature and origins of juvenile delinquency. The evolution of the juvenile justice process, legal issues and methods of identifying, treating and preventing delinquency are examined. Mode 6

## CRM 450 DRUGS AND SOCIETY

Previously CJSC 450 and CRSC 450 . Selected social issues relating to illegal drug use, including international and national drug trafficking, money laundering, drug enforcement, drug-related crimes, prevention strategies and legalization. Irregular.

CRM 475 CONTROLLING ANGER AND AGGRESSION 3
Prereq.: CRM 110 or SOC 110 or PSY 239, and CRM 222 or SOC 310 or PSY 221 or SW 374; or permission of instructor. Multi-disciplinary overview of theory and research on anger and aggression. Topics include the emotion of anger, theories of aggression and intervention strategies. Irregular.

Prereq.: Permission of instructor. Previously CJ 478. Analysis and evaluation of special topics in the general field of criminology and criminal justice. May be repeated with different topics for a maximum of 6 credits. Irregular.

## CRIMINAL JUSTICE/COUNSELING

## CRCN 490 CASE/CARE MANAGEMENT

Prereq.: Admission to the Criminal Justice or Counseling program or permission of either chair. Previously CJCN 490 . Emphasis on practice models, organizational structure and service delivery issues, and emerging public policy concerns as they are reflected in a variety of settings. Spring.

## CRCN 495 SUBSTANCE ABUSE AND ADDICTION

Prereq.: Permission of instructor. Previously CJCN 495. Theories of substance abuse and addiction, prevention strategies, treatment modalities and legal issues related to addictions such as substance abuse, gambling, shopping and sexual activity. Irregular.

## CYBERSPACE STUDIES

## CYS 210 MULTIMEDIA COMPUTING

Use of authoring environment in the creation of multimedia applications which combine text, drawn objects, existing graphics, audio and visual clips, and simple animations and hyperlinks for use both locally and online. For advanced applications, a simple scripting language will be employed. Hands on experience stressed. Computer programming experience not necessary. Spring. Mode 2/Skill Area IV

## DANCE

DAN 151-158 are Area D courses. They are general activity courses, open to all students.

## DAN 151 MODERN DANCE

Floorwork, center and locomotor exercises geared to enhance the student's strength, coordination, balance, flexibility, spatial awareness, rhythmic understanding and dynamics of movement. Attention is given to isolated movements and full combinations across the floor. No experience required. Area $D$

DAN 152 BEGINNING BALLET
Introduces basic fundamentals and terminology of ballet. Correct alignment of the body will be stressed. No experience required. Area $D$

## DAN 153 INTERMEDIATE BALLET

1
Prereq.: Permission of instructor. Attention will be given to a full ballet barre warmup with center floor combinations. Area $D$

DAN 155 DANCERCIZE 1
Individualized program of cardiovascular fitness through exercise to music. Area $D$
DAN 156 SLIMNASTICS 1
Neuromuscular fitness program designed to tone and strengthen the body. Area $D$

## DAN 157 BEGINNING JAZZ DANCE

Introduction to jazz dance emphasizing the origin of dance in America. Simple center floor combinations will be taught. No experience required. Area $D$

DAN 158 INTERMEDIATE JAZZ DANCE 1
Prereq.: Permission of instructor. A fast-paced rhythmic class with combinations across the floor. Area $D$

DAN 377 MODERN DANCE \& THEORY
Prereq.: PE 272 or permission of instructor. Continuation of applying fundamental movements and modern dance techniques for creating dance.
Choreography and pedagogical considerations will be explored and developed.

## DESIGN (GRAPHIC/INFORMATION)

Note: Students enrolled in the following courses will be assessed a $\$ 65$ Design Lab Fee: DES 222, 322, 325, 326, 436, 438, 439, 465, 498, 499, 503, 504 , 598, 599. Contact the Department at 832-2557 for additional information.

DES 126 INTRODUCTION TO GRAPHIC/ INFORMATION DESIGN
Previously ART 126. Overview of the principles, practices and purposes of the field of graphic/information design. Mode 4/Study Area I

DES 222 GRAPHIC/INFORMATION DESIGN I
Prereq.: ART 130. Previously ART 222. Introductory techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Explores issues relating to typographic, symbolic and three-dimensional design. [c]

DES 322 GRAPHIC/INFORMATION DESIGN II
Prereq.: DES 222 and either ART 230 or 224 . Continuation of DES 222.
Previously ART 322. Advanced techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Typographic and series design solutions will be stressed. [c]

DES 325 DIGITAL IMAGING FOR DESIGN I
Prereq.: DES 322. Computer processing of image for design (graphic/information) using a variety of programs. Image enhancement, manipulation and derivation techniques will be explored. [c]

DES 326 DIGITAL IMAGING FOR DESIGN II
Prereq.: DES 325. Advanced computer processing of image for design (graphic/information) using a variety of programs. Additional image enhancement, manipulation and derivation techniques will be explored. [c]

DES 419 HISTORY OF DESIGN
3
Prereq.: ART 110 or 112 or 113 . Previously ART 419. History and philosophy of design function and aesthetics. Topics include graphic design, industrial design and architectural design. [I]

DES 436 GRAPHIC/INFORMATION DESIGN III
Prereq.: ART 224 and DES 322. Previously ART 436. Continuation of DES 322. Additional advanced techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications.
Campaign and expansive design solutions will be stressed. [c]
DES 437 DESIGN INTERNSHIP 3
Prereq.: DES 322 and permission of instructor. Previously ART 437. Internship with professional graphic/information design organization. [c]

DES 438 GRAPHIC/INFORMATION DESIGN IV
Prereq.: DES 436. Continuation of DES 436. Previously ART 438. Additional advanced techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Professional presentation and design for the web will be stressed. [c]

DES 439 CENTRAL DESIGN
Prereq.: DES 322, successful Central Design portfolio review and permission of instructor. Previously ART 439. Graphic/information design practice. Features real project and production situations with simulation of a "real world" graphic/information design atmosphere. [c]

## DES 465 TOPICS IN GRAPHIC/INFORMATION DESIGN

Prereq.: Permission of instructor. Selected topics in graphic/information design. May be repeated with different topics for a maximum of six credits. [c]

DES 498 INDEPENDENT STUDY IN GRAPHIC/ INFORMATION DESIGN
Prereq.: Permission of instructor. Special independent work to meet individual interest in areas not covered by regular curriculum. Includes interdisciplinary
information design projects. May be repeated with different topics for a maximum of 6 credits. On demand. [c]

DES 499 COMPUTER APPLICATIONS FOR GRAPHIC/ INFORMATION DESIGN
Prereq.: DES 322 or permission of instructor. Previously ART 499. Study of the relationship of computer application in contemporary graphic/information design practice. Laboratory exploration of relevant software and its application in the field. [c]

## EARTH SCIENCES

ESCI $110 \quad$ INTRODUCTION TO THE EARTH
A descriptive introduction to the astronomical, geological and meteorological studies of the earth that allow an understanding of the earth as a physical environment. No credit given students with credit in ESCI 111, or to students with 6 credits in Earth Science. Mode 8/Study Area IV

## ESCI 111 ELEMENTARY EARTH SCIENCE

Introduction to the study of earth science. Selected topics in geology, meteorology and astronomy. Two lecture hours per week and one two-hour laboratory.
Open only to Elementary Education students. No credit given to students with credit for ESCI 110. Mode 8/Study Area IV

ESCI 117 INTRODUCTION TO THE SOLAR SYSTEM
3
Prereq.: ECM 099 or equivalent. An introductory course in descriptive astronomy focusing on the solar system, including coordinate systems, the Earth-Moon 3 system, light and telescopes and the structure of the solar system. No credit will be given to Physics or Earth Sciences majors or to students with credit for ESCI 178. Mode 8/Study Area IV

ESCI 118 INTRODUCTION TO STARS
AND GALAXIES
Prereq.: ECM 099 or equivalent. An introductory course in descriptive astronomy focusing on stars and galaxies, including stellar evolution, galaxies, and the origin and fate of the universe. No credit given to Physics or Earth Sciences majors or to students with credit for ESCI 179. Mode 8/Study Area IV

## ESCI 121 PHYSICAL GEOLOGY

Basic principles of development of the earth, earth materials and agents responsible for existing surface features. Mode 8/Study Area IV

ESCI 122 HISTORICAL GEOLOGY
Prereq.: ESCI 121. Earth history, emphasizing earth's changing geographic pattern through time, history and development of life, climates of past as revealed by study of stratified rocks of earth's crust. Three lectures and one three-hour laboratory period per week. Spring. Mode 8/Study Area IV

ESCI 123 GEOLOGY LABORATORY
Prereq.: ESCI 121 (may be taken concurrently). Laboratory experiences that broaden the understanding of concepts and relationships presented in ESCI 121. One two-hour lab per week. There may be one or more field trips. Mode 8/Study Area IV

ESCI 129 INTRODUCTION TO METEOROLOGY 4
Prereq.: ECM 099 or Placement Exam. Introductory course dealing with atmospheric composition, structure and basic motions. The nature of high and low pressure systems, severe weather, how the National Weather Service works. Three lectures and one two-hour laboratory per week. Mode 8/Study Area IV

PLANETARY ASTRONOMY
Prereq.: MATH 101 or Placement Exam. Study of the members of the solar system, their motions and compositions. Topics will include physical laws of motion and radiation, comparative planetology, the origin and structure of the solar system. Three lectures and one two-hour laboratory per week. No credit given to students with credit for ESCI 117. Fall. Mode 8/Study Area IV

ESCI 179 STELLAR ASTRONOMY
Prereq.: MATH 101 or Placement Exam. Study of stars as separate bodies and members of clusters and galaxies. Topics will include properties of stars, stellar evo-
lution, galaxies and cosmology. Emphasis will be placed on methods astronomers use to study stars. Three lectures and one two-hour laboratory per week. No credit given to students with credit for ESCI 118. Spring. Mode $8 /$ Study Area IV

ESCI 218 WOMEN'S CONTRIBUTIONS TO STELLAR AND GALACTIC ASTRONOMY
Prereq.: ESCI 118 or 179 or permission of instructor. Exploration of the astronomical discoveries made by women astronomers, including their methodology, consequences and the social constraints placed upon them. Two lectures and one two-hour laboratory period per week. On demand. Mode 8/Study Area IV

## ESCI 221 MINERALOGY

Prereq.: CHEM 121, PHYS 122. Study of minerals, their formation, occurrence, properties, composition and classification. Topics include crystal chemistry, internal crystal structures, optical and other physical properties, identification of crystal forms and mineral specimens and an introduction to petrology. Three lectures and one three-hour laboratory per week. Fall.

## ESCI 222

STRUCTURAL GEOLOGY
Prereq.: ESCI 121. Crustal structures such as folds, faults and plutons. Two lectures and one three-hour laboratory or field trip per week. Spring. (E)

## ESCI 278 OBSERVATIONAL ASTRONOMY

Prereq.: ESCI 178 or 179 and permission of instructor. Theory and practice of observational astronomy. Topics include solar and lunar observation, naked eye observation, and coordinate systems, telescope usage and design, basic astrophotography. Two lectures and two two-hour labs per week. Fall. Mode $8 /$ Study Area IV

## ESCI 301

PLANETARIUM INTERNSHIP
Prereq.: ESCI 117 or 118 or 178 or 179 . Directed study in the use of the planetarium for astronomy education. The student will prepare and conduct one or more planetarium presentations. On demand.

## ESCI 323 ENGINEERING GEOLOGY

Prereq.: MATH 121 or equivalent. Fundamental facts and principles of geology with special reference to their importance in engineering projects, problems of surface and ground water, geologic application of interpretation of topographic and geologic maps, and techniques of remote sensing. Two lectures, one recitation and two lab hours per week. Spring. (E)

## ESCI 330 TOPICS IN ASTROPHYSICS

Prereq.: MATH 126, PHYS 122 and ESCI 118 or 179 or permission of instructor. Selected topics in astrophysics on the frontier of current research. Course may be repeated once with different content. Spring. (E)

## ESCI 342 WEATHER ANALYSIS AND

 FORECASTING IPrereq.: ESCI 129, and MATH 121 or permission of instructor. Basics of analysis and forecasting. National Weather Service codes and interpretation, understanding the weather map, graphical addition and subtraction, analysis of scaler and vector fields, streamlines and isogons, kinematic analysis. Three lecture hours and a two-hour laboratory per week. Fall. ( $O$ )

## ESCI 421 THE STRATIGRAPHIC RECORD

Prereq.: ESCI 122. Methods of identifying spatial and temporal relationships between fossil assemblages and sedimentary rock types. Three one-hour lectures and one three-hour laboratory period per week. Fall. (O)

## ESCI 424 GEOMORPHOLOGY

3
Prereq:: ESCI 121. Origin and development of land forms in terms of processes of erosion and relation to geologic structure. Three lectures per week. Fall. (O) Mode 8

ESCI 430 OCEANOGRAPHY 3
Prereq.: BIO 121, CHEM 121, PHYS 121. Introduction to physical properties and chemical composition of sea water, its topography and circulation, and relationships to activities of plants and animals. Three lectures per week. Field work by arrangement. Spring. (O)

ESCI 431 INTRODUCTION TO HYDROGEOLOGY
Prereq.: ESCI 121, MATH 122 or 126, and PHYS 121 or 125. Basic hydrologic principles. Overview of hydrologic and geologic relationships of ground and surface water, contamination and cleanup. Fluid mechanics with application to porous media and open channel flow. Quantitative techniques will be used.
3 Three lectures and one two-hour laboratory recitation per week. Fall.
ESCI 442 WEATHER ANALYSIS AND FORECASTING II
Prereq.: ESCI 342 and 462. National Weather Service Facsimile Products, applications of thickness and thermal wind equations, thermodynamic diagrams

## ESCI 452 INDEPENDENT STUDY IN

EARTH SCIENCE
Prereq.: Approved plan of study of arrangement with supervising instructor and approval of department chair. Special work in laboratory, theory or research to meet individual requirements in areas not covered by regular curriculum. May be taken more than one semester up to 4 credits.

## ESCI 461 PHYSICAL METEOROLOGY

Prereq.: ESCI 129, PHYS 121 or 125 (may be taken concurrently), or permission of instructor. Examination of the physical basis of the earth's atmosphere. Structure, composition, gas laws, atmospheric thermodynamics and hydrostatics, atmospheric stability, solar radiation and the energy budget of the earth. Three lecture hours per week. Fall. (E)

## ESCI 462 DYNAMIC METEOROLOGY

Prereq.: ESCI 461, MATH 126 or 221 (may be taken concurrently).
Continuation of ESCI 461, with emphasis on dynamic processes of the earth's atmosphere. Equations of motion, geostrophic and gradient winds, thickness and thermal wind, circulation and vorticity, mechanism and influences of pressure changes. Three lecture hours per week. Spring. ( $O$ )

ESCI 490
TOPICS IN EARTH SCIENCE
3
Selected studies in earth science which are not offered presently in the curriculum of the department. Course may be repeated with different topics for a maximum of 6 credits.

## ECONOMICS

ECON 200 PRINCIPLES OF ECONOMICS I
Macroeconomics. Introduction to the prevailing pattern of American economic institutions, the theory of income, employment and investment in the national economy and public policies that affect them. Mode $7 /$ Study Area II

## ECON 201 PRINCIPLES OF ECONOMICS II

Microeconomics. Presents economic principles related to consumer demand, and determination of prices of goods and factors of production under differing market structures. Applications to real world situations will be discussed. It is recommended that ECON 200 be taken before ECON 201. Mode 7/Study Area II

## ECON 250 CONTEMPORARY ECONOMIC ISSUES

Economic analysis of contemporary issues. Topics include federal deficits, regulation of business, income distribution, unemployment, military spending, consumer protection, technical change and environmental degradation.
Mode 7/Study Area II

ECON 300 MACROECONOMICS
Prereq.: ECON 200, 201. Theoretical analysis of determination of national income and economic growth. Fall.

## ECON 305 MICROECONOMICS

Prereq.: ECON 200, 201. Determination of prices of goods and productive factors in free market economy and role of prices in allocation of resources. Spring.

## ECON 310 MATHEMATICAL ECONOMICS I

Prereq.: ECON 200, 201, MATH 125 or MATH 122, or permission of instructor. Applications in economics of functions, differential calculus, maxima and minima, Lagrange multipliers, matrices and determinants. Fall.

## ECON 311 MATHEMATICAL ECONOMICS II

Prereq.: ECON 310. A continuation of ECON 310. Examination of economic problems in a dynamic framework. The use of integrals, differential equations and difference equations will be discussed as applied to economics. A brief introduction to linear programming and game theory is included.

ECON 398 TOPICS IN ECONOMICS
Prereq.: Permission of instructor. Examination of selected topics in economics which are not otherwise offered as part of the department's regular courses.
Course may be repeated for different topics for a total of 3 credits.
ECON 420 URBAN ECONOMICS
Prereq.: ECON 200, 201. Economic analysis of metropolitan and regional entities with special focus on land use, location decision-making, the provision and role of public services, transportation, public finance, human resources and social welfare.

## ECON 430 INTERNATIONAL ECONOMICS

Prereq.: ECON 200, 201. Principles of international trade and finance and application to modern world, theory of comparative advantage, exchange rates, monetary standards, international financial institutions, tariffs, commercial policy and aid to underdeveloped countries. [I]

## ECON 433 ECONOMIC DEVELOPMENT OF <br> MODERN CHINA, JAPAN AND KOREA

Prereq.: ECON 200. Interdisciplinary analysis of special problems in economic development of China, Japan and Korea, with major attention to history, theory and policies. Actual growth experiences and potentials are compared among the three nations, as well as among East Asia and other parts of the world. [I]

## ECON 435 ECONOMIC DEVELOPMENT

Prereq.: ECON 200. Problems of accelerating development in underdeveloped countries and maintaining development in prosperous countries. From viewpoints of theory, history and policy, this course attempts to explain forces that lead to economic development. Mode 7 [I]

## ECON 440 COMPARATIVE ECONOMIC SYSTEMS

Prereq.: ECON 200, 201. Economic systems, both theoretical and actual. Topics include the economy as a system, classification of economic systems, bases or criteria for comparison of systems, market economics, market socialism and command economies.

ECON 445 LABOR ECONOMICS
Prereq.: ECON 200, 201. Economic analysis of human resources as a factor of production. Special attention is devoted to demographics, labor market structures, wage determination, career decision-making, training and the roles of employee organizations.

## ECON 450 MONEY, CREDIT AND BANKING

3
Prereq.: ECON 200. Money and its functions, including structure of the American banking system, with emphasis on monetary theory and policy. Mode 7

ECON 462 INDUSTRIAL ORGANIZATION
Prereq.: ECON 201. Study of the structure, conduct and performance of selected U.S. industries. The effects of concentration on prices, outputs, profits and technological change will be analyzed. Mode 7

## ECON 465 GOVERNMENT AND BUSINESS

Prereq.: ECON 201. Role of government in the mixed economy, with special emphasis on antitrust laws, regulations and de-regulation, social legislation and public enterprise. Mode 7

ECON 470 MANAGERIAL ECONOMICS
Prereq.: ECON 201. Application of economic theory and quantitative methods to managerial decision-making problems. Topics include decision analysis, fore-

## break-even analysis, and capital theory and budgeting. Mode 7

ECON 475 HISTORY OF ECONOMIC THOUGHT
Prereq.: ECON 200, 201. Evolution of economic thought from Ancient Greece to current doctrines.

## ECON 485 ECONOMETRICS

Prereq.: ECON 200, 201 and STAT 104 or equivalent. Application of statistical methods to economics. Emphasis is placed on statistical inference, regression analysis and real-world applications using the computer. Spring. (O)

## ECON 498 ADVANCED TOPICS IN ECONOMICS

Prereq.: ECON 200, 201 or permission of instructor. An examination of advanced selected topics in economics which are not otherwise offered as part of the department's regular courses. Course may be repeated with different topics for a total of 6 credits.

ECON 499 INDEPENDENT STUDY IN ECONOMICS
Prereq.: Permission of instructor. Students may specialize in projects of an advanced nature not covered by regular course offerings. Supervision is given through periodic conferences with each student and through several group meetings to discuss findings and common problems.

## EDUCATION

ED 430 SEMINAR IN LEADERSHIP AND LEARNING COMMUNITIES
Prereq.: Admission to the Professional Program. Examination of current research and theory pertaining to teacher leadership and the development of learning communities in classrooms and schools. Topics include educational reform, professional ethics, diversity, collegiality and continuous professional development. May be repeated for a maximum of two credits.

ED 498 INDIVIDUAL STUDY PROJECT 2-6
Prereq.: Permission of department chair. Individual research open only to advanced students and experienced teachers. Systematic study of problems of special interest. Students in either elementary or secondary fields are guided in selection analysis, gathering of data and drawing conclusions. Not for credit in graduate degree programs.

## EDUCATION - BILINGUAL EDUCATION *

* Pending approvals of the Connecticut Department of Higher Education and the State Department of Education.

EDBE 410 DEVELOPMENT AND EVALUATION OF INSTRUCTIONAL MATERIALS IN BILINGUAL EDUCATION

3
Study, analysis, application, creation and evaluation of curriculum and appropriate classroom instructional materials and strategies for teaching non-English speakers in the vernacular. Focus on Spanish speakers. Fall.

## EDUCATION - EARLY CHILDHOOD

EDEC 413 PRINCIPLES OF EARLY CHILDHOOD EDUCATION

2
Prereq.: Admission to the Professional Program. Theoretical principles of developmentally appropriate programs for young children. Implications for practice in inclusive classrooms. Organizing and managing the environment. Facilitating play and active learning. Roles of child, teacher and family. Field experience required.

EDEC 423 METHODS AND CURRICULUM FOR THE EARLY YEARS

3
Prereq.: Admission to the Professional Program and EDEC 413 (may be taken concurrently). Integrated curriculum in early childhood classrooms. Investigating learning through play and exploration in inclusive environments. Examining individualized planning, implementation and evaluation. Studying collaboration with families and orher professionals. Field experience required. Taken concurrently with SPED 423.

## EDEC 426 INTEGRATED CURRICULUM FOR EARLY CHILDHOOD

Prereq.: EDEC 423. Integrated curriculum in primary classrooms. Investigating active learning, cooperative learning, problem solving and inquiry, program planning, implementation and evaluation. Developing authentic assessment strategies. Studying collaboration with families and other professionals. Taken concurrently with student teaching.

## EDEC 430

## EARLY CHILDHOOD STUDENT

## TEACHING

9
Prereq.: Permission of the Director of the Office of Field Experiences. Student teachers in early childhood placements are expected to work with teachers and children in professional activities. Placement culminates with student teachers assuming responsibility for planning and implementing units of instruction and developing leadership. Full semester of field-based work required.

## EDUCATION - ELEMENTARY

EDEL 422 ELEMENTARY EDUCATION GENERAL METHODS

3
Prereq.: Admission to the Professional Program, EDTE 315 and 420. Methods and models of best practice for teaching content, concepts and skills in elementary schools, including curriculum, lesson and unit planning, assessment and resources appropriate for elementary education. Classroom management in learning communities. Taken concurrently with student teaching.

## EDEL 430 ELEMENTARY EDUCATION STUDENT TEACHING

9
Prereq.: Permission of the Director of the Office of Field Experiences. Student teachers in elementary schools work with teachers and children in professional activities. Placement culminates with student teachers assuming responsibility for planning and implementing units of instruction and developing classroom leadership. Full semester of field-based work required.

## EDUCATION - MIDDLE LEVEL

## EDM 414 OVERVIEW OF MIDDLE LEVEL PROGRAMS AND PRACTICES

Prereq.: Admission to the Professional Program and EDTE 315. Middle level programs and practices and how they relate to the physical, social, emotional, intellectual and moral development of adolescents in classroom, school and community contexts. Taken concurrently with EDTE 420.

## EDM 424 METHODS FOR MIDDLE LEVEL TEACHING

Prereq.: EDM 414 and EDTE 420. General teaching methods, curriculum, assessment and resources appropriate for middle-level learners. Field experience required. Taken concurrently with student teaching.

EDM 430 MIDDLE LEVEL STUDENT TEACHING
Prereq.: Permission of the Director of the Office of Field Experiences. Student teachers in middle schools work with teachers and children in professional activities. Placement culminates with student teachers assuming responsibility for planning and implementing units of instruction and developing classroom leadership. Full semester of field-based work required.

## EDUCATION - SECONDARY

Note: Student teaching courses (EDSC 412, 414, 415, 417, 419, 420, 421, 429, 435) may not be repeated without the permission of the director of the Office of Field Experiences, as well as the chairs of the student's major department and of teacher education.

## EDSC 375 PRINCIPLES AND EVALUATION IN EDUCATION (NK-12)

Prereq.: EDTE 315 or EDSC 256 and admission to Professional Program. Orientation to the role of the teacher in elementary and secondary schools. Emphasis upon development and understanding of objectives, curriculum, individual needs and differences, teaching skills, functions of school administration and services, issues of educational and professionalism. Field experience will be required. For Art, Music, Technology Ed. and Phys. Ed. K-12: junior and senior years.

## EDSC 412 STUDENT TEACHING, TESOL K-12

12
Prereq.: ENG 496. Full semester of student teaching in TESOL, K-12. One half of the semester is spent at the elementary school level, and one half at the secondary school level. On demand.

EDSC 414 PRELIMINARY STUDENT TEACHING (TECHNOLOGY EDUCATION)
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public middle school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations.

## EDSC 415 STUDENT TEACHING (TECHNOLOGY EDUCATION)

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public senior high school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations.

## EDSC 417

## STUDENT TEACHING

(ELEMENTARY P.E.)
6 or 8
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. An eight-week period of the senior year is spent in a physical education department of a public elementary school where the student demonstrates the ability to conduct activity classes and to work effectively with children.

EDSC 419
STUDENT TEACHING
(SECONDARY SCHOOL P.E.)
6 or 8
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. An eight-week period of the senior year is spent in a physical education department of a public secondary school where the student demonstrates his or her ability to conduct activity classes and to work effectively with youth.

EDSC 420 STUDENT TEACHING — ELEMENTARY MUSIC EDUCATION
Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of the Office of Field Experiences. Eight-week period in the last semester spent in a music education department of a public elementary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with children.

EDSC 421 STUDENT TEACHING - SECONDARY MUSIC EDUCATION
Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of the Office of Field Experiences. Eight-week period in the last semester spent in a music education department of a public secondary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with youth.

## EDSC 425 PRINCIPLES OF SECONDARY EDUCATION

Prereq.: EDSC 256 or EDTE 315; admission to the Professional Program in Teacher Education. General methods of instruction in the middle and high school classroom, including curriculum planning, evaluation and the responsibilities of the teacher in the 7-12 classroom.

## EDSC 429 RESPONSIBLE STUDENT TEACHING -

 ART (K-12)12
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. Student demonstrates his or her ability to organize and conduct school learning activities and to work effectively with pupils and teachers in a program of art education. Open only to Art Education majors.

EDSC 435
SECONDARY EDUCATION STUDENT TEACHING
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. Experiences in classrooms of public secondary schools where the student demonstrates the ability to conduct secondary school learning activities and to work effectively with adolescent youth.

## EDUCATION - TEACHER EDUCATION

## EDTE 210 EDUCATION AND TEACHER LEADERSHIP IN DIVERSE LEARNING COMMUNITIES

Exploration of teaching, diversity and the roles teachers play as leaders in diverse educational learning communities. Inquiry-based approach includes participantobservation, case analysis, examination of beliefs and research on learning and teaching. Field experience required. Taken concurrently with EDT 210. Area C [c]

4
Prereq Admission to the Professional Program. Examination of principles pertinent to teaching and learning. Emphasizes the use of educational theory and research findings applicable to classroom practices, learning communities and learners' developmental levels. 30 hours of certification specific field experience required. In Elementary and Early Cbildhood programs, taken concurrently with SPED 315 and RDG 315.

## EDTE 420 FIELD EXPERIENCE PRACTICUM

Prereq.: Admission to the Professional Program and EDTE 315. On-site experience, including classroom observations and teaching experience with faculty and students in a public school setting appropriate to certification level. (May be repeated for a maximum of three credits.)

## EDUCATIONAL FOUNDATIONS

EDF 400 PHILOSOPHY OF EDUCATION 3
Prereq.: Admission in the Professional Program in Teacher Education or permission of the department chair. Some major philosophies and their implications for education in the United States. Not for credit in graduate degree programs.

EDF 415 EDUCATIONAL FOUNDATIONS 3
Prereq.: Admission to the Professional Program or permission of department chair. Social and moral contexts of schooling, purposes of education in American society, contemporary educational policy, politics of the policy-making process and the role of teachers as leaders.

## EDUCATIONAL TECHNOLOGY

EDT 210 INTRODUCTION TO EDUCATIONAL TECHNOLOGY
Systematic examination and application of software programs, applications and hardware (computer, network, internet) in the context of integrating technology into lesson planning. Taken concurrently with EDTE 210. [c]

## EDT 315 EDUCATIONAL TECHNOLOGY IN THE

SECQNDARK
Prere : Admission to the Professional Program in Teacher Education ${ }^{2}$ Examination
 tional technology into lesson planning in the 7-12 classroom. [c]

EDT 415 DEVELOPING INSTRUCTIONAL MATERIALS 1 Prereq.: EDT 210. Development of lesson plans, as part of integrated unit planning and teaching of specific content areas, to demonstrate utilization skills, design capabilities, production techniques and evaluation strategies in education. [c]

EDT 490
INSTRUCTIONAL COMPUTING
3
Examination and application of computers and other related technologies to various teaching situations with emphasis on developing skills in evaluating instructional software programs. [c]

## 9 ENGINEERING TECHNOLOGY

## ET $150 \quad$ INTRODUCTION TO ENGINEERING TECHNOLOGY

Introduction to engineering technology problem-solving techniques unique to areas of the technical world, including chemical, civil, construction, nuclear, manufacturing, mechanical and electrical disciplines. Problem solving is presented in both English and International Units (SI). Area C [c]

ET 233 ELECTRICAL CIRCUIT ANALYSIS
Prereq.: PHYS 122, MATH 122 or 125 . Analysis of electrical circuits incorporating passive and active elements. Topics include laws and theorems applied to DC, AC, three-phase, diodes and operational amplifier circuits; transient and steady state response; phasors; frequency response and resonance. Spring.

## ET 251 APPLIED MECHANICS I - STATICS

Prereq.: MATH 125, ET 150, PHYS 121. Previously ET 351. The fundamentals of statics, including the resolution and composition of forces, the equilibrium of force systems. The analysis of forces acting on structures and machines, centroids, moments of inertia. Vector methods are used.

ET 252 APPLIED MECHANICS II — DYNAMICS
Prereq.: ET 251. Previously ET 352. Introduction to kinematics of motion and kinetics of particles and rigid bodies. [c]

ET 256
MATERIALS SCIENCE
Prereq.: MATH 121 and CHEM 121. Analysis of the structure of and engineering properties of ceramic, metallic, polymeric, elastomeric and composite materials with relation to design and processing. Fall.

ET 260
COMPUTER AIDED DESIGN AND INTEGRATED MANUFACTURING CAD/CAM/CIM
Prereq.: TC 121, 216 and MATH 115. An introduction to the utilization of computer technology for the planning, implementation and control of a manufacturing facility, to create or modify engineering designs or processes in the manufacture of a product. This is a laboratory course utilizing analytical and simulation models on CAD/CAM/CIM systems. Lecture/lab required. [c]

## ET 300 HUMAN FACTORS ENGINEERING (ERGONOMICS)

Prereq.: TC 121, PSY 112. A study of the man/machine relationship necessary to achieve maximum productivity and job satisfaction. Emphasis will be placed on the physical work environment with considerations given to health and safety criteria.

ET 323
MECHATRONICS
Prereq.: TC 303, 323. Application of embedded micoprocessor control systems in machines and mechanical devices. Topics include feedback control systems and electrical/electronic interface with mechanical devices. Experiences with laboratory examples and applications. Spring.

## ET 340 GEOMETRIC DIMENSIONING AND TOLERANCING

Interpretation, application and verification of GDT aspects of engineering designs per the latest ANSI YI4.5. Previously ET 440. Calculations with tolerenced dimensions. Concepts of datums, material condition modifiers, functional gaging, fits, true position, combined tolerances and runout.

## ET 354 APPLIED FLUID MECHANICS

Prereq.: ET 251. Application of fluid mechanics principles to systems. Study of fluid statics and dynamics including Bernoulli equation, momentum, energy, laminar and turbulent flow, pipe and open channel flow, pumping systems and dimensional similarity. Fall. [c]

ET 356
MATERIALS ANALYSIS
Prereq.: ET 251 or permission of instructor. Previously ET 456. Study of composition, properties and characteristics of metallic and non-metallic materials. Structure of materials, phase diagrams and effects of environment on materials. Laboratory includes use of standard apparatus for materials testing. Fall. Area C

## ET 357 STRENGTH OF MATERIALS

Prereq.: ET 251, PHYS 121. The study of simple and combines stress, torsion, flexure and deflection of beams, continuous and restrained beams, combines axial and bending loads, and columns. Computer applications. [c]

ET 358 APPLIED THERMODYNAMICS
Prereq.: ET 251 and PHYS 122. Application of heat transfer, thermodynamics and fluid mechanic principles to thermal system design based on engineering fundamentals of conduction, convection and radiation heat transfer properties. Spring.

ET 360 COMPUTER AIDED PLANNING (CAP)
Prereq.: TC 113, STAT 104; or permission of instructor. Analysis of production problems using computers. Optimization of resources utilization, forecasting, scheduling and sequencing of activities, experience-based planning, inventory and maintenance planning for JIT environment, automated production, and project planning and analysis. [c]

## ET 367 MACHINE DESIGN

Prereq.: ET 252, 357. Study of kinematics of gear trains and three-dimensional stress analysis of power transmission elements. Topics include fasteners, bearings, springs, permanent connection, stress concentrations, notch sensitivity and failure prevention. Fall.

3 ET 397 STRUCTURAL ANALYSIS 3
Prereq.: ET 357. Analysis of statically determined structures; influence lines, deflection analysis of trusses, beams and frames; introduction to indeterminate structural analysis using consistent deformation principles and moment distribution; computer applications. [c]

ET 422 COMPUTER SYSTEMS AND INTEGRATION
Prereq.: TC 113 or permission of instructor. Laboratory-based program solving course on the installation, configuration and diagnostics of computer hardware and software, including operating systems, networks, hardware components and integration. Emphasis on installing and trouble shooting computer systems.
Irregular. [c]

## ET 423 APPLIED FEEDBACK CONTROL SYSTEMS

3 Prereq.: ET 323, MATH 463. Applied study of dynamic mechatronic feedback control systems. Topics include modeling of dynamic systems, dynamic response, feedback mechanisms, digital control and design methods. Spring.

## ET 451 SOIL MECHANICS AND FOUNDATIONS

Prereq.: ET 357. Fundamentals of soil behavior and its use as a construction material. Principles of effective strength, permeability, shear strength and consolidation. Application to construction problems in shallow and deep foundations, slope stability, retaining structures and excavation drainage. Lecture/lab required.

ET 454 INTRODUCTION TO TRANSPORTATION ENGINEERING
Prereq.: TC 353. Study of the planning, design, environmental concerns address-
3 ing, construction and maintenance of transportation projects using new and rehabilitated highway and bridge projects as focus points for lecture and laboratory work. Lecture/lab required. Fall. Area C

## ET 457 ADVANCED SURVEYING <br> Prereq.: TC 353, MATH 125. Advanced topics in surveying including horizon-

 tal and vertical curve layout, traversing earthwork and laser leveling. Computer applications in electronic distance measurement and total station development. Lecture/lab required. [c]ET 460 COMPUTER AIDED DESIGN AND MANUFACTURING (CAD/CAM)
Prereq.: ET 260, 251 and TC 416; or permission of instructor. Advanced applications of computer technology for engineering design, analysis, manufacturing and tool path simulation, utilizing parametric solid modeling engineering software. Laboratory exercises will involve design, analysis, assembly and manufacturing operations. Spring. [c]

## ET 461

## MANUFACTURING WITH PLASTICS AND COMPOSITES

Prereq.: CHEM 121, PHYS 121, MATH 115. An analytical study of the nature of materials and the correlated manufacturing techniques used in the plastics and composite industry. Emphasis will be placed on the processes involving thermoplastic, thermoset and composite materials. Lecture/lab required.

ET 462 MANUFACTURING PROCESS PLANNING AND ESTIMATING
Prereq.: TC 121, 316, ET 340. The fundamentals of design and planning of the production, operational sequence and cost estimates for discrete part manufacturing. The analysis of part design for the development of process plans, routings and operations sheets for process engineering, estimating and costing procedures of manufacturing operations. [c]

## ET 463 PLASTICS AND COMPOSITE TOOL

 DESIGNPrereq.: ET 256, 260 and 461. Principles for design of molds and tooling for the production of plastics and composites products. Fall. [c]

ET 464 CAD SOLID MODELING AND DESIGN 3
Prereq.: ET 251, 260, 340; or permission of instructor. Computer-aided design and analysis of solid, surface and sheet metal models emphasizing product design. Uses computer software for design, detailing, mass property analysis,
dimensional standards and family tables. Two hours of lecture and one two-hour laboratory per week. Spring. [c]

## ET 466 DESIGN FOR MANUFACTURE

Prereq.: ET 260, 340, 462, TC 446 (taken concurrently). This applications and problem solving course covers contemporary industrial practices for integrating product design with manufacturing process design to produce products which will function in accordance with design intent, have interchangeable parts and allow economical automated manufacture.

## ET 467 CAE APPLIED FINITE ELEMENT ANALYSIS

Prereq.: ET 256, 357 and 464. Application of the finite element method to structural engineering problems. Study of plane stress, plain strain, shell and continuum finite elements, mesh generation, proper element density and element interfacing, and composite modeling problems. Fall. [c]

## ET 468 COMPOSITE DESIGN AND ANALYSIS

Prereq.: ET 467. Study of the design and analysis of composite structures using classical composite theory coupled with the finite element method. New methods of structural redesign using composite materials. Fall. [c]

## ET 470 STRUCTURAL STEEL DESIGN

Prereq.: TC 356, ET 397. An introduction to the analysis of steel structures using classical and computer methods. Application of design, fabrication and construction in structural steel using standard specifications. Topics on beams, columns, trusses and frames.

## ET 471 REINFORCED CONCRETE STRUCTURES

Prereq.: ET 357, 397. Applications of design and construction in reinforced concrete and timber structures. Topics on beams, columns, slabs, footings, retaining walls, form work and prestressed concrete fundamentals.

ET 472
TIMBER STRUCTURES
Prereq.: ET 397. A study of the physical properties of wood used in structures and architecture. Influence on strength from moisture content, species and preservation treatments are emphasized. Design and construction applications in bridges and buildings.

ET 476 ENVIRONMENTAL TECHNOLOGY 3
Prereq.: CHEM 111 or 121, MATH 115. Environmental effects on air, water and land from construction activities. Case studies with discussion of corrective action.

## ET 495 TOPICS IN ENGINEERING TECHNOLOGY

3
Prereq.: ET 150 and permission of instructor. Provides an opportunity to present topics of interest not currently covered in the engineering technology curricula. [c]

ET 497 ENGINEERING ECONOMY
Prereq.: MATH 125, senior standing. Technical and engineering aspects of financing the construction of infrastructure facilities, determination of costs and justification of improvements. Mode 7 or Area C [c]

## ET 498 ENGINEERING TECHNOLOGY

 SENIOR PROJECT (CAPSTONE)Prereq.: Permission of instructor. Team work project to study, design and/or research a project as engineering technologists. Final reports submitted to the department for archiving, and oral presentations are required. Project may originate from student, instructor and/or industrial partner. [c]

## ENGLISH

Note: ENG 110 or an equivalent is a prerequisite for all other English courses. Note: Sophomore standing is recommended for 200 -level courses; junior standing is recommended for 300 -level courses; junior or senior standing is required for $400-$ level courses. In addition, permission of the instructor is recommended for non-English majors.
ation, the course emphasizes sentence and paragraph formation and the development of the coherent essay.

ENG 108 ESL WRITING I
Intermediate to advanced writing in English for students whose native language is not English. Transition to academic writing. Grammar review. Area A/Skill Area I

ENG 109 ESL WRITING II
Advanced writing in English for students whose native language is not English.
3 Academic writing. Area A/Skill Area I

ENG 110 FRESHMAN COMPOSITION
Introductory course in expository writing designed to develop the student's ability to write clearly, logically and effectively. Emphasis on the composing process, organization, coherence, sentence and paragraph structure and usage. An acceptable Central Connecticut State English Placement Test score or an appropriate equivalent is required for ENG 110. See skills testing and remediation policy, page 36. Students who have not completed their ENG 110 requirement prior to achieving 61 credits are required to take both ENG 110 and 202. Area A/Skill Area I

3 ENG 111 INTRODUCTION TO LITERATURE 3
Study of fiction, drama and poetry. Not recommended for English majors. No credit given to students with credit for either ENG 260 or 261 or 262. Irregular. Mode 3

ENG 200 INTRODUCTION TO LINGUISTICS
The structure and system of language with English as the subject of analysis: histo-

## ENG 202 INTERMEDIATE COMPOSITION

Prereq.: ENG 110 or permission of department chair. Intermediate course in expository writing designed to expand the student's writing skills. Emphasis on academic and career-oriented writing in the student's major field or area of interest, including research skills and papers, professional reports and résumés. Area A/Skill Area I

ENG 205 BRITISH LITERATURE I
Major British writers from the beginnings through the 18th century. Not a prerequisite for ENG 206. Mode 3/Study Area I [I]

ENG 206 BRITISH LITERATURE II
Major British writers from the late 18th century to the present. ENG 205 is not a prerequisite. Mode 3/Study Area I [I]

ENG 210 AMERICAN LITERATURE I
American literature from the Colonial Period to the Civil War. Not a prerequisite for ENG 211. Mode 3/Study Area I

ENG 211 AMERICAN LITERATURE II
American literature from the Civil War to the present. ENG 210 is not a prerequisite. Mode 3/Study Area I

ENG 212 AFRICAN-AMERICAN LITERATURE 3
Survey of African-American writers from the eighteenth through twentieth centuries. Mode 3/Study Area I

ENG 215 INTRODUCTION TO WOMEN WRITERS
Introduction to women writers of the world, primarily in the eighteenth, nineteenth and twentieth centuries. Mode 3/Study Area I [I]

ENG 220 SHAKESPEARE
3
Selected tragedies, comedies and history plays. Mode 3/Study Area I [I]
ENG 230 THE STUDY OF LANGUAGE
General concepts of language as it evolved in thought, society, literature and scientific analysis, with emphasis on universal characteristics and relevance to contemporary English. Mode 6/Study Area III

ENG 235 JOURNALISM I
The fundamentals of reporting and writing news and feature stories. Covers the basics of news-gathering, newsroom practices, and ethics and responsibilities of the journalist. Area A/Skill Area I

ENG 236
JOURNALISM II
Prereq.: ENG 235 or permission of instructor. This course builds on ENG 235, emphasizing news-gathering procedures and the challenges of writing on government, the law, and other areas of journalistic specialization. Area A/Skill Area I

ENG 250 CONTEMPORARY LITERATURE
Modern fiction, plays and poetry in relation to modern life. Mode 3/Study Area I
ENG 260 INTRODUCTION TO POETRY
A close analysis of poetry: prosody, diction, figurative language, structure, tone and theme. Selections read from entire range of English and American poetry.
No credit given to students with credit for ENG 111. Mode 3/Study Area I
ENG 261 INTRODUCTION TO FICTION
A close analysis of the elements, structure and technique of short stories and novels. No credit given to students with credit for ENG 111. Mode 3/Study Area I

ENG 262 INTRODUCTION TO DRAMA
A close analysis of plays, representing major and minor genres of drama (tragedy, comedy, tragi-comedy, melodrama, farce, etc.), relationship of genre, structure and statement. No credit given to students with credit for ENG 111. Mode 3/Study Area I [I]

ENG 270 DRAMATIC ENACTMENT
Introduction to the theory and applications of creative drama as an interpretive tool and a response to literature. (E)

## ENG 274 STORYTELLING

Study of the history, art and technique of storytelling. Discussion of the skills involved in order to develop the student's competency in this oral tradition. Designed to enable the student to build a personal repertoire of stories for performance. (O)

## ENG 288 STUDIES IN LITERATURE

Selected topics to be announced each semester. Students may not take this course under the same topic more than once. Mode 3/Study Area I

ENG 300 LANGUAGE ACQUISITION
Prereq.: ENG 110, 200. Study of how we acquire our first language; child language, regional and social dialect, register, style and idiolect. Mode 6

ENG 332 MEDIEVAL ENGLISH LITERATURE
Old English and Middle English literature, exclusive of Chaucer, from the eighth through the 14th centuries. Most materials read in translation. Mode 3

ENG 333 THE ENGLISH RENAISSANCE
Emphasis on British poetry and prose of the 16 th and early 17 th centuries, including such writers as More, Erasmus, Sidney, Spenser, Marlowe, Shakespeare, and Jonson. Mode 3

ENG 334
SEVENTEENTH-CENTURY POETRY AND PROSE
British poetry and prose of the earlier 17th century, including Donne, Herbert, Marvell, Bacon, Burton, and Browne. Mode 3

ENG 335

## RESTORATION AND EIGHTEENTH-

 CENTURY LITERATUREBritish poetry, prose and drama from 1660 to 1798 , including such writers as Dryden, Congreve, Addison, Swift, Pope, Fielding, Gay, Johnson, Goldsmith and Sheridan. Mode 3

ENG 336 THE ROMANTIC AGE
British Literature from Blake to 1832, including Wordsworth, Coleridge, Byron, Shelley, and Keats. Mode 3 (I]

Major books of New Testament important to literature, their literary qualities and their historical and cultural backgrounds. Part of Apocrypha. (E) Mode 3

ENG 362 GREEK AND ROMAN LITERATURE
3 Such major Greek and Roman writers as Homer, the Greek dramatists, Plato, Thucydides, Lucretius and Virgil. Mode 3

ENG 365 THE MODERN EUROPEAN NOVEL
Representative works by such writers as Flaubert, Tolstoy, Dostoyevsky, Proust, Kafka and Camus. Mode 3 [I]

ENG 371 CREATIVE WRITING: FICTION I
Writing of short fiction. Area $A$
ENG 372 CREATIVE WRITING: FICTION II
Writing of short fiction. Area A
ENG 373 CREATIVE WRITING: POETRY I
3 Writing of poetry. Area $A$

3
Poetry and non-fiction prose from 1832 to 1900, including poetry of Tennyson, Browning and Arnold and prose of Carlyle, Mill, Newman, and Ruskin. Mode 3 [I]

## ENG 339 MODERN BRITISH LITERATURE

.se poetry from 1 Sitwell, Eliot, Yeats, Joyce, Woolf, Forster, Auden, MacNiece, Spender, Graves, Thomas, and Orwell. Mode 3 [I]

## ENG 340 EARLY AMERICAN LITERATURE

Ealy century, with emphasis on the ideological and social influences which shaped their art. Mode 3

ENG 341 THE AMERICAN RENAISSANCE
Prose and poetry of American romantic authors in the 19th century. Special emphasis on Poe, Hawthorne, Melville, Thoreau, Emerson, Whitman; contemporary ideologies. Mode 3

ENG 342 AMERICAN REALISM AND NATURALISM
Study of the period after the Civil War to about 1915, including such writers as Dickinson, Twain, James, Wharton, Crane, and Dreiser. Mode 3

ENG 343 MODERN AMERICAN LITERATURE
Major American writers in the period between World War I and World War II; the ideological and social influences which shaped their art. Mode 3

## ENG 345 MODERN AFRICAN-AMERICAN LITERATURE

Study of selected writers, beginning with the Harlem Renaissance. Mode 3
ENG 360 THE BIBLE AS LITERATURE:
OLD TESTAMENT
Major books of Old Testament important to literature, their literary qualities and their historical and cultural backgrounds. (E) Mode 3

## ENG 361 THE BIBLE AS LITERATURE: NEW TESTAMENT

ENG 374 CREATIVE WRITING: POETRY II
Writing of poetry. Area $A$
3 ENG 376 CREATIVE WRITING: ESSAY 3
Writing the familiar essay. Primarily a writing course, but also an introduction to the familiar essay as a form in the tradition of Montaigne: Hazlitt, Lamb, E.V. Lucas, E.B. White, and Thoreau. Area A

ENG 377 CREATIVE WRITING: PLAYWRITING
Study and practice of playwriting. With permission of instructor, may be repeated for a maximum of 6 credits. Area $A$

ENG 378 CREATIVE WRITING: SPECIAL TOPICS
Prereq.: ENG 110 or permission of instructor. Specific creative writing genres taught on a rotating basis. May be repeated with different topics for a maximum of 6 credits. Area $A$

ENG 380 FEATURE WRITING
Prereq.: ENG 235 or 236 or permission of instructor. Writing and analysis of human interest articles; exploration of the newspaper and magazine markets.
(E) Area A

ENG 381 EDITORIAL WRITING
Prereq.: ENG 235 or 236 or permission of instructor. The study, evaluation and writing of newspaper opinion pieces. (O) Area $A$

ENG 382 TRAVEL WRITING
Prereq.: ENG 235 or 236 or permission of instructor. Introduction to the art and craft of travel writing beginning with an overview of the genre and exploration of contemporary works. Students will write essays and articles. Area $A$

ENG 386 THE LANGUAGE OF FILM
3
Development of visual terminology analogous to literary terminology in order to understand better the intentions of the author of the film. The qualities of picture, movement and editing are discussed in an effort to develop critical interpretation and judgment. Attendance at film screenings required. Of ENG 386 and 486, only one may be used to satisfy major or concentration requirements. Mode 4

## ENG 400 LINGUISTIC ANALYSIS

3
Intensive analysis (syntactic, morphological, phonological) of selected data from English and other languages. Particular emphasis on developing analytical skills. Mode 6

## ENG 401 ADVANCED COMPOSITION

Advanced course in expository writing designed for competent writers who wish to refine their skills. Emphasis on vividness, precision and impact, with attention to audience and style. Area $A$

## ENG 402 ADVANCED COMPOSITION AND TECHNOLOGY IN THE ENGLISH CLASSROOM

Prereq.: ENG 110 and acceptance in the Professional Program for Teacher Education; or permission of instructor. Expository writing for competent writers who wish to refine their skills. Explores ways to teach writing in the secondary schools. Addresses the use of technology in the secondary English classroom in regard to instruction, data management and classroom management.

ENG 403 TECHNICAL WRITING
A course designed to assist students in planning, researching, structuring, writing, revising and editing technical materials. Emphasis on various types of writing drawn from an industrial/professional context: reports, correspondence, directories, manuals, technical articles. Area $A$

ENG 412 EDITING
Prereq.: ENG 235 or 236 or permission of instructor. Emphasis on copy editing, headline writing, news judgment, photo handling, newspaper layout, and electronic desktop publishing. Irregular.

ENG 416 MAGAZINE WRITING
Prereq.: ENG 235 or 236 or permission of instructor. The process of researching, interviewing for, and writing magazine articles; preparation for selling freelance articles. Irregular. Area A

ENG 418 STUDIES IN JOURNALISM
Prereq.: ENG 235 or 236 or permission of instructor. Selected topics in journalism. Students may take this course under different topics for a maximum of 6 credits. Irregular. Area $A$

ENG 420 TEACHING ENGLISH IN
SECONDARY SCHOOLS

Prereq.: Admission into the Professional Program in English. Methods and materials for teaching English language and literature.

3

ENG 421 TRADITIONAL GRAMMAR
Prereq.: ENG 110, and permission of instructor or concurrent enrollment in ENG 420. Study of rules concerning grammar, usage, punctuation and mechanics as traditionally presented in school texts. Analysis of those rules in relation to linguistics and writing.

ENG 424 METHODS AND MATERIALS FOR TEACHING THE ENGLISH LANGUAGE ARTS AT THE MIDDLE LEVEL
Prereq.: RDG 315 and admission to the Professional Program. Required for middle-level certification. Explores various methods and examines a variety of materials for teaching the English language arts to middle-level students.

## ENG 430 STUDIES IN LINGUISTICS AND THE ENGLISH LANGUAGE <br> Selected topics in linguistics. Students may take this course under different topics for a maximum of 6 credits. Mode 6 (May be used for Mode 7 credit by those with a complementary subject matter program in linguistics.) Irregular.

ENG 431 THE HISTORY OF THE ENGLISH LANGUAGE
History, growth and structure of the English language. Irregular. Mode 6
ENG 445 AMERICAN DRAMA 3
Development of American drama and its contribution to literature. Irregular. Mode 3

3 ENG 448 STUDIES IN AMERICAN LITERATURE 3
Selected topics in American literature. Students may take this course under different topics for a maximum of 6 credits. Mode 3

ENG 449 MAJOR AMERICAN AUTHOR
Intensive study of the writings, life, influence and historical milieu of a major American author. Authors will vary each year. May be repeated under different author subjects for a maximum of six credits. Mode 3

ENG 450 CHAUCER
Readings in Chaucer, with special emphasis on The Canterbury Tales and Troilus and Criseyde. Irregular. Mode 3

ENG 451 MILTON
Readings in Milton's prose and poetry, with emphasis upon Paradise Lost and Samson Agonistes. Irregular. Mode 3

ENG 458 STUDIES IN BRITISH LITERATURE
3 Selected topics in British literature. Students may take this course under different topics for a maximum of 6 credits. Mode 3

ENG 461 SHAKESPEARE: MAJOR COMEDIES 3
Close analysis of major comedies and pertinent critical problems. Irregular. Mode 3
3 ENG 462 SHAKESPEARE: MAJOR TRAGEDIES 3
Close analysis of major tragedies and pertinent critical problems. Irregular. Mode 3
ENG 463 ELIZABETHAN AND JACOBEAN DRAMA
Major dramatists from Kyd to Ford, excluding Shakespeare. Irregular. Mode 3
ENG 464 RESTORATION AND EIGHTEENTHCENTURY DRAMA
English drama from 1660 tol800, primarily comedy. Readings from the works of such dramatists as Wycherly, Etherege, Dryden, Congreve, Vanbrugh,
Farquhar, Gay, and Sheridan. Irregular. Mode 3
ENG 470 THE VICTORIAN NOVEL
Representative Victorian novelists with special emphasis on Trollope, Eliot, Dickens, Thackeray, and Hardy. Irregular. Mode 3 [I]

THE CONTEMPORARY AMERICAN NOVEL
American novels which have come to prominence since World War II and the changing cultural environment which they reflect. Irregular. Mode 3

ENG 475 THE BRITISH NOVEL TO 1832
Form and content of the novel with readings selected from Behn, DeFoe, Richardson, Fielding, Sterne, Smollett, Johnson, Austen, Scott and Gothic novels. Mode 3

ENG 476
THE MODERN BRITISH NOVEL
Form and content of the novel with readings selected from Joyce, Woolf, Ford, Conrad, Lawrence, Huxley, Forster, Greene, Waugh and others. Irregular. Mode 3 [I]

ENG 477 MODERN BRITISH POETRY
3
Major works of Hardy, Hopkins, Yeats, D.H. Lawrence, Owen, Sassoon, Auden, Dylan Thomas, Larkin, Hughes and others. Irregular. Mode 3 [I]

## ENG 478 MODERN AMERICAN POETRY

The study of important American poets from Dickinson to the present. Irregular. Mode 3

## ENG 480 MODERN IRISH LITERATURE

Study of the major themes and traditions in Irish writers of the 20th century. Included will be works by Yeats, Joyce, Synge, O'Casey, O'Connor and others.
Irregular. Mode 3 [I]
ENG 486 LITERATURE AND FILM
Study of films adapted from novels and plays. The course investigates the nature of the relationship of these forms. Attention will be paid to the theory of film with comparison to the aesthetics of the printed word and the live performance. Attendance at screenings required. Of ENG 386 and 486, only one may be used to satisfy major or concentration requirements. Spring. Mode 3

ENG 487 TWENTIETH-CENTURY BRITISH DRAMA
Study of major British playwrights of the twentieth century. Selections may be from the works of Shaw, Coward, Maugham, O'Casey, Eliot, Beckett, Osborne, Pinter, Shaffer, Ayckbourn, Churchill, Gray, Hare, Stoppard and others.
Irregular. Mode 3
ENG 488 STUDIES IN WORLD LITERATURE
Selected topics in world literature. Students may take this course under different topics for a maximum of 6 credits. Mode 3

ENG 490 INDIVIDUAL GUIDED READING
Prereq.: Permission of chair. A conference course for English majors in their senior year who have a GPA of at least 3.00 or better and who wish to follow a planned program of guided reading.

ENG 491 CHILDREN'S LITERATURE
Balanced selection of the best literature available to children. Traditional forms of fables, legends, myths, epics, fairy tales and folk tales of the world; examination of how these represent the universal needs and aspirations of all cultures. Major authors and illustrators included.

## ENG 492 LITERATURE FOR YOUNG ADULTS

Through extensive reading this course examines trends and issues, forms and content, and authors and topics of contemporary books read by and written expressly for adolescents. Recommended for secondary teachers and reading specialists.

## ENG 495 INTERNSHIP

Prereq.: Permission of faculty advisor and department chair. Intern projects under the guidance of an English faculty adviser or the department chair. This course can help fulfill requirements for concentrations in writing, journalism, TESOL and descriptive linguistics. It cannot be used to help fulfill requirements for an English major or concentration.

ENG 496 TESOL METHODS
Principles, methods and materials for teaching English to non-English speaking students at all levels. Acquisition and practice of basic language teaching skills. Intercultural communication in the ESOL classroom. Fall.

ENG 497 SECOND LANGUAGE ACQUISITION
Major theories of language acquisition and their potential application to language learning. The theoretical bases of second language instruction. Spring.

3 ENG 498 TESOL PRACTICUM
Prereq.: ENG 496. Students will teach ESOL under appropriate supervision in the Intensive English Language Program. Spring.

## 3 ENTREPRENEURSHIP

Note: Enrollment in 300- and 400-level Business courses requires admission to the School of Business or permission of the Assistant to the Dean.

ENT 301 ENTREPRENEURSHIP AND NEW VENTURE CREATION
Focuses on how businesses are started. Includes recognizing opportunities and risks, gathering resources to convert opportunities into businesses. Develops the skills to evaluate and formulate a business plan. Open only to Business majors.

## ENT 305 FINANCING ENTREPRENEURIAL VENTURES

Prereq.: ENT 301 and FIN 295. Combines the analysis and evaluation of methods used to fund entrepreneurial ventures with the creation of a business plan for a new enterprise.

## ENT 320 MANAGING A GROWING BUSINESS

Prereq.: ENT 301 and FIN 295. Focuses on management decisions in resource allocation, human resource management, marketing policies and control mechanisms that contribute to growth and value creation in business. Case studies and exercises concentrate on opportunities and problems unique to growing firms.

## ENT 499 FIELD STUDIES IN ENTREPRENEURSHIP

Provides students with a working knowledge of actual firms by working closely with individual entrepreneurs to develop business plans.

## FINANCE

Note: Enrollment in 300- and 400-level Business courses requires admission to the School of Business or permission of the Assistant to the Dean. FIN 300 has been renumbered to FIN 295.

FIN 200 INTRODUCTION TO FINANCE 3 Prereq.: STAT $200 \& A C 211$. This course provides a basic understanding of fundamental topics in finance, i.e., interest rates, time value, the relationship of risk to return and financial management. Quantitative aspects of the study of finance will be minimized. Non-business majors may take this course and use it to fulfill the finance requirement in a business concentration. Business majors may take this course only as a free elective, and prior to taking FIN 300. Area C
$\begin{array}{ll}\text { FIN } 210 & \text { PERSONAL FINANCIAL PLANNING } \\ & \text { AND INVESTING }\end{array}$
AND INVESTING

3 Overview of the personal financial planning process. Examines personal incomes and budgets, home and consumer financing, insurance of personal assets, personal investing and retirement planning. Open only to non-Business majors. Business majors may only receive free elective credits for this course. Summer. Area $C$

FIN 295 MANAGERIAL FINANCE
Previously FIN 300. Prereq.: AC 211 and STAT 200. Basic course in business finance. Topics include the financial environment, analysis of financial statement, valuation of corporate stocks and bonds and capital investment decisions.

FIN 301 INTERMEDIATE MANAGERIAL FINANCE
Prereq.: FIN 295 (previously 300). Designed to develop a fundamental understanding of the following major topics in finance: the capital investment decision, capital structure and dividend policy, fund sources, working capital management, international financial management and corporate restructuring. [c]

## FIN $310 \quad$ PRINCIPLES OF INVESTMENTS

3
3 Prereq.: FIN 295 (previously 300). A study of investment, types of securities, sources of investment information, the securities markets and valuation of different assets. Attention is directed to the investment of funds by individual and institutional investors. [c]

FIN 320

## FINANCIAL MARKETS AND INSTITUTIONS

Prereq.: FIN 295 (previously 300): The role, functions and operations of capital markets, banks and other financial intermediaries in modern, global economies. [c]

FIN 400 ADVANCED MANAGERIAL FINANCE
Prereq.: FIN 301, 310 and 320. An advanced course in financial management of the business firm. Utilizes a case study approach to stress the application of financial management theories. Topics include asset management, investment decisions and financial structure of the firm. Fall. [c]

## FIN 410

SECURITIES ANALYSIS
Prereq.: FIN 301, 310 and 320. An advanced course in investments with emphasis on security analysis and porffolio management practices. Topics include financial statement analysis, use of derivatives and special techniques employed in forecasting, timing and the development of investment strategies. [c]

FIN 420 BANK MANAGEMENT
Prereq.: FIN 301, 310 and 320. An in-depth examination of bank management issues including deposit account funding costs and stability, creditworthiness determination, loan pricing, loan portfolio management, interest rate risk management, liquidity management, foreign exchange management, and strategic planning. Spring.

FIN 421
INSURANCE
Prereq.: FIN 301, 310 and 320. Nature and organization of insurers, analysis of insurance contracts, types of insurance products, introduction to actuarial and underwriting processes, insurer portfolio management and insurer profitability. [c]

FIN 425 FINANCIAL DERIVATIVES
Prereq.: FIN 295 and 310, or permission of instructor. Valuation of financial derivatives, including options and futures, applications to portfolio and corporate risk management. Fall.

FIN 430 INTERNATIONAL FINANCIAL MANAGEMENT
Prereq.: FIN 295 (previously 300). A study of the principles and practices of corporate finance in an international setting. Explores the primary elements of international monetary economics with emphasis on exchange rate analysis. Major topics of study include exchange and credit risks in international trade, capital budgeting process of the multi-national corporation and the international financial markets. [c] [I]

FIN 490 INDEPENDENT STUDY IN FINANCE
Prereq.: FIN 301, 310 and 320. Individualized readings and/or research by individual under the direction of a Finance faculty member. Topics will vary. May be repeated up to a total of 3 credits. On demand. [c]

FIN 496 PRACTICUM IN FINANCE
Prereq.: Permission of instructor. Students work on a real world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be repeated for a maximum of 6 credits. Cannot be used as a Finance directed elective. On demand.

FIN 498 FINANCE SEMINAR
Prereq.: Permission of instructor. Course content varies. Fall.
FIN 499 CFA SEMINAR
Prereq.: FIN 295, 310, 410 or permission of instructor. Focuses on the advanced investment concepts which are the foundation of Chartered Financial Analyst (CFA) professional designation. Topics include ethical and professional standards, quantitative methods, global markets and instruments, analysis of stock and bond investments and portfolio management. Spring.

## FINE ARTS

## FA 296 INTERNSHIP IN COMMUNITYBASED FINE ARTS

Prereq: Permission of department chair in Art, Music or Theatre. Research and instruction in unified arts directed towards community-based arts activities and programs.

FA 412 FINE ARTS ACROSS THE CURRICULUM
Prereq.: Admission to the Professional Program. Taken concurrently with MATH 410/412 and SCI 412. Exploration of the role of arts education in today's school curriculum. Fundamental theories and practices for incorporating creative dramatics, movement, music and the visual arts in the early childhood and elementary curricula will be addressed.

## FA 490 INTEGRATING THE FINE ARTS FOR THE YOUNG LEARNER

Prereq.: Permission of department chair in Art, Music or Theatre. Study of the aesthetic experience, its importance for children and its interrelationship with empirical knowledge. Music, the visual arts and movement will be investigated, with an emphasis on discovering resources and developing techniques for integrating each. Summer. Mode 4

## FRENCH

FR 111 ELEMENTARY FRENCH I
Foundations of the French sound system and structure are established through an aural-oral approach. Not open to students with one year of high school study. Area B/Skill Area III

FR 112 ELEMENTARY FRENCH II
Prereq.: FR 111 or equivalent. Continuing the presentation of the elements of French language structure. Dictation and aural comprehension are stressed as well as conversation. No credit will be given to students with previous credit for
3 more advanced course work in French except by permission of the department chair. Area B/Skill Area III [I]

FR 125
INTERMEDIATE FRENCH I
Prereq.: One year of college French or equivalent. Taught in French. French language structure is reviewed. Short stories and plays. Conversation and composition based on topics of general interest. No credit will be given to students with previous credit for more advanced course work in French except by permission of the department chair. Area B/Skill Area III [I]

FR 126 INTERMEDIATE FRENCH II
Prereq.: FR 125 or equivalent. Continuation of FR 125. Taught in French. No credit will be given to students with previous credit for more advanced course work in French except by permission of the department chair. Area B/Skill Area III [I]

FR 151 FRENCH FOR READING KNOWLEDGE 3
Acquisition of basic French reading skills using scientific texts, magazines, popular literature and other sources. On demand. Skill Area III [I]

FR 225 ESSENTIAL SKILLS IN FRENCH I 3
3 Prereq.: FR 126 or French Placement Exam. Taught in French. Extensive use of technology and French language films, with emphasis on development of listening, speaking and writing skills. Fall. Area B/Skill Area III [I]

FR 226 ESSENTIAL SKILLS IN FRENCH II
3
Prereq.: FR 225 or French Placement Exam. Taught in French. Improvement of the reading and writing of French through the use of contemporary texts, narratives, plays and poems. Spring. Area B/Skill Area III [I]

FR 261 BUSINESS FRENCH I
Prereq.: FR 126 or permission of instructor. Taught in French. Development of the oral and written skills needed for bilingual work situations encountered in business firms, travel bureaus and government agencies; study of the cultural attitudes of French business people. Fall. Skill Area III [I]

FR 262
BUSINESS FRENCH II
Prereq.: FR 261 or permission of instructor. Taught in French. Additional practice in oral and written skills needed in bilingual work situations. Study of French business culture in a global perspective. Spring. (O) Skill Area III [I]

## FR 301 APPROACHES TO READING FRENCH

 TEXTSPrereq.: FR 226 or permission of instructor. Taught in French. Introduction to various literary genres, with emphasis on reading comprehension, structure, theme, characterization and literary techniques. Fall. Mode 3 [I]

## FR 302 MASTERPIECES OF FRENCH LITERATURE

Prereq.: FR 301 or permission of instructor. Taught in French. Study of representative major works in French literature with emphasis on reading strategies, literary movements, themes and historical settings. Spring. Mode 3/Study Area I [I]

## FR 315 ASPECTS OF FRENCH HISTORY AND CULTURE

3
Prereq.: FR 225 or permission of instructor. Taught in English; majors/minors read and write in French. Topics include the most important features of French history, with emphasis on major artistic achievements and physical and political geography. Fall. (E) Study Area II [I]

## FR 316 CONTEMPORARY FRANCE

Prereq.: FR 315. Taught in French. Politics, social structures and cultural life of France today. France in relation to Western Europe and in a broader international framework. Spring. (O) Study Area II [I]

FR 335 FRENCH FOR ORAL EXPRESSION
3
Prereq.: FR 226. Taught in French. Development of grammar and idiom for oral proficiency through discussion of readings, films and other documents. Fall. (E)

FR 336 FRENCH COMPOSITION AND TRANSLATION

3
Prereq.: FR 226. Taught in French. Advanced training in the use of French based on readings, translation and composition. Spring. (O)

FR 350 TOPICS IN FRENCH LITERATURE, CULTURE AND LANGUAGE
Prereq.: FR 301 or permission of instructor. Taught in French. Aspects of French literature, culture and language not covered in the standard curriculum. Specific topics as announced. May be repeated with different topics for a maximum of 6 credits. Irregular. [I]

FR 441
ADVANCED ORAL PRACTICE
Prereq.: Permission of instructor. Open only to non-native speakers of French. Taught in French. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. Fall. (O) [I]

FR 451 THE STRUCTURE OF MODERN FRENCH
Prereq.: Permission of instructor. Taught in French. Assists in the improvement of all aspects of oral expression. Includes study of the sound system, description of word forms, and analysis of syntactic structures. Intensive practice in pronunciation. Irregular. [I]

FR 460

## ADVANCED GRAMMAR AND COMPOSITION

Prereq.: FR 336 or permission of instructor. Taught in French. Written expression of French, particularly in idiomatic-free composition, designed to develop the ability to express shades of meaning. Comprehensive study of French grammar and levels of style. Use of translation from English. Spring. (E) [I]

FR 471 20TH CENTURY FRENCH LITERATURE
Prereq.: FR 302, 336, and permission of instructor. Taught in French. Major works and movements of 20th century literature from Surrealism to PostModernism. Fall. (E) [I]

FR 472
STUDIES IN FRENCH CULTURE
Irereq.: FR 302, 336, and permission of instructor. Taught in French. Major cultural developments in post-war and contemporary France. Emergence of new

3 forms of self-expression including the New Novel, dialogue between "high" and "low" culture, and minor genres. Emphasis on the mass media. Spring. (O) [I]

## GEOGRAPHY

## GEOG 100 SEARCH IN GEOGRAPHY

Introduction to processes and value systems in geography. Theme and title may vary from section to section. On demand. Mode 7/Study Area II

GEOG 110 INTRODUCTION TO GEOGRAPHY
Basic patterns of physical environment and relationship of human patterns to them are explained. Mode 7/Study Area II

GEOG 120 WORLD REGIONAL GEOGRAPHY
Survey of the lands, people and places in the world's major culture regions. Reliance on case studies, investigations of development problems or other approaches to develop concepts. Mode 7/Study Area II [I]

## GEOG 220 HUMAN GEOGRAPHY

Survey of the world's people and their culture. Topics studied may include population, religion, language, settlement, architecture, land tenure, ideologies, social problems, behavior, resource utilization and environmental change. Mode 7/Study Area II [I]

## GEOG 241 INTRODUCTION TO PLANNING

Introduction to the principles and practice of planning at various spatial scales regional, metropolitan, urban and neighborhood. Mode 7/Study Area II

GEOG 244 ECONOMIC GEOGRAPHY
Spatial and ecological aspects of the economic development of world regions, resource and population balance, international trade issues and geopolitics of the post-Cold War era. Spring. Mode 7/Study Area II [I]

GEOG 256 MAPS AND MAP READING
Conferences and practical exercises in the use and interpretation of a variety of map types. Emphasis on the topographic map. Map sources will be discussed. Mode 7

## GEOG 266 AIR PHOTO INTERPRETATION

Conferences and practical exercises in uses and interpretation of aerial photographs. Fall. Mode 7

GEOG 272 PHYSICAL GEOGRAPHY
Prereq.: GEOG 110 or permission of instructor. Analysis of the landforms at the earth's surface, their distribution, genesis and relationships to the other natural phenomena. Spring. Mode 7/Study Area IV

GEOG 275 SOILS AND VEGETATION
Analysis of major soil groups and vegetation zones and their relationship to other geographic factors, including land use and rural or urban planning. Field experiences are part of this course. Mode 7/Study Area IV

## GEOG 276 ELEMENTARY CARTOGRAPHY

Instruction and practice in the fundamentals of map construction, design, symbolization and reproduction; emphasis on the use of cartographic drafting instruments, mediums and materials. Mode 7 [c]

GEOG 290 GEOGRAPHY OF TOURISM
Physical and cultural factors affecting the locations and relative importance of recreational areas and tourist attractions, both foreign and domestic. Spatial analysis of tourist flows, modes of transportation, effects on regional economies and impacts on environments. Mode 7/Study Area II [I]

## GEOG 330 UNITED STATES AND CANADA

The environmental, cultural and economic patterns that give character to the different parts of the United States and Canada. Analysis of the internal structure and functions of cities such as New York and Los Angeles and regional planning in problem areas such as Appalachia, Alaska and Southern California. Fall. Mode 7

GEOG 374 CLIMATOLOGY
Prereq.: GEOG 110 or ESCI 110, or permission of instructor. Earth's climate with an emphasis on the physical processes and dynamics of the atmosphere.
Topics include regional, urban and historical climatologies, atmospheric pollution and climate change. Some class time will be devoted to practical exercises. Spring. Mode 7

## GEOG 378 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

Prereq.: GEOG 256 or 276 , or permission of instructor. Introduction to raster and vector geographic information systems, with a focus on application areas in natural resource management, urban and regional planning and business. Taken concurrently with GEOG 379. One two-hour lecture and one two-hour lab per week. [c]

## GEOG 379 GIS LABORATORY

Geographic information systems laboratory. Application areas vary by section. Taken concurrently with GEOG 378. (c]

GEOG 414 TEACHING METHODS IN GEOGRAPHY
Prereq.: Admission to the Professional Program. Concepts, methods and materials for teaching geography. Middle-level certification students selecting the Complementary Subject Matter Area in geography will enroll for two credits; all others will enroll for three credits. Fall.

## GEOG 420 INTERNSHIP IN PLANNING

Prereq.: Permission of the department chair. Restricted to students who are pursuing a specialization in planning. Participants will serve as interns in a municipal, regional, state or private planning agency under the supervision of a geography faculty member. On demand.

## GEOG 425 INTERNSHIP IN INTERNATIONAL

 HOSPITALITY STUDIESPrereq.: Permission of the department chair. Semester or six months work in an environment directly related to studies in international hospitality and tourism, under the on-site supervision by an affiliate faculty member from a liaison institution. Substantial pre-trip orientation and post-trip reports required. On demand. (I]

GEOG 430 INTERNSHIP IN GEOGRAPHY
Prereq.: Permission of the department chair. Students will work in an environment directly related to the track or planned program they are following, under the supervision of a geography faculty member. Written reports are required. No credit given to students with credit for GEOG 420. On demand.

## GEOG 433 ISSUES IN ENVIRONMENTAL

## PROTECTION

Issues in the environmental protection planning process. Topics include air quality, noise, solid waste, hazardous materials, wilderness areas, endangered species, wetlands and land use issues. A single field trip may be required. Mode 7

GEOG 434
MEXICO, CENTRAL AMERICA
AND THE CARIBBEAN
Study of our nearest neighbors south of the border, concentrating on people, the land on which they live and related problems, primarily from a regional point of view. Fall. Mode 7 [I]

GEOG 435 JAPAN AND KOREA
Study of the physical framework, resources, economic activities and characteristic landscapes of Japan and Korea. Activities of the people of Japan and Korea in relation to their environment and resources, and the differing problems of development facing both nations. Fall. (O) Mode 7 (I)

GEOG 436 SOUTH AMERICA
A survey of the countries of South America with emphasis on people, places and problems. Spring. Mode 7 [I]

GEOG 437 CHINA
Physical, economic, political and historical geography of China. Special consideration of her population, resources, agricultural growth and industrial expansion.

3 Discussion of the geographic bases and the expansion of the Chinese State and the contemporary foundation of Chinese national power. Fall. (E) Mode 7 (I)

GEOG 439 URBAN GEOGRAPHY
Form, function and evolution of urban settlements with reference to attributes of place. Emphasis is also placed on internal structure and regional relationships of cities. Provides a methodological basis for thought involving the planning process, including preservation planning and systems analysis. Personal on-site study of a current urban problem within the state is expected. Spring. Mode 7

## GEOG 440 RURAL LAND USE PLANNING <br> 3

Land use patterns and the planning process in agriculture, transportation, recreation, industry, population and settlement in rural areas. Case studies and field work emphasizing the impact of urbanization on rural Connecticut. Fall. (O) Mode 7

GEOG 441 COMMUNITY AND REGIONAL PLANNING
Philosophies, theories and principles involved in planning of regions and urban areas. Fall. Mode 7

GEOG 442 FIELD METHODS IN GEOGRAPHY
Prereq.: 3 credits in Geography or permission of instructor. Design and execution of field research in physical and human geography. Techniques include field notes, sketching, area sampling, planetable mapping, questionnaire design and administration, design of coding forms, soil and vegetation surveying. Both team and individual field research projects. Fall. (O) Mode 7

GEOG 443 TRANSPORTATION PLANNING
Investigation of the spatial problems of transportation in metropolitan areas and the various planning solutions available. Consideration of both the role of public policy in transportation planning and techniques of transportation planning. Examples chosen from a number of metropolitan areas with special attention to the Harfford region. Spring. (O) Mode 7

## GEOG 445 ENVIRONMENTAL PLANNING

Prereq.: GEOG 110 or permission of instructor. Examines the environmental impacts of land development and natural constraints on planning and public policy decision-making. Case studies and field work will emphasize aspects of environmental planning in the Greater Hartford region. Spring.

GEOG 446 SUB-SAHARAN AFRICA
Relationships between physical environment and human development in Africa south of the Sahara. Spring. (E) Mode 7 [I]

GEOG 448 RUSSIA AND NEIGHBORING REGIONS 3
Environmental, cultural and economic patterns that give character to the various regions of Russia. Its contemporary political economy viewed in spatial and historical context. Examination of Russia's relationship with Central Asia, East Asia, Eastern Europe and the EC. Fall. (E) Mode 7 [I]

GEOG 450 TOURISM PLANNING
Prereq.: GEOG 290 or permission of instructor. Integrated and sustainable development approach to tourism planning explored through lectures, seminars and case studies at the national, regional and community levels. Focus on public and private initiatives in tourism planning. Fall. Mode 7

## GEOG 451 TOURISM DEVELOPMENT IN

SOUTHERN NEW ENGLAND
Study of the tourism industry, including perspectives on supply, demand and socio-economic impacts. Focus on issues, problems and opportunities in tourism, including functions of state and regional tourism agencies in southern New England. Spring. (E) Mode 7

GEOG 452 EUROPEAN UNION
Environmental, cultural and economic patterns that give character to the different countries, regions and cities of the European union. Analysis of spatial changes associated with European integration. Spring. Mode 7 [I]

GEOG 453 RECREATION PLANNING
Study of the supply, location, distribution, use, planning, management and impact of recreation facilities in both urban and rural situations. Spring. Mode 7

## GEOG 454 GEOGRAPHY OF TOURISM MARKETING

3
Prereq.: GEOG 290 and MKT 295 or permission of instructor. Examination of geographic elements and issues within the tourism industry, with a focus on how these influence the spatial aspects of tourist behavior and industry development strategies. Spring. Mode 7

GEOG 455 NEW DIRECTIONS IN TOURISM
Prereq.: GEOG 290 or permission of instructor. Study of contemporary forms of tourism including ecotourism, heritage tourism and educational travel, which have their own impacts, management and planning needs, and which differ notably from the traditions of mass tourism. Fall. Mode 7 [I]

## GEOG 459 FIELD STUDIES IN REGIONAL <br> GEOGRAPHY

3-6
Prereq.: Permission of instructor. On-site group studies in regional geography. This course normally involves travel outside the United States. Only 3 credits may be applied to General Education requirements. May be repeated for a maximum of twelve credits but only six of these credits may be used toward the Geography major. Winter and Summer Sessions. Mode 7 [I]

GEOG 469 READINGS IN GEOGRAPHY
Prereq.: Permission of instructor. Directed independent studies in geography
May be taken more than once for credit. On demand.
GEOG 472 TOPICS IN PHYSICAL GEOGRAPHY
Prereq.: GEOG 272 or 275 or 374 or permission of instructor. Selected topics in physical geography including urban climates, microclimatology, global change, coastal environments and the impact of glacial and periglacial processes on landforms. Fall.

GEOG 473 GEOGRAPHY OF NATURAL RESOURCES
Prereq.: GEOG 110 or permission of instructor. Examines the definition, location and evaluation of natural resources, their human exploitation and management. Focus on management strategies and cost benefit analyses of environmental degradation associated with resource use. Examples illustrated with GIS and remote sensing techniques. Spring. (O)

GEOG 476 COMPUTER CARTOGRAPHY
Prereq.: GEOG 256 or 276 or permission of instructor. Use of statistical packages to process data for cartographic purposes. Familiarization with major computer mapping programs. "Hands on" experiences emphasized. No knowledge of computer programming required. Fall. [c]

## GEOG 478 GIS DESIGN AND IMPLEMENTATION

3
Prereq.: GEOG 378 or permission of instructor. Advanced study of geographic information systems and applications. Students will prepare a proposal to develop GIS for a municipality or non-profit organization. Portions of the database will be implemented. Concentration on vector software. Fall. [c]

GEOG 483 TOPICS IN PLANNING
Prereq.: GEOG 241 or permission of instructor. Selected topics in planning.
May be repeated once with a different topic. On demand.
GEOG 490 CONNECTICUT 3
Explanation and analysis of man's occupancy of Connecticut, employing the concept of areal differentiation, the methodology of historical geography, field investigation and directed individual research. Spring. Mode 7

## GERMAN

GER 111 ELEMENTARY GERMAN I
Functional approach to grammar. Facility in understanding spoken German and in reading is developed. Not open to students with one year of high school study. Area B/Skill Area III

Prereq.: GER 111 or equivalent. Presentation of elements of German grammar is completed. Further practice in conversation; writing and speaking based on collateral reading. No credit will be given to students with previous credit for more advanced course work in German except by permission of the department chair. Area B/Skill Area III [I]

GER 125 INTERMEDIATE GERMAN I
Prereq.: One year of college German or equivalent. Grammar review, conversation and composition based on popular German readings including some one-act plays. No credit will be given to students with previous credit for more advanced course work in German except by permission of the department chair. Fall. Area B/Skill Area III [I]

GER 126 INTERMEDIATE GERMAN II
Prereq.: GER 125 or equivalent. Continuation of GER 125. No credit will be given to students with previous credit for more advanced course work in German except by permission of the department chair. Spring. Area B/Skill Area III [I]

GER 225 GERMAN COMPOSITION AND DICTION
Prereq.: GER 126 or instructor's permission. Course to train students in selfexpression by means of frequent composition in German, in addition to systematic drills in pronunciation and intonation. Fall. Area B/Skill Area III [I]

GER 226 GERMAN STRUCTURE AND IDIOM
Prereq.: GER 225 or instructor's permission. Course designed to develop idiomatic usage and fluency of expression. Spring. Area B/Skill Area III [I]

GER 305 LITERARY MASTERPIECES SINCE 18003
Prereq.: GER 226 (may be taken concurrently). Introduction to major works of German literature since 1800. Spring. Mode 3/Study Area I [I]

GER 315 GERMAN CIVILIZATION TO 1800
Prereq.: GER 226 (may be taken concurrently). Cultural development of Germany from its beginnings to 1800. Fall. Study Area II [I]

GER 316 GERMAN CIVILIZATION FROM 1800 TO THE PRESENT
Prereq.: GER 226 (may be taken concurrently). Cultural development of Germany from 1800 to the present. Spring. Study Area II [I]

GER 335 ADVANCED COMPOSITION AND DICTION
Prereq.: GER 226. Additional practice in written and oral expression. Fall. [I]
GER 336 ADVANCED STRUCTURE AND IDIOM
Prereq.: GER 335. Additional practice in idiomatic usage and verbal fluency. Spring. [I]

GER 360 LITERARY MASTERPIECES TO 18003
Prereq.: GER 225 or 226 (may be taken concurrently). Introduction to major works in German literature from its beginning to 1800. Fall. Mode 3/Study Area I [I]

GER 379 19TH CENTURY GERMAN LITERATURE
Prereq.: GER 305 or equivalent. Literature of Romanticism, Realism and Naturalism. Spring. (O) [I]

GER 380 20TH CENTURY GERMAN LITERATURE
Prereq.: GER 305 or equivalent. Literature of Impressionism, Expressionism,
Neue Sachlichkeit and other modern movements. Fall. (E) [I]
GER 385 THE SOUND AND STRUCTURE OF GERMAN
Prereq.: Permission of instructor. Intensive and systematic study of the grammatical and phonetic structures of the German language for the advanced student. On demand. [I]

GER 410 BUSINESS GERMAN I
Prereq.: Permission of instructor. Development of the oral and written skills needed for bilingual work in the fields of business, tourism, science, technology, law enforcement, social service and international relations. Fall. [I]

## HEALTH AND HUMAN SERVICE PROFESSIONS

HHSP 246 HEALTH CARE ETHICS
Previously PHIL 246. Study of ethical theories and principles as applied to several topics such as professional-patient relationships, informed consent, living wills, advanced directives and allocation of scarce health care resources. Spring. Mode 1

HHSP 341 ETHICAL CONCERNS OF THE FEMALE PATIENT

3
Prereq.: PHIL 144 or HHSP 246, or permission of instructor. Previously PHIL 341. Examination of medical-ethical concerns of women beginning with problems afflicting the adolescent female and ending with issues surrounding the care of the elderly woman. On demand.

## HHSP 342 ETHICAL ISSUES CONFRONTING THE

 GERIATRIC PATIENTPrereq.: PHIL 144 or HHSP 246, or permission of instructor. Previously PHIL 342. Examination of major ethical, social and political issues arising in the course of caring for and treating the elderly patient as well as those arising as a result of decision not to treat these patients. On demand.

HHSP 490 HEALTH CARE MANAGEMENT
Prereq.: Permission of instructor. Overview of the concepts and practices of management needed by health care clinicians to fulfill managerial responsibilities in a variety of health care settings. Fall

HHSP 491 INTRODUCTION TO CARE/CASE

## MANAGEMENT

3
Prereq.: Permission of instructor. Introduction to the concepts and practices of care/case management. On demand.

HHSP 492 CLINICAL IMPLEMENTATION OF
CARE/CASE MANAGEMENT

Prereq.: HHSP 491 or permission of instructor. Clinical course designed to introduce health care professionals to the delivery of care/case management services. On demand.

HHSP 493 PROFESSIONAL ISSUES IN
CARE/CASE MANAGEMENT
Prereq.: HHSP 491 or permission of instructor. Ethical and legal aspects of care/case management. On demand.

HHSP 494 INTRODUCTION TO HOSPICE CARE
Prereq.: Permission of instructor. Introduction to the concepts and practices of hospice care. On demand.

HHSP 495 CLINICAL IMPLEMENTATION OF HOSPICE CARE
Prereq.: HHSP 494 or permission of instructor. Clinical course designed to introduce health care professionals to the delivery of hospice care. On demand.

HHSP 496 PROFESSIONAL ISSUES IN HOSPICE CARE
3
Prereq.: HHSP 494 or permission of instructor. Ethical and legal aspects of hospice care. On demand.

## HISTORY

HIST 100 SEARCH IN HISTORY
Introduction to intellectual processes and value systems in history. Titles and themes may vary from section to section. Mode 5/Study Area II

3 HIST 121 WORLD CIVILIZATION I 3
World civilization to the 17th century. No credit for students who have received credit for HIST 142. Mode 5/Study Area II [I]

## HIST 122 WORLD CIVILIZATION II

World civilization from the 17 th century. No credit for students who have received credit for HIST 142 or 143. Mode 5/Study Area II [I]

HIST 142 WESTERN CIVILIZATION I
Ancient, medieval and early modern contributions to the development of contemporary thought and institutions through the 17th century. No credit for students who have received credit for HIST 121. Mode 5/Study Area II [I]

HIST 143 WESTERN CIVILIZATION II
Western civilization from the 17 th century to the present. No credit for students who have received credit for HIST 122. Mode 5/Study Area II [I]

## HIST 231 ANCIENT CIVILIZATION

Cultures of ancient Near East and Mediterranean. Fall. Mode 5/Study Area II [I]
HIST 232 MEDIEVAL CIVILIZATION 3
European history and institutions from the fall of Rome to 1300. Spring. Mode 5/Study Area II [I]

HIST 261 HISTORY OF AMERICAN LIFE I 3
Political, economic, social and cultural development to 1865. Mode 5/Study Area II
HIST 262 HISTORY OF AMERICAN LIFE II 3
Political, economic, social and cultural development since 1865. Mode 5/Study Area II

HIST 310 COMMUNITIES IN AMERICAN HISTORY 3
Social history of the United States with emphasis on the specialized skills neces-
sary for researching New England local history. Readings will survey public history opportunities in museums, archives, government agencies, historical firms, businesses and historical societies. May require off-campus research. Fall. Mode 5

## HIST 330 HISTORY OF WOMEN IN THE <br> UNITED STATES, 1620-1865

3
Survey of women in the United States from the colonial period through the Civil 3 War, with special emphasis on how race, class and ethnicity shaped women's experiences. Fall. Mode 5

HIST 331 HISTORY OF WOMEN IN THE
UNITED STATES, 1865-PRESENT
Survey of women in the United States from Reconstruction to the present with special emphasis on how race, class and ethnicity shaped women's experiences. Spring. Mode 5.

HIST 335 WOMEN, MARRIAGE AND FAMILY IN EARLY MODERN EUROPE
Impact of social, economic and ideological change on gender roles and family structure in European society during the Renaissance, Reformation and postReformation periods, 1400-1700. Spring. Mode 5

HIST 341 ENGLISH HISTORY TO 1715
Forces contributing to the growth of English civilization and development of Great Britain. Fall. Mode 5

HIST 342 ENGLISH HISTORY SINCE 1715
Continuation of HIST 341. Spring. Mode 5 [I]
HIST 343 MODERN IRELAND: 1690-PRESENT
Introduction to political, social and economic history of modern Ireland, with special focus on nationalism, the impact of the Great Famine, the achievement of independence and the ongoing conflict in the north. Spring. [I]

HIST 344 HISTORY OF MODERN GERMANY

## COURSE DESCRIPTIONS

## HIST 347 HISTORY OF RUSSIA I

History of Russia from the ninth century to 1861. Fall. Mode 5 [I]
HIST 348 HISTORY OF RUSSIA II
History of Russia from 1861 to the present. Mode 5 [I]
HIST 350 HISTORY OF POLAND
Emergence of the Polish Lithuanian Commonwealth, the partitions and the struggle for national survival, and the Polish Question during World War I. Fall. (O) Mode 5 [I]

HIST 351 EAST ASIA TO 1800
Political, cultural, economic and social history of East Asian countries. Fall. Mode 5/Study Area II [I]

HIST 352 EAST ASIA SINCE 1800
Continuation of HIST 351, with additional emphasis on contemporary foreign and colonial politics related to the Far East. Spring. Mode 5/Study Area II [I]

HIST 356 HISTORY OF EAST CENTRAL
EUROPE SINCE 1919
3
Social and political institutions of the Successor states in the Danubian area from 1919. Spring. (O) Mode 5 [I]

HIST 361 THE WEST IN UNITED STATES HISTORY
Westward movement and its significance in American history. Fall. Mode 5
HIST 369 AFRICAN-AMERICAN HISTORY 3
Survey of African-American life from the slave trade through the 1970s. Fall. (E) Mode 5

HIST 375 HISTORY OF AFRICA TO 1800
3
Examination of economic, social and political developments in Africa to the end of the 18th century. Spring. Mode 5/Study Area II [I]

HIST 376 HISTORY OF AFRICA SINCE 1800
3
Examination of economic, social and political developments in Africa from the end of the 18th century to the present. Spring. Mode 5/Study Area II [I]

HIST 377 HISTORY OF CHRISTIANITY I
Christianity from its origins to 1450 A.D. Jewish origins, literature, central doctrines and institutional development. Consideration of its influence on secular life and institutions. Fall. (O) Mode 5

HIST 378 HISTORY OF CHRISTIANITY II
Christianity from 1450 A.D. to present. Continuation of Christianity I. Spring. (O) Mode 5

HIST 381 LATIN AMERICAN HISTORY TO 1823
3
Social, economic, political and cultural development of Latin American countries to 1823. Fall. (O) Mode 5

HIST 382 LATIN AMERICAN HISTORY SINCE 1823
3
Social, economic, political and cultural development of Latin American countries since 1823. Spring. (O) Mode 5 [I]

HIST 410 RESEARCHING AND WRITING LOCAL HISTORY 3 Utilization and practice of public history to research and write Connecticut and New England local history. May require off-campus research. Spring. Mode 5

## HIST 423 COLONIAL PERIOD OF AMERICAN

HISTORY

3
Prereq.: HIST 261 or equivalent or permission of instructor. Development of America to 1763. Fall. Mode 5

HIST 424 ESTABLISHMENT OF A NEW NATION 3
Prereq.: HIST 261 or equivalent or permission of instructor. Establishment of the United States of America from 1763 to 1800. Spring. Mode 5

3
3 HIST 425 ERA OF NATIONAL DEVELOPMENT
United States from 1800 to 1850. Fall. Mode 5

## HIST 427 THE UNITED STATES, 1890-1933

Industrial growth immigration, political reform, the Great Depression and rise of the United States as a world power. Fall. Mode 5

## HIST 428 THE UNITED STATES SINCE 1933

Major political, social, economic, cultural and diplomatic developments since 1933. Spring. Mode 5

HIST 429 WOMEN AND REFORM IN AMERICAN SOCIETY, 1870 to 1920 social hygiene movement, the crusade against prostitution and white slavery, birth control, socialism and problems of gender between 1870 and 1920 will be considered. Spring. (O) Mode 5

## HIST 430 ECONOMIC HISTORY OF EUROPE

3 Emphasis on economic and industrial development of the period since the Industrial Revolution. Fall. Mode 5 [I]

HIST 433 HISTORY OF ANCIENT GREECE 3
Greek institutions from the Mycenaean period to the accession of Constantine. Fall. Mode 5 [I]

HIST 434 HISTORY OF ANCIENT ROME 3
Roman institutions from the regal period to the reign of Constantine. Spring. Mode 5 [I]

HIST 435 HISTORY OF EARLY MEDIEVAL EUROPE 3
The Late Roman empire to the 11 th century. Spring. (E) Mode 5
HIST 436 HISTORY OF LATER MEDIEVAL EUROPE 3
The Crusades to the Great Schism. Spring. (O) Mode 5
HIST 441 RENAISSANCE AND REFORMATION 3
History of Europe during the Age of Transition and the Era of the Religious Wars, 1300-1648. Fall. (E) Mode 5 [I]

HIST 442 EUROPEAN HISTORY, 1650 TO 18153
Social, economic, political and cultural forces of the period in relation to formation of modern society and government. Spring. (E) Mode 5 [I]

HIST 443 EUROPEAN HISTORY, 1815-1918 3
Political, economic and social institutions in relation to rise of liberalism, nationalism, socialism and imperialism. Fall. Mode 5 [I]

HIST 444 EUROPEAN HISTORY, 1918 TO PRESENT
National and international problems of European states. Spring. Mode 5 [I]
HIST 445 EUROPEAN INTELLECTUAL HISTORY, 1750-1870
Main currents of European thought and culture from 1750 to 1870. Fall. (E) Mode 5 [I]

HIST 446 EUROPEAN INTELLECTUAL HISTORY, 1870-PRESENT
Main currents of European thought and culture from 1870 to the present. Spring. (E) Mode 5 [I]

HIST 453 HISTORY OF MODERN CHINA

HIST 454 HISTORY OF MODERN JAPAN
Japan during the 19th and 20th centuries. Spring. Mode 5 (IJ

## HIST 456 CHINESE INTELLECTUAL HISTORY

3The major intellectual, social and political texts that shaped the Chinese historical tradition and formed the basis for the development of East Asian civilization. Fall. (O) Mode 5 [I]

## HIST 457 THE FAMILY IN CHINESE HISTORY

Prereq.: HIST 351 or permission of instructor. Study of family structure and organization in Chinese history with special attention to the Confucian paradigm. Topics include the family and the state; men, women and children in the family; and the family as an economic unit. Fall. Mode 5 [I]

HIST 463 CONSTITUTIONAL HISTORY OF THE UNITED STATES TO 1900
Study of nation's fundamental law as influenced by political, economic and social forces. Fall. (E) Mode 5

HIST 465 ECONOMIC HISTORY OF THE UNITED STATES
American economy from its agricultural beginnings through stages of its commercial, industrial and financial growth. Mode 5

## HIST 466 HISTORY OF AMERICAN TECHNOLOGY

The history and development of technology in America, emphasizing sources of technology, its impact on the workplace, on the reorganization of production and management, and on change in the larger society. Fall. Mode 5

## HIST 469 AFRICAN AMERICANS IN THE

 TWENTIETH CENTURYPolitical, economic, social and cultural developments in Black America since 1900. Fall. (O) Mode 5

HIST 472
MODERN MIDDLE EAST
Historical developments in the 20th century with a special emphasis on political, social and economic conflicts. Fall. Mode 5 [I]

HIST 473 HISTORY OF JUDAISM
Analysis of major themes in the historical development of Judaism from ancient times to the present. Spring. Mode 5

HIST 474 HISTORY OF THE ARAB-ISRAELI CONFLICT

3
History of the Arab-Israeli conflict from the time of Israel's creation as a modern nation-state until the present. Spring. Mode 5

HIST 480 MODERN POLAND
3
Examination of the course of modern Polish history, including the restoration of independence in 1918, World War II, communist rule, Solidarity and the recovery of sovereignty in 1989. Fall. (E) Mode 5 [I]

HIST 481 THE JEWS OF POLAND
3
Prereq.: HIST 143 or permission of instructor. Topics include immigration and settlement, community development and rights and privileges before 1795, modernization, nationalism, anti-Semitism, independence, Polish-Jewish relations during the holocaust, exodus and marginalization in communist Poland, and the new Polish Jews. Fall (E) [I]

HIST 482 THE POLISH AMERICAN IMMIGRANT AND ETHNIC COMMUNITY
Prereq.: HIST 262 or permission of instructor. Topics include immigration and settlement in the United States, organizational infrastructure, heroes and myths, homeland politics and national consciousness, labor, class, ethnicity, cultural assimilation and political integration, and stereotypes and ethnic identity. Spring (O) [I]

HIST 483 HISTORY OF INTER-AMERICAN RELATIONS
Inter-American relations from inception of the Monroe Doctrine to the present. Fall. (E) Mode 5 [I]

HIST 484 HISTORY OF MEXICO
Mexico from high culture of the Mayans through conquest, colonial period, independence and national development. Spring. (E) Mode 5 [I]

HIST 488 AMERICAN BUSINESS HISTORY
Historical examination of the forms and strategies employed by business in modern America. Spring. (O) Mode 5

HIST 489 AMERICAN LABOR HISTORY
Historical examination of the response of American Labor to technological change and the development of a formal, institutionalized labor movement. Spring. (E) Mode 5

HIST 490 SENIOR SEMINAR
Senior seminar. Fall. Mode 5
HIST 493 DIRECTED READINGS IN HISTORY 3 or 6
Prereq.: Senior or graduate standing and approval of instructor. Individual program of studies for students with special interests and abilities. Topics to vary from semester to semester. Not more than 3 credits to be taken in one semester. On demand.

HIST 495 HISTORIOGRAPHY
European and American historical writing and philosophies of history. Spring.
HIST 497 TOPICS IN HISTORY
Historical focus on a facet of history in order to help clarify current domestic and/or world developments. May be repeated with different topics for up to 6 credits. Mode 5

## HONORS

## HON 110 WESTERN CULTURE I

Prereq.: Honors Program participant. Selected topics from ancient Greek and Roman cultures. Spring. All modes except 2, 8 and Area D/Study Area I

HON 120 SCIENCE AND SOCIETY I 3
Prereq.: Honors Program participant. Selected topics from the natural sciences and their relation to society. Spring. Mode 8/Study Area IV

HON 130 WORLD CULTURES I
Prereq.: Honors Program participant. Introduction to the study of world cultures. Fall. All modes except 2, 8 and Area D/Study Area II [I]

HON 140 WRITING AND RESEARCH I
Prereq.: Honors Program participant. Principles of critical thinking and persuasive writing, with applications to written and oral presentations. Fall. All modes except 2, 8 and Area D/Skill Area I

HON 210 WESTERN CULTURE II
Prereq.: Honors Program participant. Selected topics in Western Culture from the Middle Ages through the Enlightenment. Fall. All modes except 2, 8 and Area D/Study Area I

HON 211 WESTERN CULTURE III
Prereq.: Honors Program participant. Selected topics from 19th century western culture. Spring. All modes except 2, 8 and Area D/Study Area I

HON 220 SCIENCE AND SOCIETY II
Prereq.: Honors Program participant. Selected topics from the social sciences and their relation to society. Fall. All modes except 2, 8 and Area D/Study Area II

HON 230 WORLD CULTURES II
3
Prereq.: Honors Program participant. Selected topics from world cultures. Spring. All modes except 2, 8 and Area D/Study Area II [I]

HON 310 WESTERN CULTURE IV
Prereq.: Honors Program participant. Selected topics from 20th century western culture. Fall. All modes except 2, 8 and Area D/Study Area III

HON 330 WORLD CULTURES III
Prereq.: Honors Program participant. Further topics from world cultures. Fall. All modes except 2, 8 and Area D/Study Area III [I]

HON 440 WRITING AND RESEARCH II
Prereq.: Honors Program participant. Methodology of thesis writing and presentation of thesis proposal. Fall. All modes except 2, 8 and Area D/Skill Area I

HON 441 WRITING AND RESEARCH III
Prereq.: Honors Program participant. Independent research developed from previous Honors Program courses. Spring. Modal and area credit appropriate to subject matter/Skill Area I

## HUMANITIES

## HUM 100 SEARCH IN THE HUMANITIES

Introduction to the intellectual processes and value systems in the humanities. Titles and themes may vary from section to section. Mode 3/Study Area I

## HUM 150 TOPICS IN EUROPEAN LITERATURE

A literary figure, movement or theme in European literature studied in translation. Topic may vary from semester to semester. Mode 3/Study Area I [I]

HUM 290 STUDIES IN MODERN CIVILIZATION 3-6
Insights in the culture of other lands as reflected in the arts, national traditions, institutions and values. Area or topic may vary from semester to semester. On demand. [I]

HUM 490 THE CULTURE AND CIVILIZATION OF OTHER LANDS
An approach to better understanding of other peoples' life and culture as reflected in their language, music, literature, art and folklore. The area covered may vary from section to section. Offered in English. May be repeated with different topics. Irregular. [I]

HUM 494 FOREIGN STUDY THROUGH TRAVEL 3 or 6 Course will acquaint students with the civilizations of other countries through supervised travel abroad. Attention to the special needs and interests of participants. On demand. [I]

## INDUSTRIAL TECHNOLOGY

IT 125
CONSTRUCTION GRAPHICS
Interpretation of civil, architectural, structural, mechanical, and electrical drawings for building and highway construction projects. Emphasis on systems analysis and code compliance. Fall.

## IT 150 CONSTRUCTION PRACTICES AND PRINCIPLES

Introduces basic body of knowledge of construction, including job identification, terminology and the use of equipment as used in light and heavy construction. Area $C$

## IT 190 INTRODUCTION TO QUALITY ASSURANCE

Overview of the tools and techniques required in contemporary quality systems. Principles of world-class quality assurance, team building, change management, problem solving and continuous improvement will be presented. Fall.

## IT 245 <br> HEAVY AND HIGHWAY <br> CONSTRUCTION PRACTICES

Prereq.: IT 125. Introduction to heavy and highway construction practices. Emphasis on construction equipment, labor, materials, and methods as they relate to field operations.

IT 254 CONSTRUCTION QUANTITY SURVEYING
Prereq.: IT 150. Examination of the role of the quantity surveyor. Emphasis on analysis of architectural and structural drawings. Quantity surveys will be conducted for sitework, concrete, masonry, steel and rough carpentry.

## IT 290

## METROLOGY <br> STATISTICAL PROCESS CONTROL AND

Introduction to metrology and gauge R and R . Study of statistical process control, capability, sampling plans and their application to inspection, quality control and improvement. Spring.

## IT 355

ESTIMATING FOR PRINTING
Emphasis placed on the many factors which must be considered when estimating a printing job. Actual estimates will be prepared, using a variety of fixed and variable costs, through manual techniques and computer estimating software. Fall.

## IT 359

PLANT LAYOUT
Covers the complete layout function as practiced in modern industry. A detailed analysis is made of the procedures used in placing equipment, organizing efficient machine-operator patterns and servicing of machines. Considerable time is devoted to practical work on actual layout problems, including integrated production lines, using such tools as layout templates, three-dimensional models, manmachine charts and process flow charts. The relationship of work standards, methods and layout inspection, production control and maintenance is also discussed. Fall.

IT $360 \quad$ PRODUCTION CONTROL
Analysis of skills required in supervising manufacturing departments. Emphasis upon production technologies, machine and tool operations and process control. Area C

## IT 362 LEADERSHIP SKILLS FOR SUPERVISORS 3

Designed as a bridge between technical courses and the art of supervising people. Potential line supervisors will develop specific abilities in applying leadership principles to everyday work situations through creative class participation in industrial case studies. Techniques of getting-the-job-done through people, include motivation, delegation, discipline, teamwork, decision making, communications and problem identification. Goal-setting and objectives-planning techniques are also covered.

IT 380 EMERGENCY MEDICAL TECHNICIAN (EMT)
Recognition of illnesses and injuries; training in the administering of appropriate emergency medical care. Classes will include demonstrations, practice sessions and 10 hours of in-hospital practicum. Note: Credit automatically will be given upon proof of current EMT certification as issued by the Office of Emergency Medical Service, State of Connecticut.

IT 390 AUDITING QUALITY SYSTEMS STANDARDS
ISO 9000, QS 9000, MIL standards and the Malcom Baldridge quality system standards will be examined and audited. Auditing techniques will be presented. Fall.

IT 400
SENIOR PROJECT
The selection of a problem in one area or facet of technology and the preparation of a term report. Areas will include planning, supervision, construction techniques, design innovations and labor relations. On demand.

IT 401
INDUSTRIAL INTERNSHIP
Prereq.: Permission of department chair. Provides students with a supervised opportunity to work in an industrial environment directly related to their pro-

## department chair. Graded on a pass-fail basis.

IT 402
TOPICS IN TECHNOLOGY
Prereq.: Permission of the department chair. An individualized inquiry of comprehensive study into a selected technical area. The student may elect to examine processes, products or developmental aspects of modern industry. Open only to Industrial Technology majors. Course may be repeated for a maximum of 6 credits for different topics.

IT $410 \quad$ INDUSTRIAL SAFETY
3 Theory of industrial safety with emphasis upon fundamental concepts in the industrial environment. Emphasis will be placed on the psychological, sociological and physiological aspects of industrial safety. Area $C$

IT 411 INDUSTRIAL HYGIENE 3
Lectures and laboratory exercises covering evaluation and control of exposure to dust, fumes, mist, vapors, gases, radiation, noise and abnormal temperatures. Fall. Area C

## IT 414 INDUSTRIAL LOSS CONTROL

## MANAGEMENT

Loss control philosophy and techniques. Background information and specific techniques required to develop and implement an effective company-wide and on-site loss control program, personnel responsibilities and total safety program. Spring. Area C

IT 415 FIRE PROTECTION AND PREVENTION 3
Measures related to safeguarding human life and preservation of property in prevention, detection, extinguishing fires. Spring.

## IT 421 EVALUATION TECHNIQUES IN

 INDUSTRIAL HYGIENEPrereq.: IT 411 or permission from instructor. Continuation of Industrial Hygiene with emphasis on instrumentation, data collection, interpretation and applications to safety standards and regulations. Spring.

IT 422 CONSTRUCTION SAFETY
Prereq.: IT 362 or permission of instructor. A study of safety problems in the construction environment with emphasis on the day-to-day activities of the construction safety coordinator. Spring.

IT 432 WORKER/SUPERVISOR RELATIONS
Prereq.: IT 362 or MGT 295 or permission of instructor. To develop the role of worker-supervisor relationships in manufacturing industries by covering such topics as productivity, supervision within contract guides, union/non-union manufacturing conflicts, Method/Time Study implementation. Spring.

IT 456 HAZARDOUS MATERIAL MANAGEMENT
Study of environmental regulations and their impact on industrial operations. Emphasis is on application of statutes, regulations and information sources concerning hazardous materials, waste handling and technical decisions pertinent to environmental and safety issues. Spring.

## IT 457 CONSTRUCTION SUPERVISION

3
Prereq.: Senior standing. Examination of the role of the construction supervisor. Emphasis on personnel scheduling, time keeping, trade unions, superintendents and the duties of the project manager.

IT 458 PRODUCTIVITY IMPROVEMENT 3
Course deals scientifically with analytical and creative problems affecting time. It covers the principles of methods, design and work measurement. The student acquires skill in using motion study techniques and learns how to establish standards. Applications to product design, machine and tool design, process planning, production scheduling, plant layout, budgeting, sales prices, manpower requirements, wage incentives and methods of improvements are studied. Spring.

IT 464 CONTINUOUS PROCESS IMPROVEMENT
3
Prereq.: STAT 104. Application of statistical techniques to meet the needs of continuous quality improvement in the industrial environment. Topics include variation, control and capacity, SPC for short run and advanced process control. Emphasis on developing a continuous quality improvement strategy through supplier certification standards. Fall.

## IT 480 ROBOTICS

Prereq.: Senior standing or permission of instructor. The course provides an overview of the industrial robot to introduce the student to the science of flexible automata. The course emphasizes features, capabilities, programming, selection and implementation of industrial robots. Fall and Summer. [c]

IT 481
MOBILE ROBOTICS
Prereq.: IT 480. An examination of sensate, mobile automata. Includes the elements of communication, computation and control which are essential to the achievement of autonomous machine operation. Spring. [c]

## IT 490 QUALITY BY DESIGN

Planning techniques of Failure Mode and Effects Analysis (FMEA), Quality Function Deployment (QFD) and Design of Experiments (DOE) will be presented. Spring.

## 3 INTENSIVE ENGLISH LANGUAGE

 PROGRAM
## IELP 101 INTENSIVE ENGLISH LANGUAGE \& AMERICAN CULTURE - LEVEL I: LISTENING/SPEAKING <br> Non-Credit

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level I English language listening and speaking. Student activities and several field trips are also included.

## IELP 102 INTENSIVE ENGLISH LANGUAGE \& AMERICAN CULTURE - LEVEL I: READING/WRITING

Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level I English language reading and writing. Student activities and several field trips are also included.

## IELP 199 TRANSITIONS

Prereq.: Acceptable IELP placement test results, minimum score of 475 on institutional TOEFL exam; or permission of instructor. Previously IELP 450. Ten hour per week integrated language skills course for advanced ESL students. Emphasis on expository and argument writing, academic reading skills, focused discussion, formal debate and familiarization with methods of research documentation.

## IELP 201

## INTENSIVE ENGLISH LANGUAGE \& AMERICAN CULTURE - LEVEL II: LISTENING/SPEAKING

Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level II English language listening and speaking. Student activities and several field trips are also included.

IELP 202 INTENSIVE ENGLISH LANGUAGE \& AMERICAN CULTURE - LEVEL II: READING/WRITING

Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level II English language reading and writing. Student activities and several field trips are also included.

IELP 301 INTENSIVE ENGLISH LANGUAGE \& AMERICAN CULTURE - LEVEL III: LISTENING/SPEAKING

Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level III English language listening and speaking. Student activities and several field trips are also included.

IELP 302
INTENSIVE ENGLISH LANGUAGE \&
AMERICAN CULTURE - LEVEL III:
READING/WRITING
Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level III English language reading and writing. Student activities and several field trips are also included.

IELP 401 INTENSIVE ENGLISH LANGUAGE \&
AMERICAN CULTURE - LEVEL IV:
LISTENING/SPEAKING
Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level IV English language listening and speaking. Student activities and several field trips are also included.

IELP 402
INTENSIVE ENGLISH LANGUAGE \& AMERICAN CULTURE - LEVEL IV: READING/WRITING

Non-Credit
Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level IV English language reading and writing. Student activities and several field trips are also included.

IELP 460 TOEFL PREPARATION
Non-Credit
Eight hours per week of TOEFL skills and strategies. Practice TOEFL exams are administered weekly.

## INTERDISCIPLINARY

$$
\text { ID } 102
$$

MASTER STUDENT
1
Prereq.: Freshman standing or permission of instructor. Techniques for taking notes, reading, preparing for and taking tests, using a university library, task management, awareness and application of learning styles; developing group supports and positive self concepts; the nature of relationships, communications, selected social issues. Graded on pass/fail basis. Fall.

## INTERDISCIPLINARY SCIENCES

ISCI 104 SCIENCE CONNECTIONS
Interdisciplinary emphasis on science in the context of everyday experience. Promotes general scientific literacy and skills relevant to scientific inquiry. For non-science majors. Two lectures and one two-hour laboratory per week. Fall. Mode 8/Study Area IV

## INTERNATIONAL BUSINESS

Note: Enrollment in 300- and 400-level Business courses requires admission to the School of Business or permission of the Assistant to the Dean.

IB 491

## SPECIAL TOPICS IN INTERNATIONAL BUSINESS

Prereq.: Senior standing or permission of instructor. Study of selected topics in international business presented by international scholars and executives. Topics will be announced in advance and will vary from semester to semester. May be repeated for a maximum of three credits. Irregular. [I]

## IB 495 FIELD STUDIES IN INTERNATIONAL BUSINESS

Prereq.: Permission of the instructor. Designed to enrich the student's understanding of the world as a marketplace by visiting foreign countries. Students will be able to observe and discuss international business problems with leading business people. On-site seminars will be included. [I]

IB 498 SEMINAR IN INTERNATIONAL BUSINESS 3
Prereq.: Senior standing. Advanced study of current trends in the global business environment. Emphasis will be on American competitive advantage in a global business context and a critical analysis of contemporary international business research. Course content will vary from semester to semester. Spring. [I]

## INTERNATIONAL STUDIES

## IS 225 THE WORLD AS A TOTAL SYSTEM

Examination of global interdependence in its historic, ecological, economic, cultural and political dimensions. Analysis of selected contemporary global issues. Consideration of impact of global interdependence on our own local communities. Spring. Mode 6, 7/Study Area II [I]

IS 226 INTERCULTURAL SENSITIVITY customs pertinent to cross-cultural understanding and the conduct of international relationships. Fall. Mode 6, 7/Study Area III [I]

IS 230
TOPICS IN INTERNATIONAL STUDIES
3
Interdisciplinary examination of selected topics in international studies not otherwise offered by departments or International Studies. May be repeated with different topics for up to 6 credits. Irregular. Mode 6 or 7 [I]

IS 240 CARIBBEAN CULTURAL PATTERNS 3
Prereq.: Permission of instructor or program coordinator when course is offered in Spanish. Multi-disciplinary study of the people who inhabit the islands and margins of the Caribbean Sea, with a focus upon their problems and accomplishments. This course may be taught in Spanish. Irregular. Mode 6 or 7/Study Area II [I]

IS 245 PUERTO RICO 3
Prereq.: Permission of instructor or program coordinator when course is offered in Spanish. Multi-disciplinary study of the island of Puerto Rico and its people. Topics to be studied may include cultural development, international relations, problems, and prospects. This course may be taught in Spanish. Irregular. Mode 6or 7 [I]

IS 450 INTERNSHIP IN INTERNATIONAL STUDIES 3
Students will work under faculty supervision in an international environment related to their academic track or planned program. Written reports are required. On demand.
$\begin{array}{ll}\text { IS } 475 & \text { INTERNATIONAL STUDIES } \\ & \text { SENIOR PROJECT }\end{array}$
3 Prereq.: Senior standing and declared IS major. Independent project developed by the student in consultation with International Studies adviser. The semester's work will integrate the geographic area and academic focus of the student's previous course work. On demand.

IS 490 FIELD STUDIES ABROAD 3-6
Course taught abroad. May be repeated for a maximum of 6 credits. Area B [I]
IS 497 SEMINAR IN INTERNATIONAL STUDIES 3
Prereq.: Permission of instructor. Interdisciplinary seminar on one of the world's regions or countries. Aspects of its anthropology, economics, geography, history, government, politics and sociology will be considered in a synthetic approach. Area B [I]

## ITALIAN

ITAL 111 ELEMENTARY ITALIAN I
Fundamentals of Italian pronunciation and grammar taught from the beginning by the direct method. Students participate in conversation. Not open to students with one year of high school study. Area B/Skill Area III

ITAL 112 ELEMENTARY ITALIAN II
Prereq.: ITAL 111 or permission of instructor. Study of spoken and written Italian is continued. Further practice in conversation, pronunciation and analysis of Italian language structure. No credit given to those with credit for more advanced course work in Italian. Area B/Skill Area III [I]

ITAL 120
INTENSIVE ELEMENTARY ITALIAN
Intensive Italian language course designed to bring students to intermediate skills in one semester. Six classroom hours per week. Not open to students with more than one year of Italian at the high school level. Only three credits may be applied toward the International requirement. Fall. Area B/Skill Area III [I]

## ITAL 125 INTERMEDIATE ITALIAN I

Prereq.: One year of college Italian or equivalent. Principles of Italian language structure are reviewed. Short stories and plays are read and discussed. Conversation and composition on topics of general interest are practiced to improve oral and written expression. No credit will be given to students with previous credit for more advanced course work in Italian except by permission of the department chair. Fall. Area B/Skill Area III [I]

ITAL 126 INTERMEDIATE ITALIAN II
Prereq.: ITAL 125 or equivalent. Continuation of ITAL 125. No credit will be given to students with previous credit for more advanced course work in Italian except by permission of the department chair. Spring. Area B/Skill Area III [I]

ITAL 190 ITALIAN FOR ITALIAN SPEAKERS
Prereq.: Permission of instructor. Development of diction, reading, writing skills and grammar of standard Italian compared to dialect variations. Irregular. Area B/Skill Area III [I]

## ITAL 225 ITALIAN COMPOSITION AND DICTION

Prereq.: ITAL 126 or instructor's permission. Course to train students in selfexpression by means of frequent compositions in Italian, in addition to systematic drills in pronunciation and intonation. Fall. Area B/Skill Area III [I]

ITAL 226 ITALIAN STRUCTURE AND IDIOM
3
Prereq.: ITAL 225 or equivalent preparation. Course designed to develop correct idiomatic usage and fluency of expression. Spring. Area B/Skill Area III [I]

ITAL 260
INTRODUCTION TO BUSINESS ITALIAN
3
Prereq.: ITAL 126 or Italian Placement Exam. Development of oral and written skills needed for bilingual work situations encountered in business, travel and government agencies. Includes a study of the cultural attitudes of Italian business people. Irregular. Area B/Skill Area III [I]

ITAL 304 LITERARY MASTERPIECES TO 1700
Prereq.: ITAL 226 (may be taken concurrently) or permission of instructor. Previously ITAL 360. Taught in Italian. Introduction to major works in Italian literature from the Middle Ages to 1700. Fall. (O) Mode 3/Study Area I [I]

ITAL 305 LITERARY MASTERPIECES SINCE 1700
Prereq.: ITAL 226 (may be taken concurrently) or permission of instructor.
Taught in Italian. Introduction to major works in Italian literature since 1700. Spring. Mode 3/Study Area I [I]

ITAL 315 ITALIAN CIVILIZATION TO 1861
Prereq.: ITAL 226 (may be taken concurrently). The cultural development of Italy from its beginnings to unification. Fall. Study Area II [I]

ITAL 316 ITALIAN CIVILIZATION FROM 1861
TO THE PRESENT
Prereq.: ITAL 226 (may be taken concurrently). Cultural development of Italy from 1861 to the present. Spring. Study Area II [I]

ITAL 335 ADVANCED COMPOSITION AND

## DICTION

Prereq.: ITAL 226. Additional practice in written and oral expression. On demand. [I]

## ITAL 336 ADVANCED STRUCTURE AND IDIOM

Prereq.: ITAL 335. Additional practice in idiomatic usage and verbal fluency. On demand. [I]

ITAL 441 ADVANCED ORAL PRACTICE
Prereq.: Instructor's permission. Taught in Italian. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. On demand. [I]

ITAL 460 ADVANCED WRITTEN ITALIAN
Prereq.: ITAL 335 or equivalent. Written expression of Italian, particularly in idiomatic free composition, to establish an appreciation for Italian style and develop the ability to express shades of meaning. On demand. [I]

ITAL 470 14TH CENTURY ITALIAN LITERATURE
Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Study of the period with special emphasis on Dante, Petrarch, Boccaccio. On demand. [I]

ITAL 471 20TH CENTURY ITALIAN LITERATURE
3
Prereq.: Permission of instructor. Representative authors and literary movements of the 20th century. On demand. [I]

ITAL 476 16TH CENTURY ITALIAN LITERATURE
3
Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Major works of Italian renaissance. On demand. [I]

ITAL 488 ITALIAN LIFE AND CULTURE
3
Prereq.: Permission of instructor. Discussion of contemporary Italian society, traditions and values. On demand. Area B [I]

## 3 JAPANESE

## JAPN 111 ELEMENTARY JAPANESE I <br> Basic sounds and structure patterns of Japanese are established through a direct audiolingual approach. Area B/Skill Area III

## JAPN 112 ELEMENTARY JAPANESE II <br> Prereq.: JAPN 111. Continuation of JAPN 111. No credit will be given to students with previous credit for more advanced course work in Japanese except by permission of the department chair. Spring. Area B/Skill Area III [I]

## JAPN 125 INTERMEDIATE JAPANESE I

Prereq.: One year of college Japanese or equivalent. Continuation and review of grammar and structure. Development of reading skills. Fall. Area B/Skill Area III [I]

## JAPN 126 INTERMEDIATE JAPANESE II

Prereq.: JAPN 125 or equivalent. Further study of grammar and structure.
Readings in literary and cultural areas. Spring. Area B/Skill Area III [I]
JAPN 225 JAPANESE COMPOSITION AND DICTION
Prereq.: JAPN 126 or permission of instructor. To train students in self-expression by means of frequent compositions, systematic drills in pronunciation and intonation, and readings in Japanese literature and culture. Fall.
Area B/Skill Area III [I]

JAPN 226 JAPANESE STRUCTURE AND IDIOM 3
Prereq.: JAPN 126 or permission of instructor. To develop correct idiomatic usage and fluency of expression. Readings in Japanese literature. Spring. Area B/Skill Area III [I]

## JAPN 335 ADVANCED COMPOSITION AND DICTION

Prereq.: JAPN 226 or equivalent. Further study of sentence and discourse structure in Japanese and analysis of the Japanese communicative style. Designed to expand the student's speaking and listening skills. Fall. [I]

JAPN 336 ADVANCED STRUCTURE AND IDIOM
Prereq.: JAPN 335 or permission of instructor. Continuation of JAPN 335 with emphasis on development of reading comprehension skills. Spring. [I]

## LATIN

LAT 111 ELEMENTARY LATIN I 3
Study of the elements of Latin grammar. Not open to students with one year of high school study. Fall. Area B/Skill Area III

LAT 112 ELEMENTARY LATIN II
Prereq.: LAT 111 or equivalent. Continuation of LAT 111; development of reading skills. Spring. Area B/Skill Area III

## LAW

Note: See also the Pre-Law Program on page 94, as well as COMM 360, HIST 463, PHIL 349, PE 412, PS 235, PS 241, PS 331, PS 332, PS 338, PS 339 and PS 447.

LAW 250 PRINCIPLES OF LAW
3
Prereq.: 30 credits completed before beginning course work. A study of the legal system of the United States and its relationship to the business manager, contracts, sales, negotiable instruments and agency. Area C (for non-business majors)

## LIBRARY SCIENCE

LSC 150 LIBRARY RESOURCES AND SKILLS
Study of the choice and use of the correct information sources to meet the challenges of academic, professional and personal life. Focuses on print as well as electronic resources, including the Internet. Skill Area IV

## MANAGEMENT

Note: Enrollment in 300- and 400-level Business courses requires admission to the School of Business or permission of the Assistant to the Dean.

MGT 101

> EXPLORING MANAGEMENT: REQUIREMENTS FOR SUCCESS IN MODERN ORGANIZATIONS

Exploration of the types of processes that are associated with achieving personal success in organizations. Emphasis is placed on aligning personal goals with organization culture and structures. Business majors may only receive free elective credits for this course. Area $C$

## MGT 102

## EXPLORING MANAGEMENT: THE WORKINGS OF SUCCESSFUL ORGANIZATIONS

Examination of the most successful business organizations in the world. Focus on identifying the management principles and practices that have enabled these companies to achieve "world-class" status and success. Business majors may only receive free elective credits for this course. Area $C$

MGT 103

## EXPLORING MANAGEMENT: THE FOUNDERS OF WORLD CLASS ORGANIZATIONS

"World-class" organizations are guided by visionary founders. Focus is on the empirical examination of the personal philosophies of these great leaders. Examination of the contributions of managers of European, Asian and North American corporations. Business majors may only receive free elective credits for this course. Area C

MGT 295 FUNDAMENTALS OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOR
Previously MGT 301. An introduction to the principles of management and their application to business. Emphasis on the development of a philosophy of management and interpersonal behavior within organizations. (Business majors do not receive Area $C$ credit for this course.) Area $C$

## MGT 305 HUMAN RESOURCE MANAGEMENT

Prereq.: MGT 295 (previously 301). Study of the management of human resources. Philosophies and concepts of human resources management. Employment and development of people: recruitment, selection, appraisal, training and development of employees and managers. Financial compensation (job evaluation and service-rating principles and applications), health and safety, employee security programs and grievance handling. Leadership and motivation. Labor relations both with individuals and organized groups, with some attention to the laws governing unions; collective bargaining, contracts in both public and private employment. Analysis of current issues. Some emphasis upon case study analysis.

## MGT 321 INTERNATIONAL MANAGEMENT

Prereq.: MGT 295 (previously 301). An introductory course in the field of international management that focuses on the diverse environmental forces and factors that affect the operations and performance of multinational corporations. A comparative approach is used to develop some comprehension of the wide range of business conditions that exist in various regions of the world. [I]

MGT 345 ORGANIZATIONAL THEORY
Prereq.: MGT 295 (previously 301). Provides a systematic understanding of complex business organizations in modern society. The unit of analysis will be the organization and its major subunits. Explores how organizations shape and influence behaviors and develops a conceptual framework for analyzing the design and operation of business corporations and other complex organizations.

MGT 348 MANAGEMENT SYSTEMS
3
Prereq.: MGT 295 (previously 301). Provides an understanding of the complex sociotechnical systems in organizations. Examines the relationship between technology and social systems by applying general systems theory. Emphasizes the relationship of machines, work processes and methods to organization structure and human relationships. Alternative strategies for managing change and innovation will be explored.

## MGT 403 SOCIAL ISSUES FOR MANAGERS

Prereq.: MGT 295 (previously 301). Defines contemporary issues of corporate social responsibility and explores the impact of these issues on managerial deci-sion-making behaviors. Emphasizes contemporary social issues that emerge in the external environment of business. Defines societal expectations of organizations regarding corporate social responsibility.

## MGT 425 MANAGEMENT AND COLLECTIVE BARGAINING

Prereq.: MGT 295 (previously 301). Introduction to managerial problems in personnel and labor-management relations. Examination of issues encountered in the management of workers under collective bargaining agreements, and in contract administration. Lectures and simulations will be used.

## MGT 426 BUSINESS ORGANIZATIONAL BEHAVIOR

Prereq.: MGT 295 (previously 301). A study of human behavior in organizations. Covers topics such as communication, decision making, team development, leadership, motivation and productivity. Attention is given to behavioral science methods, research and findings as applied to organizational management.

## MGT 431 COMPENSATION AND BENEFITS

Prereq.: MGT 295, MGT 305, STAT 201. A systematic exploration of compensation theory and practice including job analysis, design and evaluations; pricing of job structures; wage incentives; profit sharing and fringe benefits and managing compensation systems.

## MGT 449 STRATEGIC MANAGEMENT

Prereq.: MGT 295 (previously 301), FIN 295 and MKT 295 (previously 303). An examination of the top-level managerial process of strategic management including strategy formulation and implementation, and environmental and competitive analysis with special emphasis on methods of organizational development to effect change.

## MGT 450 INTEGRATIVE BUSINESS STRATEGY \&

 POLICYPreviously MGT 430. Prereq.: Senior standing and FIN 295, MGT 295 (previously 301), and MKT 295 (previously 303). A course that provides the opportunity to integrate the content and experiences from the School of Business Core courses into a meaningful total organizational entity. The primary focus is on the relationships among the various business functions. Methodology is real-world oriented through use of simulations, cases or field work.

## MGT 460 STAFFING AND DEVELOPMENT

Prereq.: MGT 305. A study of issues related to the staffing of an organization and development of the organization's employees. Topics include human resource planning, recruitment, selection, placement, training, performance appraisal, equal employment opportunity and related topics.

## MGT 462 ISSUES IN HUMAN RESOURCE <br> MANAGEMENT

Prereq.: MGT 305. An in-depth analysis of selected functional responsibilities within the Human Resource Management spectrum. Topics include selection, training, employee and executive compensation plans, employee benefits and other practices of Human Resource professionals and organizations.

## MGT 470 ORGANIZING AND MANAGING FOR QUALITY

Prereq.: MGT 295 (previously 301). Examines leading organizational architecture that employs quality management in all activities of the enterprise. Explores how competitive strength is built by enabling the work force to innovate, so that products and service meet global customer standards.

MGT 472 DEVELOPMENTAL MANAGEMENT
Prereq.: MGT 295 (previously 301). An examination of those humanistic managerial approaches which focus upon the interdependencies in organizations that effect their capacities for organizational learning and development. A multi-cultural perspective is taken in building an eclectic understanding of managing.

## MGT 473 ORGANIZING AND MANAGING FOR

 INNOVATIONPrereq.: MGT 345 and 348; or permission of instructor. Explores contemporary approaches for releasing employee, supplier and customer creativity to constantly innovate what and how an organization produces its products and services. Irregular.

## MGT 474 ESSENTIALS OF SYSTEMS DYNAMICS

Prereq.: MIS 201 and MGT 348, or permission of instructor. Explores use of modeling and computer simulation as tools for testing the efficacy of management policies. Focuses on modeling continuous stock and flow systems, as well as feedback loops and time delays. Irregular. [c]

## MGT 478 DESIGNING HIGH-PERFORMANCE

 SYSTEMSPrereq.: MGT 345, 348, 426; or permission of instructor. Focuses on the use of conceptual models as a basis for designing world-class management systems and practices. Emphasis is placed on identifying state-of-the-art organizational practices and integrating them into a total system design for achieving optimal results. Irregular.

## MGT 481 MANAGEMENT OF NOT-FOR-PROFIT

 ORGANIZATIONSPrereq.: MGT 295 (previously 301). This course will apply basic principles of management of profit-making organizations to those in not-for-profit sectors. Areas discussed will be the management problems affecting hospitals, charitable organizations, foundations and unions.

## MGT 490 MANAGEMENT TOPICS

Prereq.: Permission of instructor. Selected topics in management, organization theory and human resource management. Course content will vary from semester to semester. May be repeated with different topics for a maximum of 6 credits. Irregular.

MGT 494 ENTREPRENEURSHIP
Prereq.: FIN 295 or permission of instructor. Entrepreneurship and its role as a fundamental component of our economic system is discussed. The resources needed to start a new business are outlined as a well-conceived business plan.

## MGT 496 PRACTICUM IN MANAGEMENT

AND ORGANIZATION
Prereq.: Permission of instructor and meet criteria dependent upon nature of the specific project(s) and permission of the chair of the Management and Organization Department. Students work on a real-world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be taken for a maximum of 6 credits. On demand.

## MGT 497 INTERNSHIP/INDEPENDENT STUDY IN

 MANAGEMENT AND ORGANIZATIONPrereq.: Approved Special Project Request Form. Applications may be obtained from the chair of the Management and Organization Department. Students, with approved proposals, identify and investigate managerial problem areas as well as organizational growth and development phenomena. Progress and performance are monitored and evaluated by the faculty adviser who has approved the study project. Activity may be either research oriented or an internship. May be repeated for a maximum of 6 credits.

## MGT 498 MANAGEMENT SEMINAR

Prereq.: Senior standing and 12 credits in management or permission of instructor. An examination of the latest development in management and organizational theory. Emphasis will be on current trends in the theory and practice of management using management literature and research. Course content will vary from semester to semester.

## MANAGEMENT INFORMATION SYSTEMS

Note: Enrollment in upper-division Business courses requires admission to the School of Business or permission of the Assistant to the Dean.

MIS 201 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS
The course provides the background necessary for understanding the role of information systems in organizations and for using computer tools and technology in solving business problems. Topics include organizational foundations of information systems, technical foundations of information systems, building information systems, and the management of information. Not open to CS majors. [c]

MIS 210 APPLICATION PROGRAM DEVELOPMENT I
Previously MIS 310. Prereq.: MIS 201. An introduction to computer programming in a business environment. Emphasis on the fundamentals of structured program design, development, testing, implementation and documentation of common business-oriented applications using COBOL. Discussion and application of top-down design strategies and structured programming techniques for designing and developing problem solutions. [c]

MIS 220 CONTEMPORARY BUSINESS APPLICATIONS DEVELOPMENT
Previously MIS 320. Prereq.: MIS 210. Introduction to contemporary approaches to application development in a business environment. Emphasis on structured program design, development, testing, implementation and documentation of business applications.

MIS 311 APPLICATION PROGRAM DEVELOPMENT II
Prereq.: MIS 210. A continuation of MIS 210. An introduction to computer programming in a business environment. Emphasis on the fundamentals of structured programming design, development, testing, implementation and documentation of common business-oriented applications using COBOL.
Discussion and application of top-down design strategies and structured programming techniques for designing and developing problem solutions. [c]

MIS 400 DECISION SUPPORT AND EXPERT SYSTEMS
Prereq.: MIS 210 and 220 or other procedural/object-oriented language as approved by the department chair. The course provides an introduction to management information support systems, designed to aid managers and others in the decision-making process. These systems include Decision Support Systems (DSS), Group Decision Support Systems (GDSS), Executive Information Systems (EIS) and Expert Systems (ES). [c]

MIS 410 DISTRIBUTED PROCESSING NETWORKS AND TELECOMMUNICATIONS
Prereq.: MIS 210 and 220 or other procedural/object-oriented language as approved by the department chair. Impact of distributed systems on the business enterprise emphasized. Features of centralized, decentralized, and distributed systems; and technology implications as they relate to analysis, design, and development of distributed processing systems will be examined. [c]

MIS 415 DATABASE PROGRAM DEVELOPMENT
Prereq.: MIS 210 and 220 or other procedural/object-oriented language as approved by the department chair. Introduction to application program development in a database environment with an emphasis on loading, modifying and querying the database. Discussion of storage devices, data administration and data analysis. Design and implementation of a major database project. [c]

MIS 450

## ENTERPRISE STRATEGIES AND TRANSFORMATIONS

Prereq.: Senior standing. Organizational transformations are critical for continued market success in an increasingly complex and dynamic global environment.

Emphasizes integrative strategies spanning all business functions which are needed by evolving and established enterprises.

MIS 460

## EMERGING TECHNOLOGIES FOR BUSINESS

Prereq.: Senior standing. Analysis of current topics and developments in emerging technologies. Application of these technologies to support decision-making in enterprises. Design of alternate information systems and strategies. May be repeated under a different topic to a maximum of 6 credits. Irregular. [c]

MIS 461 STRUCTURED SYSTEMS ANALYSIS AND DESIGN IN MIS
Prereq.: Completion of all other MIS core courses or permission of MIS chair. Capstone experience within MIS. Development of business application systems using structured and object-oriented analysis and design. Use and evaluation of modeling techniques and CASE tools. Includes information systems architecture, enterprise modeling, project management and ethical issues. [c]

MIS 494

## INDEPENDENT STUDY IN MANAGEMENT INFORMATION SYSTEMS

Prereq.: Senior standing. Special study or research projects. Progress and performance are monitored and evaluated by a qualified MIS faculty adviser. May be repeated with different topics for a maximum of 6 credits. On demand. [c]

## MIS 496 PRACTICUM IN MANAGEMENT INFORMATION SYSTEMS

Prereq.: Permission of department chair. Students work on a real-world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Special Project Request Form. May be repeated for a maximum of 6 credits. On demand.

MIS 498
INFORMATION AND DECISION SCIENCES SEMINAR 3
Prereq.: Senior standing. An examination of the current trends in the theory and business practices of information and decision sciences. On demand. [c]

## MANAGERIAL COMMUNICATIONS

MC 207 MANAGERIAL COMMUNICATIONS
Previously MC 307. Prereq.: ENG 110 and sophomore standing. The study and development of effective business correspondence, reports and communications systems. Selected assignments include written and oral reports used in business. Area A (Business majors do not receive Area $A$ credit for this course.)

## MARKETING

Note: Enrollment in 300- and 400-level Business courses requires admission to the School of Business or permission of the Assistant to the Dean. MKT 303 was renumbered to MKT 295.

## MKT 295 FUNDAMENTALS OF MARKETING

Previously MKT 303. Overview of the multifaceted discipline and practice of marketing, emphasizing market segmentation and exchange. Consideration of consumer and industrial markets, product and service marketing, pricing and promotion strategies, and the role of distribution channels. [c] Area C (Business majors do not receive Area C credit for this course.)

## MKT 305 CONSUMER BEHAVIOR

Prereq.: MKT 295 (previously 303). Examines the influence of psychological, sociological and cultural factors on buying behavior of consumers and industrial buyers. Shows how this knowledge is indispensable to the marketing manager when he or she delineates target markets and makes decisions about product, price, promotion and channels of distribution. Current theories and models are related to present practices and potential applications.

MKT 306 MARKETING COMMUNICATIONS
Prereq.: MKT 295 (previously 303). Study of an organization's marketing communication with consumers and other stakeholders. Theory, characteristics and management of various promotion mix elements are surveyed including advertising, sales promotion, public relations, direct marketing and personal selling.

MKT 307
SALES ADMINISTRATION
Prereq.: MKT 295 (previously 303). Examines the organization of sales departments and how to select, train, administer and evaluate the sales force. Techniques of sales forecasting, planning and analysis are explored.

MKT 308 INTRODUCTION TO HOSPITALITY
Prereq.: MKT 295. Overview of the hospitality industry, with special emphasis on hotel, restaurant, tourism, recreation and leisure. Topics include history, principles, practices, philosophies, systems, description and interrelationships of hospitality components and the social and economic forces that impact this industry. Fall.

MKT 311 RETAILING
Prereq.: MKT 295 (previously 303). Discussions of retail store problems, opportunities and trends in retailing, store organizations, merchandising and store management.

MKT 313 MERCHANDISING
Prereq.: MKT 311. Discusses the basic elements of buying, merchandising, stock controls, product information and fashion analysis as they apply to the retailer and consumer.

## MKT 321 INTERNATIONAL MARKETING

Prereq.: MKT 295 (previously 303). An analysis of the techniques, procedures and strategies used by multinational firms. Potential problems are explored. Methods and sources of data for determining products to sell and countries in which to sell them are studied. [I]

MKT 330 SALES TECHNIQUE AND TRAINING
Prereq.: MKT 295 (previously 303). A study of the characteristics of the good salesperson, types of salespeople, psychology of selling and sales techniques; an overview of the training of salespeople.

## MKT $340 \quad$ PRODUCT DEVELOPMENT AND MANAGEMENT

Prereq.: MKT 295 (previously 303). A systematic examination of the processes by which new products are developed and incorporated into the marketing mix, existing products are evaluated and managed, and uneconomic products are demarketed.

MKT 350 MARKETING CHANNELS
Prereq.: MKT 295 (previously 303). A critical analysis of the various distributive strategies, the underlying theories of distribution channels, the techniques of costing alternative trade channels, and the structuring of channel intermediaries.

## MKT 358 RELATIONSHIP MARKETING

Prereq.: MKT 295. Strategic planning for developing and retaining repeat customers and business buyers. An examination of customer service systems and measurements such as buyer communication, customer satisfaction research, databases, pricing incentives and product enhancements. Spring.

MKT 375 SERVICES MARKETING
Prereq.: MKT 295. Investigates unique problems associated with marketing of services. Focuses on managing customer perceptions of service quality by designing services to match customer driven quality standards, communication to set realistic customer expectations and delivering services to meet those expectations.

MKT 413 INDUSTRIAL MARKETING
Prereq.: MKT 295 (previously 303). Organization, principles, policies, procedures and techniques used in effective and efficient buying and selling of materials, equipment and supplies by business and industry. Emphasis on roles of purchasing agents in wholesale organizations and buyers in retail establishments.

MKT 423 MARKETING RESEARCH
Prereq.: MKT 295 (previously 303), 305, 306 and STAT 200 or permission of department chair. Overview of research methods and procedures used in marketing to help solve marketing problems. Analysis of basic research designs and methods of collecting and interpreting data. [c]

## MKT 443 ADVANCED CONCEPTS IN RETAILING

Prereq.: MKT 313 and senior status or instructor's permission. Analysis of current problems in retailing by applying principles of merchandising, human relations, marketing and management via case and/or site studies. The course will involve fieldwork and classroom seminar sessions.

MKT 450
COMPETITIVE STRATEGY
3
Prereq.: Senior standing and AC 212, FIN 295, MGT 295, MIS 201, MKT 423; or permission of instructor. Achieving and sustaining competitive advantage in a complex, dynamic environment. Case studies, simulated scenarios and/or real world projects are assigned to demonstrate how business functions are integrated in making strategic marketing decisions. [c]

## MKT 460 EXPORT MARKETING

Prereq.: MKT 295 (previously 303), 321 and senior standing or permission of instructor. Opportunities, constraints and complexities in the strategy of marketing products and services in overseas markets. Marketing activities and institutions that are unique to export marketing.

MKT 470 MARKETING COMMUNICATIONS CAMPAIGN

3
Prereq.: MKT 306 or permission of graduate adviser. Application of marketing communication theory. Students learn how an organization integrates its promotion mix elements to present a unified message, and then create a strategic promotion plan for a "real" client. On demand.

## MKT 480 MARKETING FOR NON-PROFIT ORGANIZATIONS

Prereq.: MKT 295 (previously 303). A comprehensive study of the techniques used in marketing as they apply to non-profit organizations such as hospitals, governments, social action groups, educational institutions, religious institutions, etc. Topical areas to be covered will include market analysis, promotion decisions, market information systems and decision making in non-profit structures.

MKT 494 INDEPENDENT STUDY IN MARKETING
Prereq.: MKT 295 (previously 303), senior standing, and permission of the supervising instructor, the department chair, and the Dean of the School of Business. Special study or research projects, as assigned. Students with a deep interest in a specialized subject area explore their topic in detail.

## MKT 495 FIELD STUDIES IN INTERNATIONAL MARKETING

Prereq.: Permission of the instructor. Course is designed to enrich the student's understanding of the world as a marketplace by visiting foreign countries. Students will be able to observe and discuss marketing problems with leading foreign businessmen. On-site seminars will be included. [I]

MKT 496 PRACTICUM IN MARKETING
Prereq.: Permission of department chair. Students work on a real world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be repeated for a maximum of 6 credits. On demand.

## MKT 497 MARKETING INTERNSHIP

Prereq.: Lower-division common business core, MKT 295 (previously 303) and permission of department chair. Offers opportunity for students to use marketing knowledge and skills while gaining professional experience in a Connecticut business, government agency or non-profit organization. May be repeated for a maximum of six credits. Majors with an overall GPA of 2.50 or better only. On demand.

Prereq.: MKT 295 (previously 303) and senior standing. Exposes students to the latest developments in the field of marketing. Emphasis is placed on current advanced books and literature in relevant journals. Content will vary from semester to semester.

## MATHEMATICS

${ }^{1}$ These courses cannot be used to meet the requirements for a major or secondary concentration in mathematics and are not recommended by this department for use in meeting certification requirements in teaching secondary school mathematics.
*No student is permitted to use both MATH 105 and 113 to satisfy the General Education requirements.
${ }^{1}$ ECM 099 ELEMENTARY ALGEBRA Non-Credit
Review of the fundamental algorithms of whole numbers, integral numbers, rational numbers and elementary algebra.
${ }^{1}$ MATH 101 INTERMEDIATE ALGEBRA
Prereq.: ECM 099 or Placement Exam. Review and extension of elementary algebra. A study of functions including their algebraic properties and graphs. Quadratic equations and inequalities are solved and graphed. No credit given to students with credit for MATH 115, 121, or 125. This is not a mode course.

## ${ }^{1}$ MATH 105 FUNDAMENTALS OF MATHEMATICS

Prereq.: MATH 101 (C- or higher) or Placement Exam. This course is intended for those students who are not majoring in mathematics or the natural sciences. Provides students with an introduction to a broad range of topics in mathematics. No credit given to students with credit for MATH 218. Mode 2/Skill Area II*

## ${ }^{1}$ MATH 110 FINITE MATHEMATICS

Prereq.: MATH 101 (C- or higher) or Placement Exam. Topics to include those chosen from logic, theory of sets, counting techniques, probability theory, linear equations, linear programming, matrix algebra, graph theory and Markov chains. Emphasis placed on the construction of mathematical models and their applications. Fall. Mode 2/Skill Area II

## ${ }^{1}$ MATH 113 STRUCTURE OF MATHEMATICS I: NUMBER SYSTEMS

Prereq: MATH 101 (C- or higher) or Placement Exam. Problem solving approach to inductive reasoning, sets, numeration, number theory, integer properties and operations, rational number properties and numeration. No credit given to those with credit for MATH 366. Elementary Education and Special Education certification candidates only. Mode 2/Skill Area II*

## ${ }^{1}$ MA'TH 115 TRIGONOMETRY

Prereq.: MATH 101 (C- or higher) or Placement Exam. Study of relations, functions (special emphasis on the six trigonometric functions), inverses and graphs. An analytic approach to trigonometry using circular functions, angular measures, identities, graphs and inverses. No credit given to students with credit for MATH 221. Mode 2/Skill Area II

MATH 119 PRECALCULUS WITH TRIGONOMETRY
Prereq.: MATH 101 (C- or higher) or Placement Exam. Preparation course for the calculus sequence. Properties of functions including polynomial, rational, periodic, exponential and logarithmic, and rate of change. Also covers trigonometry, including the unit circle, right triangles and analytic trigonometry. No credit given to those with credit for either MATH 115 or 121. Mode 2/Skill Area II

MATH 120 PROBLEM SOLVING I
Prereq.: MATH 115 or Placement Exam. Polya's four-step approach to problem solving applied to non-routine problems in algebra, geometry and trigonometry. One two-hour lab per week.

## MATH 121 PRE-CALCULUS MATHEMATICS

Prereq.: MATH 115 (may be taken concurrently) or Placement Exam. First course in a unified first-year student-sophomore program in mathematical analysis. Properties of the real numbers, relations and functions, exponential and logarithmic functions, mathematical induction and conics. No credit given to students with credit for MATH 122 or 125. Mode 2/Skill Area II

## MATH 122 CALCULUS I

Prereq.: MATH 115 (C- or higher), MATH 121 (C- or higher) or Placement Exam. Limits and continuity, derivatives, applications of derivatives, antiderivatives, definite integrals and applications of definite integrals. Mode $2 /$ Skill Area II
${ }^{1}$ MATH 125 APPLIED CALCULUS I
Prereq.: MATH 101 (C- or higher) or Placement Exam. This course is for students majoring in the social, biological, behavioral and managerial sciences.
Topics include review of algebra, differentiation and integration. No credit given to students with credit for MATH 122. Mode 2/Skill Area II

## ${ }^{1}$ MATH 126 APPLIED CALCULUS II

Prereq.: MATH 125. Continuation of MATH 125. Topics include techniques of integration, application of integrals, differential equations and multivariate calculus. No credit given to students with credit for MATH 221. Mode 2/Skill Area II

## ${ }^{1}$ MATH 213 STRUCTURE OF MATHEMATICS II: PROBABILITY AND GEOMETRY

Prereq.: MATH 113 (C- or higher) or Placement Exam. Problem solving approach to deductive reasoning and logic, probability, descriptive statistics, point set, metric, analytic and transformational geometry; and properties of plane and solid figures. No credit given to those with credit for MATH 323. Early Childhood, Elementarys Middle Level or Special Education certification candidates only. Mode 2/Skill Area II

## MATH 218 DISCRETE MATHEMATICS

Prereq.: MATH 122 (C- or higher). Topics include logic, induction, recursion, combinatorics, matrices, graph theory, set theory and number theory.

MATH 220 PROBLEM SOLVING II
Prereq.: MATH 120 and 122. Polya's four-step approach to problem solving applied to non-routine problems in algebra, geometry, trigonometry and calculus. One two-hour lab per week.

MATH 221 CALCULUS II
Prereq.: MATH 122 (C-or higher). Continuation of MATH 122.
Differentiation and integration of transcendental functions, techniques of integration, indeterminate forms, improper integrals, sequences and infinite series. Mode 2/Skill Area II

## MATH 222 CALCULUS III

Prereq.: MATH 221 (C- or higher). Continuation of MATH 221. Parametric equations, polar coordinates, two- and three-dimensional vectors, three-dimensional analytic geometry, functions of several variables, partial differentiation, double and triple integrals.

MATH 228 INTRODUCTION TO LINEAR ALGEBRA
Prereq.: MATH 122 and 218. Vector spaces, systems of linear equations, determinants, linear transformations and matrices are considered. Three lectures and one three-hour lab per week.

## MATH 300 MATHEMATICS INTERNSHIP

Prereq.: Permission of the department and a 3.00 GPA in mathematics. Designed to provide students an opportunity to work in a business environment directly related to their major or specialization. Each student will apply his/her classroom knowledge in mathematics, actuarial science, operations research and/or statistics in an appropriate business setting. Graded on pass-fail basis only.

## ${ }^{1}$ MATH 305 STRUCTURE OF MATHEMATICS III: NUMBER PATTERNS

3
Prereq.: MATH 213. Exploratory approach to number patterns and functions. Topics include prime and composite numbers, perfect numbers, Fibonacci

3 numbers, figurative numbers, Pythagorean triples and sequences. Calculators will be used. Elementary Education and Special Education certification candidates only. Fall.

## ${ }^{1}$ MATH 306 STRUCTURE OF MATHEMATICS IV: DEVELOPMENT OF GEOMETRIC IDEAS

Prereq.: MATH 213. Exploration of geometric concepts via hands-on activities and computer software. Topics include congruence, similarity, transformations, tessellations and fractals. Elementary Education and Special Education certification candidates only. Spring. [c]

## ${ }^{1}$ MATH 307 TOPICS IN ELEMENTARY MATHEMATICS

 ering specialized areas not offered in the regular curriculum. May be repeated with different topics for a maximum of 3 credits. Irregular.
## MATH 313 NUMBER SYSTEMS FROM AN ADVANCED VIEWPOINT

Prereq.: Application filed for admission by the department to the Professional Program in Teacher Education. Examination of the content of elementary school mathematics from the point of view of teachers of secondary mathematics.
Requires field experience as a tutor in MATH 113. Taken concurrently with either MATH 327 or 328.

## MATH 320 PROBLEM SOLVING III

1
Prereq.: MATH 220 and 228. Polya's four-step approach to problem solving applied to non-routine problems in algebra, geometry, trigonometry, calculus, discrete mathematics and linear algebra. One two-hour lab per week.

## MATH 323 COLLEGE GEOMETRY <br> 3

Prereq.: MATH 218 and 221. Euclidean geometry from a modern viewpoint, with emphasis on the structure of deductive systems and methods of proof. Real number system as a model for Euclidean geometry, betweenness, separations and convexity, measure, congruence, parallelism, similarity and construction. Spring.

## MATH 327 CURRICULUM AND TECHNOLOGY IN

 SECONDARY MATHEMATICS IPrereq.: Application filed for admission by the department to the Professional Program in Teacher Education. Examination of the content of the mathematics curriculum in grades $7-12$, with emphasis on the development of algebraic thinking across grade levels and the use of spreadsheets, function plotting software and graphing calculators. Fall. [c]

## MATH 328 CURRICULUM AND TECHNOLOGY IN SECONDARY MATHEMATICS II

Prereq.: Application filed for admission by the department to the Professional Program in Teacher Education. Examination of the content of the mathematics curriculum in grades $7-12$, with emphasis on the teaching of geometry, probability, statistics and discrete mathematics, including the use of geometric drawing programs, laboratory instrumentation and the internet. Spring. [c]

## MATH 366 INTRODUCTION TO ABSTRACT ALGEBRA

Prereq.: MATH 218. Certain fundamental structures such as groups, rings, integral domains and fields are considered.

## MATH 398 INDEPENDENT STUDY IN

 MATHEMATICSPrereq.: MATH 228 or 366 , and a 3.00 G.P.A. in mathematics and permission of instructor. Special independent work to meet individual interest in areas not covered by the regular curriculum. Work will be under the supervision of a faculty member and in an area and for an amount of credit agreed upon prior to registration for the course. On demand.

## MATH 404 TOPICS IN MATHEMATICS

Prereq.: Permission of instructor. Topics in mathematics appropriate for inservice and pre-service teachers of mathematics which are not covered in regular course offerings. May be repeated with different topics for a maximum of 6 credits. Irregular.
${ }^{1}$ MATH 409 MATHEMATICS THROUGH COMPUTERS
Prereq: MATH 121 or 213. Applications of calculators and computers to promote better understanding of mathematical concepts and algorithms, K-12. Topics may include LOGO, BASIC, spreadsheets, graphing calculators and mathematical software. Fall. [c]

## MATH 410 EARLY CHILDHOOD MATHEMATICS

 METHODSPrereq.: MATH 213 (C- or higher) and admission to the Professional Program. Concepts underlying contemporary mathematics curriculum for early childhood grades. Developmentally appropriate methods for developing, through problem solving, concepts and the meaning of operations and procedures in arithmetic.

## MATH 411

## CLINICAL EXPERIENCE IN MATHEMATICS EDUCATION

Prereq.: MATH 327 or 328 or permission of instructor. This course provides the prospective mathematics teacher with an opportunity to gain practical experience in a tutorial or small-group-instruction setting. The student will spend a minimum of three hours each week in the Math Center at CCSU, working one-on-one with small groups of students seeking help with mathematics. The director of the Math Center will coordinate and oversee the activities of students enrolled in this course (including receiving reports from cooperating teachers). May be repeated for up to 4 credits but cannot be taken more than once in any semester.

## MATH 412 ELEMENTARY MATHEMATICAL METHODS

Prereq.: MATH 213 (C- or higher) and admission to the Professional Program. Concepts underlying contemporary mathematics curriculum for elementary grades. Developmentally appropriate methods for developing, through problem solving, concepts and the meaning of operations and procedures in arithmetic.

## MATH 413 TEACHING OF MATHEMATICS IN THE SECONDARY SCHOOL

Prereq.: MATH 327 and admission to the Professional Program in Teacher Education. Topics include planning for instruction, classroom management, promoting effective discourse, methods to address the needs of a diverse student population and methods of assessment. Field experience required. Taken concurrently with EDSC 425. Spring.

## MATH 414 MIDDLE LEVEL MATHEMATICS METHODS

Prereq.: MATH 121 or 122 or 125 (C- or higher), and admission to the Professional Program. Concepts underlying contemporary mathematics curriculum at the middle level with emphasis on both the structure of the mathematics content and the procedures used in teaching for understanding.

MATH 421 HISTORY OF MATHEMATICS
Prereq.: MATH 221 or 305 . Development of mathematics is traced from arithmetic of commerce, astronomy, geometry and trigonometry in Babylonia, Egypt, Greece and Rome to the later accomplishments in algebra, geometry and calculus. Spring. (O)

## MATH 425 MATHEMATICS LABORATORY

Prereq.: Application filed for admission by the department to the Professional Education Program. Construction and use in the laboratory of models, materials and instruments which illustrate principles and applications of mathematics. Summer.

MATH 426 STUDENT TEACHING SEMINAR 3
Prereq.: MATH 413. Examination of problems which arise in secondary mathematics instruction. Taken concurrently with EDSC 435. Fall.

## MATH 431 TECHNIQUES IN DIAGNOSIS AND REMEDIATION FOR THE TEACHING OF MATHEMATICS - K-12

3Prereq.: MATH 412, 414 or MATH 327 and student teaching. This course will train early childhood, elementary, middle and secondary teachers in diagnosis and remediation. The course will use a clinical case study approach so that each student will get practical, as well as theoretical, experience. Topics include identi-
fying the factors related to learning difficulties in mathematics in the cognitive and affective domains, diagnostic tests, identification of the underachiever and case studies.

MATH 440 SELECTED TOPICS IN MATHEMATICS 1-3
Prereq.: Permission of instructor. Selected topics in mathematics covering specialized areas not covered in regular offerings or that go beyond that provided for in the standard curriculum. May be repeated with different topics for a maximum of 6 credits. Spring. (E)

## ${ }^{1}$ MATH 441 INTRODUCTION TO CONCEPTS OF ANALYSIS I

Prereq.: MATH 113. Equations, inequalities, functions, relations and graphs. No credit given to students with credit for MATH 121. Fall.

## ${ }^{1}$ MATH 442 INTRODUCTION TO CONCEPTS OF ANALYSIS II

Prereq.: MATH 441. Extension of MATH 441. Basic concepts of trigonometric functions of angle and of real numbers and analytic geometry, including polar coordinates. Introduction to calculus and other selected topics. No credit given to students with credit for MATH 122 or 125. Spring. (O)

## ${ }^{1}$ MATH 446 INTRODUCTION TO COMPUTERS AND COMPUTER PROGRAMMING

Prereq.: MATH 121 or 125 or 441 or equivalent. Introductory course for those students with a limited mathematics background who desire a basic understanding of a computer, how it relates to everyday life and how to communicate with it. Topics include computer components, computer usage, programming and the computer impact on the many facets of our society. No credit given to Mathematics majors or concentrates (except Elementary concentrates) or to students with credit for MATH 221, 471 or CS 151. Spring. [c]
$\begin{array}{ll}{ }^{1} \text { MATH } 449 & \text { MATHEMATICS LABORATORY FOR } \\ & \text { ELEMENTARY SCHOOL }\end{array}$
Prereq.: MATH 412, 414 or 327 or equivalent and student teaching. Provides teachers in elementary school with the opportunity to make mathematical materials useful in teaching elementary mathematics. Each participant constructs mathematical models and manipulatives appropriate to his/her teaching level and interest. Mathematical projects and educational implications are discussed. Summer.

MATH 463 INTRODUCTION TO DIFFERENTIAL EQUATIONS
Prereq.: MATH 221. Methods of solution of ordinary differential equations, including the Laplace Transform. Some elementary applications in geometry, physics and chemistry. Fall. (O)

MATH 468 SYMBOLIC LOGIC
Prereq.: MATH 366 or equivalent. Introduction to truth, validity and argument. Methods of deduction, propositional functions and quantifiers, logic of relations, deductive system and propositional calculus. Spring. (E)

MATH 469 NUMBER THEORY
Prereq.: MATH 366 or equivalent. Elementary theory of numbers. Divisibility, prime numbers, Fundamental Theorem of Arithmetic, congruences, Diophantine equations, quadratic residues and continued fractions are among topics considered. Fall. (O)

MATH 470 MATHEMATICAL METHODS IN OPERATIONS RESEARCH
Prereq.: STAT 200 or 215 or 315 , and MATH 110 or 228 . Selected topics chosen from the areas of linear programming, decision analysis and network analysis. Spring. (O)

MATH 471 COMPUTER PROGRAMMING
3
Prereq.: MATH 221. Introduction to computer programming, with emphasis on the analysis of classes problems, the design of algorithms for solving them and the use of computer language for implementation. No credit given to students with credit for CS 151. [c]

MATH 472 COMPUTER SYSTEMS ORGANIZATION
Prereq.: MATH 471 or CS 151, and MATH 221. Course introduces concepts of assembler language, machine language, macro-instructions, subroutines, program check out, structure of assemblers, use of an operating system. Oriented toward mathematics. No credit given to students with credit for CS 254. [c]

MATH 473 APPLIED ALGEBRA
3
Prereq.: MATH 228 and 366. Applications of abstract and linear algebra to the areas of statistics, computer science, actuarial science and applied mathematics. Spring. (O)

MATH 477 NUMERICAL ANALYSIS 3
Prereq.: MATH 221, and MATH 471 or CS 151 . Selected topics including difference operators, iterative methods of finding zeros of functions, interpolation and polynomial approximation, numerical integration and differentiation, matrices and systems of linear equations. Fall. (E)

MATH 479 ELEMENTS OF APPLIED MATHEMATICS
Prereq.: MATH 221 and permission of instructor. Selected topics from numerical analysis, finite differences, partial differential equations and other areas of applied mathematics. May be repeated with different topics for a maximum of six credits. Spring.

MATH 483 GENERAL TOPOLOGY
Prereq.: MATH 221 and 366. Rigorous study of point-set topology. Topics include set theory, definition and basic properties of topological spaces, continuous functions and homeomorphisms. Fall. (O)

MATH 486 COMPLEX VARIABLES
Prereq.: MATH 221. An introduction to the theory of functions of a complex variable. Topics include the field of complex numbers, complex analytic functions, elementary functions and their mapping properties, integration theory and power series expansion of analytic functions. Spring. ( $E$ )

## MATH 491 ADVANCED CALCULUS

3
Prereq.: MATH 222. Topics from continuity and differentiability of functions of several variables, exterior differential forms, multiple and iterated integration, line integrals, Gauss', Green's and Stokes' Theorems. Fall. ( $E$ )

MATH 495 PRINCIPLES OF REAL ANALYSIS I
Prereq.: MATH 221 and 366. Introduction to functions of a real variable and their properties. Rigorous study of the real number system, topological properties of the real line, Cauchy sequences, limit and continuity properties of a real variable, metric spaces. Fall. (O)

## MEDICAL TECHNOLOGY

Note: The following courses are available only to students in the Medical Technology program.

## MT 410 CLINICAL MICROBIOLOGY <br> 8

Includes all the isolation and identification of clinically significant bacteria from all types of clinical specimens. Also covered: parasitology, virology and mycology. Correlation of laboratory findings to disease states emphasized.

## MT 411

HEMATOLOGY
Comprehensive study of the principles, procedures, special techniques and disease states of the cellular components of the blood. Includes hemostasis.

MT 412
CLINICAL MICROSCOPY
Principles of the diagnostic procedures for urine, spinal fluids, feces, gastric contents and other body fluids.

## MT 413 BLOOD BANKING AND <br> IMMUNOHEMATOLOGY

Study of human blood groups, compatibility testing, component therapy and their relation to transfusion. Emphasis is on problem solving.

The biochemical analysis of body fluids in health and disease, and the clinical application of test results.

## MT 415 IMMUNOLOGY AND SEROLOGY

A study of the immune response in health and disease and the use of current techniques for the determination of antigen-antibody reactions.

MT 416 SPECIAL TOPICS IN MEDICAL TECHNOLOGY
Investigation of special medical technology subject and/or related topic.

## MODERN LANGUAGES

ML 400 TOPICS IN MODERN LANGUAGES 3
Prereq.: Permission of instructor. Literary and language topics taught in the target language. May be repeated with different topics for maximum of 6 credits. On demand.

ML 420 INTERNSHIP IN FOREIGN LANGUAGES 1
Prereq: Appropriate 226 course or equivalent in target language. Practical field experience using the target language. One credit per eight-week unit. May be repeated to a total of three credits. On demand.

ML 429 SEMINAR IN MODERN LANGUAGE TEACHING METHODS
Prereq:: Matriculation in graduate certification program, admission to the professional program in teacher education, permission of department and permission of the Director of the Office of Field Experiences. Discussion and practice of the historical, theoretical and contemporary issues, and selected topics related to the teaching of modern languages at the secondary level. Fall.

ML 440 STUDENT TEACHING SEMINAR IN MODERN LANGUAGES
Prereq.: Admission to the professional program in teacher education. Discussion, critical thinking and problem solving techniques with applications in the foreign language classroom. Taken concurrently with EDSC 435. Spring.

## ML 492 TOPICS IN LANGUAGE TEACHING 1-3

Prereq.: ML 429. Special aspects of language teaching, such as creative uses of the language laboratory and other special aids, individualizing language instruction, teaching of literature and culture in the schools, will be emphasized. Topics may vary from section to section. Course may be repeated, with different topics, for up to 6 credits. Irregular.

ML 496 INDEPENDENT STUDIES IN
MODERN LANGUAGES

Prereq.: Permission of instructor. Independent work in language, culture and literature, to meet individual interest in topics not covered in the regular curriculum. Work done under the supervision of a faculty member. On demand.

## MUSIC

*Fees are subject to change.
MUS 101 PRACTICUM IN MUSIC EDUCATION 2
Prereq.: Certification in Music Education declared. Overview of topics related to a career in music education. Includes case study analysis, discussion of issues in music education, observations and reflections on classroom teaching and rehearsals, and laboratory in music education technology. Spring.

MUS 109 FUNDAMENTALS OF MUSIC
Music reading, ear-training and elementary music theory. Mode 4/Study Area I
MUS 110 LISTENING TO CLASSICAL MUSIC
Introduction to masterpieces of Western art music and to skills required for critical listening. Mode 4/Study Area I [I]

MUS 111 MUSIC OF THE WORLD'S PEOPLES
Introduction to music from a cross-cultural perspective, including African, Asian, Hispanic and Native American musical traditions. Mode 4/Study Area I [I]

MUS 112 COMPUTER APPLICATIONS TO MUSIC
Exploration of music using computer technology. Includes music fundamentals, elementary principles of musical composition and computer sound synthesis through the use of computers. Mode 4/Study Area I

MUS 113 HISTORY OF JAZZ
Survey of the evolution of jazz from its origins in African-American, European and American ethnic styles through present models as illustrated through lectures, recordings and related readings. Mode 4/Study Area I

MUS 114 MUSIC TECHNOLOGY FOR THE MUSIC EDUCATOR
Introduction to the various aspects of music technology relevant to music education, including notation, sequencing, computer-aided instruction and multimedia music. On demand.

MUS 115 SIGHT SINGING I
Development of sight-singing skills; diatonic major and minor materials. Open only to Music majors. Fall.

MUS 116 SIGHT SINGING II
Prereq.: MUS 115. Continued development of diatonic major and minor sight singing skills. Introduction to chromatic materials. Spring.

MUS 121 MUSICIANSHIP I
Basic properties of music with emphasis on melodic materials; study includes stylistic analysis, composition, two- and three-part counterpoint and melodic dictation. Open only to Music majors. Fall.

MUS 122 MUSICIANSHIP II
3
Prereq.: MUS 121 or equivalent. Homophonic texture and diatonic harmonic relations, form and analysis, harmonic dictation. Open only to Music majors, Spring.

MUS 140
ENSEMBLE
Prereq.: Permission of instructor through audition. Study and performance for ensembles for various combinations. May be repeated for credit with different content. This course does not satisfy ensemble degree requirements for Music majors (except B.A. in Jazz Studies). Mode 4

MUS 141 CHORUS
Prereq.: Permission of instructor through audition. Various types of choral works are performed. Different choral literature is studied each semester. May be repeated for credit with different course content. Mode 4

MUS 142 SYMPHONY BAND-WIND ENSEMBLE
Prereq.: Permission of instructor through audition. Open to all students who play band instruments. Various types of literature performed. May be repeated for credit with different content. Mode 4

MUS 143 ORCHESTRA
Prereq.: Permission of instructor through audition. Open to all students who play orchestra instruments. Standard orchestral literature will be played. Course may be repeated for credit with different content. Mode 4

MUS 170 THEORY OF MUSIC I
Prereq.: MUS 109 or MUS 250 or equivalent. Basic materials of music: pitch, duration, intensity, timbre, envelope. Major-minor tonal systems: scales, keys, intervals, rhythmic studies, triads, melodic analysis and composition. Musicianship: sight-singing, ear-training, beat patterns, melodic dictation. Fall. Mode 4

MUS 177
APPLIED MUSIC
1
Individual instrumental or vocal instruction in performance. Open to non-majors by permission of the instructor. Fee: $\$ 200$ per semester. * Mode 4

MUS 178 APPLIED MUSIC FOR MAJORS
2
Individual instrumental or vocal instruction in performance. Open only to Music majors. Fee: $\$ 400$ per semester. *
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MUS 216
ETHNOMUSICOLOGY
Prereq.: MUS 121, 170. Introduction to the discipline of ethnomusicology. Case studies explore different musical systems and their relationship to their cultural settings. Fall. [I]

MUS 215 SIGHT SINGING III
Prereq.: MUS 116. Continued development of diatonic and chromatic sight singing skills. Introduction to modulatory materials. Fall.

SIGHT SINGING IV
Prereq.: MUS 215. Continued development of diatonic and chromatic sight singing sheitls. Expanded tonal and atonal materials. Open to Music majors only. Spring.

## MUS 221 MUSICIANSHIP III

Prereq.: MUS 122 or equivalent. Harmonic relations continued: chromatic and higher tertian harmony, form and analysis continued, basic principles of orchestration, harmonic dictation. Open only to Music majors. Fall.

MUS 222 MUSICIANSHIP IV
1 Prereq.: MUS 221 or equivalent. Study of historical forms and contrapuntal techniques through analysis, composition and performance, continuation of orchestration study and ear-training. Open only to Music majors. Spring.

MUS 235 MUSIC HISTORY I 2
Prereq.: MUS 110. Survey of the development of Western music in its historical context from ancient time through 1750. Open only to Music majors. Spring.

MUS $250 \quad$ PIANO CLASS I
Introduction to piano through the study of harmonic, melodic and rhythmic patterns. Elementary keyboard skills in sight-reading, transposition and melody harmonization. For students with no previous piano training. Mode 4

PIANO CLASS II
Prereq.: MUS 250 or equivalent skill and permission of instructor.
Continuation of keyboard skills introduced in MUS 250. Mode 4
MUS 259 VOCAL METHODS
Methods and materials of class instruction in voice. Open only to Music majors. Spring.

MUS 261 WOODWIND CLASS I
Beginning class instruction in woodwind instruments. Open only to Music majors. Fall.

MUS 262 BRASS CLASS I
1
Beginning class instruction in brass instruments. Open only to Music majors. Spring.
PERCUSSION CLASS
Class instruction in snare drum, tympani and related orchestral and band percussion instruments. Open only to Music majors. Fall.

MUS 264 VOICE CLASS 2
1 Instruction in voice production and vocal techniques. Vocalizations for vowels, range, flexibility. Song repertoire for individual members. Fall. Mode 4

MUS 267 STRING CLASS: VIOLIN AND VIOLA 1 Methods and materials of class instruction in violin and viola. Open only to Music majors. Fall.

MUS 268 STRING CLASS: CELLO AND DOUBLE BASS
Methods and materials class instruction in cello and double bass. Open only to Music majors.

## MUS 270 THEORY OF MUSIC II

Prereq.: MUS 170 or equivalent. Two- and three-part polyphonic structures. Diatonic harmony: four-part chorale writing and analysis. Modal and pentatonic scale systems. Intermediate studies in pitch, duration, intensity, timbre, envelope. Musicianship: sight-singing, ear-training, melodic and harmonic dictation. Spring. Mode 4

MUS 310
GENERAL MUSIC METHODS
Organization, aims and supervision of elementary and middle school programs. Materials for teaching general music in the elementary and middle schools. Open only to Music Education majors. Fall.

MUS 315
CHORAL MUSIC METHODS
Prereq.: MUS 310. Organization, aims, methods and supervision of school vocal programs and choral organizations in elementary, middle and high schools.
Discussion of special problems of choral conducting and the selecting of choral materials for elementary, middle and high school choirs Open only to Music Education majors. Spring.

## MUS 316

INSTRUMENTAL MUSIC METHODS
Prereq.: MUS 310. Organization, aims, methods and supervision of school instrumental programs and instrumental organizations in elementary, middle and high schools. Discussion of special problems of instrumental conducting and the selecting of instrumental materials. Open only to Music Education majors. Fall.

## MUS 350

PIANO CLASS III
Prereq.: MUS 251 or equivalent skill and permission of instructor. Continuation of MUS 251 with emphasis on keyboard skill. Harmonization of folk melodies, improvising to given chord pattern, sight-reading of community songs. Fall. Mode 4

MUS 351 PIANO CLASS IV
Prereq.: MUS 350 or equivalent skill and permission of instructor.
Continuation of MUS 350. Improvisation on more advanced level. Repertoire from various styles of piano literature. Spring. Mode 4

MUS 361 WOODWIND CLASS II
Methods and materials of class instruction in woodwind instruments. Open only to Music Majors. Fall.

MUS $362 \quad$ BRASS CLASS II
Prereq.: MUS 222 or equivalent. Methods and materials of class instruction in brass instruments. Open only to Music majors. Spring.

MUS 363 JAZZ IMPROVISATION I
Prereq.: MUS 222 or permission of instructor. Performance study of the elements of jazz harmony and transcription of solos. Students will perform on their major instruments. Fall.

MUS 364 JAZZ IMPROVISATION II
3
Prereq.: MUS 222 or 363 or permission of instructor. Performance study of the elements in the jazz idiom, with emphasis on creative expression. The course will focus on the development of musical ideas while also giving the student a broad experience of styles and historical genres in the jazz idiom. Spring.

## MUS 365 JAZZ COMPOSING AND ARRANGING

Prereq.: MUS 222 or permission of instructor. Compositional and arranging techniques in the jazz idiom. Student will arrange and compose pieces for jazz ensemble. Student must be able to work independently. Fall.

## MUS 367 CHORAL CONDUCTING

Prereq.: MUS 222 or equivalent. Development of skills in choral conducting and score reading. Open only to Music majors. Fall.

MUS 368 INSTRUMENTAL CONDUCTING
Prereq.: MUS 367. Development of skills in instrumental conducting, baton technique and score reading. Open only to Music majors. Spring.

## MUS 390 ORCHESTRATION

Prereq.: MUS 222. Techniques and principles of orchestration; both instrumental and vocal arranging. Open only to Music majors. Fall.

MUS 395 COMPOSITION
Prereq.: MUS 222 or permission of instructor. Principles and techniques of music composition, geared to the mature musician; much independent work. Open only to Music majors. Spring.

Individual study in an area of student's choice. May take the form of performance, composition, paper, etc., to be determined in consultation with a Music Department adviser.

MUS 401 TOPICS IN MUSIC
Prereq.: Permission of instructor. Selected topics in music to include specialized areas not covered in regular course offerings. May be repeated with different topics for up to 6 credits. Irregular. Mode 4

MUS 402 STUDENT TEACHING SEMINAR
Seminar in which students discuss experiences in their learning communities, share resources, problem-solve, and develop and refine teaching techniques.
Taken concurrently with EDSC 420 and/or 421.

MUS 430 MOZART AND HAYDN
3
Prereq.: 9 credits in Music or permission of instructor. Historical and analytical study of the composers and selected works. Irregular.

MUS 431 BEETHOVEN 3
Prereq.: 9 credits in Music or permission of instructor. Historical and analytical study of the composer and selected works. Irregular.

BACH AND HANDEL
Prereq.: 9 credits in Music or permission of instructor. Historical and analytical study of the composers and selected works. Irregular.

## MUS 434 CHAMBER MUSIC

Prereq.: 9 credits in Music or permission of instructor. Study of chamber music from the Baroque to the present; selected works of major composers in the medium. Irregular.

## MUS 435

MUSIC HISTORY III
Prereq.: MES 335. Historical and theoretical study of works by major 20th centum ry composers and their compositional procedures. Open to Music majors only. Fall.

3 MUS 436 CHORAL MUSIC
Prereq.: 9 credits in Music or permission of instructor. Choral music from the Renaissance to the present; analysis of selected major works in the medium. Irregular.

## MUS 439 SYMPHONIC MUSIC

3
Prereq.: 9 credits in Music or permission of instructor. Survey of representative works in the medium from the Baroque to the 20th century. Irregular.

MUS 441 RESEARCH/BIBLIOGRAPHY SEMINAR
Prereq.: MUS 222 or equivalent. Examination of primary and secondary research sources and their application to modern musical scholarship.
2 Representative research projects pursued. Open to Music majors only. Irregular.

## MUS 470 MUSICAL STRUCTURE AND STYLE

Prereq.: Two semesters of undergraduate theory. A survey of the principles of music theory through analysis of representative forms from various style peri-
2 ods. Emphasis on aural awareness through melodic and harmonic dictation. Irregular. Mode 4

## MUS 495 ADVANCED COMPOSITION

2
2 Prereq.: MUS 395 or permission of instructor. Continuation of MUS 395. Principles and techniques of musical composition, emphasis on larger forms and independent work. Irregular.

## NURSING

NRSE 300 NURSING ASSESSMENT
4
The health assessment course is designed to prepare the registered nurse with the theoretical knowledge and skills necessary to perform a comprehensive assess-
ment. The emphasis will be on comprehensive history taking, interviewing and assessment techniques.

## NRSE 301 THEORETICAL FOUNDATIONS

 OF NURSINGIntroduction to the B.S.N. program philosophy, objectives and conceptual framework. Investigation of related nursing theories and their application to nursing practice. An examination of the concept of wellness, nursing process, leadership, teaching and learning as applied to individuals, families and communities.

## NRSE 302 PRE-CRISIS FAMILY AND

 COMMUNITY HEALTHPrereq.: NRSE 300, 301 and matriculation to BSN program. The development of nursing process related to individuals, families and communities in pre-crisis with emphasis on health promotion, health teaching, leadership, nursing theory and the implications of nursing research. Must be taken with NRSE 304 and 306.

## NRSE 303 INTRODUCTION TO NURSING

 RESEARCHPrereq.: NRSE 301 and matriculation into the B.S.N. program. Basic nursing research design and methodology. Preparation of the professional nurse to be a critical consumer of nursing research and to begin to apply basic nursing research findings to nursing practice.

## NRSE 304 PRACTICUM IN FAMILY AND

 COMMUNITY HEALTHPrereq.: NRSE 300, 301 and matriculation into the B.S.N. program. The application of nursing process to individuals, families and communities in pre-crises settings with the emphasis on anticipatory guidance, health promotion, health teaching, the leadership role of the nurse and implications of nursing research. Must be taken with NRSE 302 and 306. Applications due by March 15 for fall semester or summer session and by October 15 for spring semester/Winter session.

NRSE 306 PROFESSIONAL TRANSITION IN FAMILY AND COMMUNITY HEALTH
Prereq.: NRSE 300, 301 and matriculation into the B.S.N. program. Development and integration of the professional nursing role in relation to the concepts of wellness in a variety of health care delivery systems. Must be taken with NRSE 302 and 304.

## NRSE 401 TRENDS AND ISSUES

Prereq.: Permission of instructor. An analysis and evaluation of trends and issues in health care delivery and nursing with emphasis on accountable professional behavior.

## NRSE 402 CRISES AND THEIR RESOLUTION IN FAMILY AND COMMUNITY HEALTH

Prereq.: NRSE 303 and 306, or permission of instructor. Must be taken with NRSE 404 and 406. Theoretical analysis and synthesis of the concepts of nursing process with individuals, families and communities in crisis and post-crisis situations utilizing current theories and nursing research.

## NRSE 404 ADVANCED PRACTICUM IN FAMILY

 AND COMMUNITY HEALTHPrereq.: NRSE 306 or permission of instructor; taken concurrently with NRSE 402 and 406. Application of the nursing process to individuals, families and communities in crisis and post-crisis situations with emphasis on analyzing and synthesizing all aspects of nursing practice in a variety of settings functioning in a leadership role, applying research findings and selecting appropriate principles of teaching in planning, implementation and evaluation of client care.
Applications due March 15 for fall semester or Summer Session; October 15 for spring semester or Winter Session.

NRSE 406 PROFESSIONAL NURSING PRACTICE
Prereq.: NRSE 306 and permission of instructor. Must be taken with NRSE 402 and 406. An analysis of change theory and role development in relation to professional practice in nursing. Applications due by March 15 for fall semester or Summer Session and by October 15 for spring semester.

NRSE 498 SPECIAL STUDIES IN NURSING
Prereq.: NRSE 302, 303, 304 and/or permission of instructor. Individualized plan to aid the learner in attainment of professional goals. Plan may consist of directed study of reading, clinical experience, individual instruction, research or other appropriate activities.

## PHILOSOPHY

PHIL $100 \quad$ SEARCH IN PHILOSOPHY
Introduction to the techniques and perspectives of philosophical inquiry. Title and content may vary from section to section. Mode 1/Study Area I

PHIL 101 THROUGH TIME AND CULTURE
Survey of general problems in philosophy, conducted by way of encounters with a range of sources, from a variety of cultural and philosophical traditions including European, American, Chinese, Indian and African. Offered on-site at selected local public high schools as a college-level course for qualified high school seniors and juniors only, selected in consultation with appropriate high school faculty and administrators. On demand. Mode 1/Study Area I

PHIL 112 INTRODUCTION TO PHILOSOPHY 3
Introduction to the study of some significant philosophies, including problems such as metaphysics, theories of knowledge and theories of value. Mode 1/Study Area I

PHIL 135 NATURE, MIND AND SCIENCE 3
Introduction to philosophical problems concerning matter, life, mind, cosmology and evolution from ancient times to the present. Fall. Study Area I

PHIL 144 MORAL ISSUES
3
Critical examination (both practical and theoretical) of issues arising in the private and public conduct of one's life. Typical issues for examination are abortion, violence, capital punishment and conflicts between personal values and professional duties. Spring. Mode 1/Study Area I

PHIL 150 SOCRATES
Introduction to the life and philosophy of Socrates, especially as portrayed in Plato's early dialogues. Some attention to other commentators such as Aristophanes, Xenophon, Nietzsche and Kierkegaard. Mode 1/Study Area I

PHIL 220 INTRODUCTION TO LOGIC
Introduction to formal systems of deductive reasoning (Aristotelian syllogism, Venn diagrams, sentential and predicate logic), as well as non-deductive reasoning and the relations between logic and philosophy. Mode 1/Skill Area I

PHIL 222 PHILOSOPHY AND GENDER
Prereq.: Three credits in Philosophy or permission of instructor. Study of attitudes to gender in the history of philosophy, discussion of recent and contemporary issues and texts, and an introduction to feminist thought. Fall. (E) Mode 1

PHIL 230 ANCIENT GREEK PHILOSOPHY
Development of Greek philosophy from the pre-Socratics to Plato and Aristotle. Fall. Mode 1

PHIL 232 MEDIEVAL AND RENAISSANCE PHILOSOPHY
Prereq.: PHIL 230. Development of European philosophy from the Middle Ages to the end of the 16th century. Spring. (E) Modes 1 and 5

PHIL 235 PHILOSOPHY OF SOCIAL SCIENCE
Study of philosophical questions related to the social sciences, including the origin and nature of the concept of social science and the relation between social science and natural science. Spring. (O) Study Area I

PHIL 240 ETHICAL PROBLEMS IN BUSINESS
Critical examination (both practical and theoretical) of contemporary moral problems in business such as ethical investment, questionable foreign payments, disclosure, dumping, mergers, job discrimination, whistle-blowing and big and small business responsibilities and regulations. Spring. Mode 1

PHIL 241
ENVIRONMENTAL ETHICS
Critical examination of ethical problems concerning how people treat the land, air, plants and animals. Fall. (E) Mode 1

PHIL 242 ETHICAL PROBLEMS IN TECHNOLOGY
Critical examination (both practical and theoretical) of contemporary moral problems in technology, ranging from modern farming and manufacturing technologies to recombinant DNA, nuclear, modern surgical and computer technologies. Fall. Mode 1

PHIL 248 PHILOSOPHY OF THE ARTS
Prereq.: One course in philosophy or permission of instructor. Philosophical analysis of some of the concepts used in identifying, describing and evaluating both works of art and aesthetic experience: expression, representation, form, content, interpretation. Fall. (O) Modes 1 and 4/Study Area I

PHIL 250 INTRODUCTION TO ASIAN PHILOSOPHY
Broad survey of Indian and Chinese philosophical traditions. Fall. ( $E$ )
Mode 1/Study Area I [I]
PHIL 255 PHILOSOPHY OF RELIGION
Critical examination of important concepts, beliefs and arguments presented in world religions. Fall. Mode 1/Study Area I

PHIL 260 AFRICAN PHILOSOPHY
Examination of some or all of the five leading trends in African philosophy; ethnophilosophy, sagacity philosophy, metaphilosophy, modern/critical philosophy and liberation philosophy. Spring. Mode 1/Study Area I II]

PHIL 275 CHINESE PHILOSOPHY
Survey of Chinese philosophy from ancient times to the modern era, including early Confucianism and Taoism, Chinese Buddhist schools, Neo-Confucianism and China's reaction to Western thought. Spring. (E) Modes 1 and 3/Study Area I [I]

## PHIL 276 BUDDHIST PHILOSOPHY

Critical survey of Buddhist philosophy from its Indian beginnings to its development in China, including contemporary aspects. Primary source material is used to illustrate key doctrinal developments. Fall. Mode 1/Study Area I [I]

PHIL 300 INTERMEDIATE SEMINAR
Prereq.: Major or minor in philosophy, or permission of seminar coordinator. Provides background about the areas of interest and expertise of faculty members and stimulates student participation through papers and discussion. Spring.

## PHIL 320 MODERN LOGIC

Prereq.: PHIL 220 or permission of instructor. Further study of sentential and predicate logic. The formal foundations of epistemology and metaphysics as applied to various philosophical problems such as logical paradoxes, and minds and machines. Irregular. Mode 1

## PHIL 330 RATIONALISM AND EMPIRICISM

Prereq.: PHIL 112. European philosophy from the Renaissance to the Enlightenment including Descartes, Spinoza, Leibniz ("rationalists"), Locke, Berkeley, Hume ("empiricists"), and Kant; ontology, epistemology and metaphysics, the beginnings of science and the classical foundations of political and ethical theory, psychology and sociology. Fall. (O) Mode 1

## PHIL 332 THE AGE OF IDEOLOGY

Prereq.: PHIL 112 or 330, or permission of instructor. Major issues of the nineteenth century: the era of Darwin, Hegel, Schopenhauer, Nietzsche, Marx and others, focusing on metaphysics, epistomology, political philosophy and philosophy of history. Topics include philosophical background to continental philosophy, liberal, conservative and socialist ideologies, and the scientific doctrines of evolutionism and mechanism. Fall. (E) Mode 1 [I]

PHIL 335
PHILOSOPHY OF SCIENCE
Study of some contemporary philosophies of science, including theories of scientific revolutions, confirmation and refutation of scientific theories, hypothesis formation and theory testing, and scientific progress. Spring. (E)

Prereq.: PHIL 220 and 330, or permission of instructor. Study of relations between language, thought and reality by reference to the works of leading 20th century thinkers, both analytic and others. Spring.

PHIL 382 SPECIAL TOPICS IN PHILOSOPHY 3
Prereq.: One course in philosophy or permission of instructor. Study of various topics not dealt with in other philosophy courses. Irregular. Mode 1

PHIL $400 \quad 3$
Prereq.: PHIL 220 and 330, or permission of instructor. Study of selected topics as announced. Spring.

PHIL 401 SEMINAR IN ASIAN PHILOSOPHY 3
Prereq.: Six credits in either Asian philosophy, Asian religion or Asian history; or permission of instructor. Study of selected topic as announced. Spring. (O) [I] Mode 1

PHIL $440 \quad$ PROJECT IN APPLIED ETHICS
Prereq.: PHIL 220, 346 and six credits from PHIL 144, 222, 240, 241, 242, 346, 349, HHSP 246, 341, 342. Research in applied ethics. May include a practicum. Spring.

PHIL 441 PHILOSOPHY HONORS THESIS
Prereq.: Major in philosophy and approval of department. Undergraduate thesis on a topic in philosophy. On demand.

PHIL 492 INDEPENDENT STUDY
Prereq.: Permission of instructor. Individual research in selected topics. Open to
any student who wishes to pursue a topic of special interest for which the student is qualified. On demand.

## PHYSICAL EDUCATION

Note: See other courses under Recreation for students not majoring in Physical Education.

## PE 101 COACHING PERMIT: LEGAL LIABILITY

 AND SAFETY ASPECTS OF COACHINGThis course is designed to acquaint the student with a background in legal liability with specific reference to negligence, due process and product liability.
Summer and Winter Sessions.

## PE 102 COACHING PERMIT: MEDICAL ASPECTS OF COACHING

This course is designed to acquaint the student with the medical aspects of coaching adolescents. Instruction will include the care of, prevention of and rehabilitation of athletic-related injuries. Summer and Winter Sessions.

PE 103

## COACHING PERMIT: PRINCIPLES AND PRACTICES OF COACHING

This course is designed to acquaint the student with the aspects of coaching which deal with the values of athletics in education, ethics, public relations, motivation, aggression and violence, anxiety and stress, and practice sessions. Summer and Winter Sessions.

PE 110 CONCEPTS IN FITNESS AND WELLNESS
Examines the general concepts of health-related physical fitness in a lecture-laboratory setting. Open to all students. Area C

PE 111 ORIENTATION TO PHYSICAL EDUCATION
2
Examines the history, philosophy and foundation aspects of physical education with allied fields. PE majors only.

PE 201 TEACHING AEROBICS: DANCE, STEP AND AQUA
Principles of teaching aerobic fitness activities in the dance studio and in the pool. Topics include dance design, safety concerns, basic steps, choreography and exercise leadership skills. Open to Exercise Science students only. Spring.

PE 210 PERSONAL AND COMMUNITY HEALTH
Prereq.: BIO 111 (C- or higher). Individual health problems of college students as well as optimum health patterns for the school, community and home. Area $C$

## PE 213 ANATOMY IN PHYSICAL EDUCATION

Prereq.: BIO 111 (C- or higher). Study of structure and function of human body with emphasis upon skeletal, muscular, nervous and respiratory systems as applied to P.E. activities. Area C

PE 214 PHYSIOLOGY IN PHYSICAL EDUCATION
Prereq.: PE 213 (C- or higher) and CHEM 111 (C- or higher). Study of the function of the human body with emphasis on the muscular, circulatory, respiratory and nervous systems as applied to physical education activities.

PE 215
PHYSIOLOGICAL ASPECTS OF THE HUMAN PERFORMANCE OF THE AGING
This course will stress the physiological responses of exercise and the physiological rational for lifelong physical activities for the aged. Fall. (E)

PE 216 KINESIOLOGY
3
Prereq.: PE 214 (C- or higher) and PHYS 111 (C- or higher). Analysis and application of principles of mechanics as they relate to motor skills in physical education.

PE 217

## CARE AND TREATMENT OF ATHLETIC INJURIES

3
Prereq.: PE 213 (C- or higher). Prevention and treatment of athletic injuries with opportunity for practical application in prevention/protective strapping, acute injury care, fitting of protective equipment and devising special padding. Course includes a 50-clock hour observation. For all Physical Education majors.

## PE 218

SCIENTIFIC BASIS FOR ATHLETIC TRAINING
Prereq.: PE 217. Orthopedic evaluation of athletic injuries, pre-season screening and mechanisms of athletic injuries will be studied, as well as the psychology of injury and the effectiveness of athletics on the pre-adolescent athlete. Spring.

PE 244 FITNESS/WELLNESS VENTURES
2
Benefits of healthy lifestyle incorporating fitness and wellness topics within a lecture and activity setting. Area D/Skill Area IV

PE 271 ADVANCED VOLLEYBALL
1
Survey course in volleyball fundamentals and techniques that will focus on volleyball game strategy. Teaching/coaching applications will emphasize kinesiological principles for personal and team development. Activity course. Open to majors only.

PE 272 MOVEMENT FUNDAMENTALS
1
Introduction to spatial and dynamic considerations of movement. Kinesthetic awareness and application of locomotor and axial movements in creative combinations will be explored. Activity course. Open to majors only.

PE 273
TUMBLING AND GYMNASTICS
2
sizing pedagogy, error correction and spotting techniques. Basic tumbling skills and apparatus activities are included. Activity course. Open to majors only. Fall.

PE 277
OUTDOOR ADVENTURE ACTIVITIES
2
Survey course that includes group initiative games, rope course activities and orienteering. Develops skills necessary to organize a safe, effective outdoor education program. Some class meetings occur off campus. Irregular.

## PE 300 DEVELOPMENTAL MOVEMENT

Application of Laban's Movement Framework to the teaching of elementary physical education. Includes rhythmic activities, folk dance and developmentally appropriate games. Spring.

PE 304 SECONDARY METHODS IN PHYSICAL EDUCATION

3
Prereq.: Admission into the Professional Program of Teacher Education.
Curricular content of physical education for secondary teaching is discussed and analyzed. Methods and techniques of teaching are presented and opportunities for teaching provided. Course is a prerequisite to student teaching. Open only to Physical Education majors. Fall.

## PE 305 EVALUATION IN PHYSICAL EDUCATION

3 Prereq.: STAT 104 and admission to the program. Measurements in health and physical education. Emphasis on modern tests of physical fitness, skills, knowledge and general motor ability. Fall.

## PE 306 RECREATION AND THE AGING PROCESS 3

A study of the needs of the aged as applied to the provisions of recreational services in community and institutional settings. This course will provide methodology in one-to-one and group methods in leisure, fitness or health services for the aging. Spring. (O)

3 PE 307 HUMAN NUTRITION 3 Prereq.: CHEM 111 (C- or higher). Principles and concepts of normal human nutrition applied to various stages in life and activities especially as they relate to health promotion and weight control. Motivational skills for fitness, adherence to healthy nutrition and strategies for evaluating health and fitness claims will be discussed. Open only to Physical Education majors. [c]

PE 311
STRESS MANAGEMENT
3
Prereq.: PE 210 (C- or higher), PSY 112. Examines the physical and mental phenomena that constitute stress and the effects of negative stress on the body. Presents strategies for managing and coping with stress, increasing self control and adaptive behavior. Fall.

PE 314
BASEBALL OFFICIATING
Rules and techniques of officiating interscholastic and intercollegiate baseball. The course includes field experience and classroom lecture. Spring.

PE 315
PRACTICUM IN ATHLETIC TRAINING I
Prereq.: PE 217, minimum of 200 NATA approved contact hours, one semester of work experience in CCSU's athletic training facility, or permission of instructor. Provides 300 clock hours of supervised experience in first aid, preparing teams for competition and maintaining the athletic training room. Open only to Athletic Training students.

PE 316 PRACTICUM IN ATHLETIC TRAINING II
Prereq.: PE 218, 315, 700 NATA approved contact hours, three semesters of work experience in CCSU's athletic training facility, admission to professional program or permission of instructor. A second 300 clock hour supervised experience in evaluating athletic injuries, establishing treatment plans, rehabilitation programs and maintaining records. Open only to Athletic Training students.

PE 317 THERAPEUTICS IN ATHLETIC TRAINING 3
Prereq.: PE 217. Introduction to the theories and techniques of manual muscle testing, flexibility testing, rehabilitation and conditioning programs. Theories of strength development including isokinetic techniques. Fall.

## PE 332 PSYCHOLOGICAL ASPECTS OF SPORT

Psychological aspects of sport participation are reviewed with emphasis on coach and player issues. Topics will include "burn out," stress management, arousal, motivation. Course aims to broaden student background in these topics and the interpersonal relationships between coaches and players at the adolescent and youth sport levels. Majors and concentrates in Physical Education only. Spring.

PE 335 COACHING BASEBALL
Techniques of batting, pitching, how to play various positions and strategy of the game. Spring.

PE 350 RACQUET SPORTS
Survey course in racquet sport skills and techniques that will focus on application of motor learning and kinesiological principles for personal skill development as well as teaching/coaching application. Activity course. Open to majors only.

## PE 375 TRAINING FOR FITNESS

Prereq.: PE 214 (C- or higher). Designed to enhance fitness levels and to develop the knowledge and skills required to organize a safe and effective physical fitness program. Activity course. Open to majors only.

PE 380
LEADERSHIP IN EXERCISE AND WELLNESS
Prereq.: PE 210 (C- or higher), 375 (C- or higher). Opportunities for students to gain knowledge assisting instructor in the Fitness/Wellness course. Students will learn to lead exercise sessions and engage in health promotion activities.

PE 402

## ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION

Prereq.: Admission into the Professional Program of Teacher Education. Administrative procedures involved in conducting physical education activities, arranging programs, providing facilities and handling staff-class details, finance, publicity, interscholastic and intramural activities. Fall.

PE 403 METHODS IN PHYSICAL ACTIVITY FOR THE AGING
An examination of appropriate activities and methods of teaching physical education for the elderly. Fall. (E)

PE 405 ELEMENTARY METHODS IN PHYSICAL EDUCATION
Prereq.: PE 272 and admission to the Professional Education Program in Teacher Education. Application of the child-centered, problem-solving approach as a method to learning fundamental concepts of movement. Discussion, observation and laboratory experience will provide theoretical background. Majors in Physical Education program (B.S. Ed.) only. Fall.

PE 406 ADAPTED PHYSICAL EDUCATION
Prereq.: PE 214 (C- or higher), 272, 305. Pedagogical skills and knowledge pertaining to physical education for individuals with disabilities and gifted and talented individuals. Emphasis on program planning and teaching effectiveness in the psychomotor domain. Fall.

PE 407 HUMAN PERSPECTIVES IN SPORT
Prereq.: Senior or graduate status. This course offers students an opportunity to inquire into the nature and expression of humans in sport. Topics include the issue of competition and winning, amateurism vs. professionalism, the values of sport, causes and results of spectator behaviors. Spring.

## PE 408 THE CURRICULUM PROCESS IN K-12 PHYSICAL EDUCATION

Prereq.: Admission to the Professional Program. Identification of competencybased, goal-oriented activities appropriate to K-12 physical education. Emphasis on program development and design, instructional process, program implementation and evaluation. Fall.

PE 409

## PSYCHO-SOCIAL ASPECTS OF PHYSICAL EDUCATION

## PE 410 EXERCISE PHYSIOLOGY

Prereq.: PE 214 (C- or higher). The physiological factors which affect human performance in physical education and athletics will be studied. The acute and chronic effects of exercise on the respiratory, circulatory and muscular systems will be emphasized. Majors in Physical Education only.

## PE 411 ORGANIZATION AND MANAGEMENT OF HEALTH PROMOTION PROGRAMS

Prereq.: Admission to the degree program in Physical Education or graduate status. Management procedures involved in conducting health fitness activities and program implementation. Emphasis on facilities, budgeting, legal liability and risk management. Spring.

## PE 412

## THE APPLICATION OF TORT LAW

 TO PHYSICAL ACTIVITYPrereq: Junior/senior standing. Designed to acquaint physical educators and prospective coaches, athletic trainers and health fitness personnel with negligence theory in physical activity. Spring.

PE 415 FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION
Prereq.: PE 307, 410, STAT 108 and admission to the degree program in
Physical Education or graduate status. Provides an opportunity to study theories, concepts, procedures and techniques necessary for an exercise specialist. Basic understandings of exercise prescription, community programs, intervention and rehabilitation, and cardiac exercise programs will be emphasized. Majors in Exercise Science only.

## PE 420 PERCEPTUAL AND MOTOR

 DEVELOPMENTPrereq.: PE 300, and admission to the degree program in Physical Education or graduate status. Surveys the information concerning motor learning for the young learner. Emphasis upon perceptual-motor learning and development of task analysis. Fall.

PE 422
MOTOR LEARNING
Prereq.: PE 420, and admission to the degree program in Physical Education or graduate status. Examines the principles of motor learning which affect skill acquisition of secondary and post-secondary school learners. Spring.

PE 425 IMPLEMENTATION AND EVALUATION OF HEALTH PROMOTION PROGRAMS
Prereq.: PE 307, 410, STAT 108 and admission to the degree program in Physical Education or graduate status. The development and implementation of health/fitness programs in schools, business and community agencies. Organization and administration of health/fitness programs including the key components of exercise, weight control, nutrition, stress management and lowback pain. Majors in Exercise Science only. Fall.

PE 440 THERAPEUTIC MODALITIES IN ATHLETIC TRAINING
Prereq.: PE 217, and 218 or 317 . Study of the effects of therapeutic modalities on athletic injuries. Topics include pain and its control, modality principles, indications and contradictions. Emphasis on safe operation and application of modalities, manual therapy and foot biomechanics. Fall.

## PE 445 INTERNSHIP IN ATHLETIC TRAINING

Prereq.: PE 315, 316, 317, 440 and admission to the Professional Program, minimum of 1,000 NATA approved contact hours or permission of instructor. Internship under ATC supervision in either a public school, college/university training room or sports medicine setting.

PE $450 \quad$ PRACTICUM IN EXERCISE SCIENCE 3
Prereq.: PE 375 (C- or higher), 415, 425, CS 115 and admission to the degree program in Physical Education or graduate status. Provides an opportunity for students to gain 150 clock hours of field experience in an exercise setting, conducting prescribed exercise programs.

Prereq.: Admission to the Professional Program. Foundation and practical psychological and sociological information for the improvement of physical education in today's society. Spring.

PE 470 INTERNSHIP IN EXERCISE SCIENCE AND HEALTH PROMOTION
Prereq.: PE 450 and admission to the degree program in Physical Education or graduate status. Full semester off-campus practical experience in a health and fitness program. Topics include wellness/health promotion, corporate fitness, YMCA, strength and conditioning, sports medicine and cardiac rehabilitation. Enhances professional preparation by offering opportunities to apply fundamental concepts in a work setting.

PE $490 \quad$ INDEPENDENT STUDY IN
Prereq.: Senior or graduate standing and permission of department chair.
Reading and research in approved topics under the guidance of a member of the department. May be repeated for a total of 3 credits.

## PHYSICS

## PHYS 111 INTRODUCTORY PHYSICS I

For students who do not plan to major or minor in science. Includes study of selected topics from mechanics, heat, electricity and light and modern physics. Not open to students who have received credit for SCI 115. Two lectures and one two-hour laboratory per week. Mode $8 /$ Study Area IV

PHYS 113 THE SOUND OF MUSIC
An introductory course covering the physical basis of music, sources of sound, transmission and detection of sound waves, characteristics of sensation of sound and their physical correspondents, and general consideration of architectural acoustics. Two lectures and one two-hour laboratory per week. Spring. Mode 8/Study Area IV

## PHYS 115 PHYSICS OF SAILING

Physical principles which find application in sailing will be studied. Selected readings, discussions, classroom demonstrations, field investigations with models and demonstrations on board sailboats. Two lectures and one two-hour laboratory per week. Mode $8 /$ Study Area IV

PHYS 121 GENERAL PHYSICS I
Prereq.: MATH 121 or 125 (may be taken concurrently). Fundamental principles of mechanics and properties of matter; heat and sound. Three lectures and one three-hour laboratory each week. Mode 8/Study Area IV

PHYS 122 GENERAL PHYSICS II
Prereq.: PHYS 121. A continuation of PHYS 121; electricity (DC and AC), magnetism, optics and atomic phenomena. Three lectures and one three-hour laboratory per week. Mode 8/Study Area IV

PHYS 125 UNIVERSITY PHYSICS I
Prereq.: MATH 122 (may be taken concurrently). Introductory course for science/engineering students which uses calculus. Fundamental principles of mechanics, heat and sound. Three lectures, one recitation and one three-hour laboratory per week. Credit not given to students who have had PHYS 121. Mode 8/Study Area IV

PHYS 126 UNIVERSITY PHYSICS II 4
Prereq.: PHYS 125. Continuation of PHYS 125. Study of electricity, magnetism and optics. Three lectures, one recitation and one three-hour laboratory per week. Mode 8/Study Area IV

PHYS 202 INTRODUCTION TO
MATHEMATICAL PHYSICS
Prereq.: MATH 222. Specific applications of differential and integral calculus and vector analysis in various coordinate systems to physical problems in the fields of mechanics, optics, thermodynamics, electromagnetics and quantum mechanics.

## PHYS 220 MECHANICS I

Prereq.: PHYS 122 or 126, MATH 222 (may be taken concurrently). Vector formulation of kinematics and dynamics of particles and rigid bodies. Topics include Newton's laws, momentum, energy, moving coordinate systems, central force motion and the harmonic oscillator. Irregular.

## PHYS 225 OPTICS

Prereq.: PHYS 122 or 126, MATH 221 (may be taken concurrently). Study of geometrical and physical optics. Topics include lens and mirror theories and applications, interference and diffraction phenomena including holography and polarization. Matrix methods are employed where applicable. Three lectures and one three-hour laboratory per week. Irregular.

PHYS 250 INTERMEDIATE LAB I
Prereq.: PHYS 125, 126 and 220 or 320 (may be taken concurrently).
Laboratory course with experiments performed in mechanics, heat and thermodynamics. One three-hour laboratory per week. Irregular.

PHYS 305 FOUNDATIONS OF ELECTRICITY AND MAGNETISM
Prereq.: PHYS 220 and MATH 222. Electrostatics, circuit theory, electromagnetic fields of steady and alternating currents, solutions of LaPlace's equation, Maxwell's equations and propagation of electromagnetic waves. Irregular.

## PHYS 320 HEAT AND THERMODYNAMICS 3

Prereq.: PHYS 122 or 126, MATH 222. Nature and measurement of heat, thermoproperties of matter, thermodynamic processes and introductory statistical mechanics. Irregular.

## PHYS 331 ELECTRONICS I

Prereq.: PHYS 122 or 126, MATH 221 (may be taken concurrently). Unified treatment of solid state devices and their applications in filters, regulators, power supplies, oscillators, amplifiers and control devices. Introduction to digital circuits such as logic gates. Two lectures and one three-hour laboratory period per week. Irregular.

## PHYS 332 ELECTRONICS II

Prereq.: PHYS 331. A continuation of PHYS 331. Digital circuitry including flipflops, counters, ADC and DAC , shift registers, microprocessor architecture, instruction set, addressing and interfacing. Two lectures and one three-hour laboratory per week. Irregular.

## PHYS 338 DIGITAL SYSTEMS LABORATORY

Prereq.: CS 354 (may be taken concurrently). Laboratory experiments and designs that lead to understanding of concepts of digital systems, using logical and sequential networks. One three-hour lab per week.

## PHYS 339 COMPUTER ELECTRONICS I

Prereq.: MATH 122 and junior standing. Study of basic electrical elements leading to an understanding of analog and digital circuits used in computers. For computer science, physical science and life science majors. Not open to students with credit for PHYS 331. Three lecture hours and one three-hour lab per week. Irregular. Mode 8

PHYS 340 COMPUTER ELECTRONICS II
Prereq.: PHYS 339. Investigation of microprocessor devices, architecture, instruction set, addressing and interfacing. Experimentation with microcomputer systems and peripherals. Three lecture hours and one three-hour laboratory per week. Irregular. Mode 8

PHYS 350 INTERMEDIATE LAB II
Prereq.: PHYS 305 or 425 (may be taken concurrently). Laboratory course with experiments in electrical measurements and modern physics (Planck's constant, charge to mass ratio of the electron, Milikan's oil drop experiment, etc.). One three-hour laboratory per week. Irregular.

PHYS 411 MECHANICS II
Prereq.: PHYS 220. Mechanics of continuous media, wave motion, special relativity and introduction to Lagrange's and Hamilton's equations. Irregular.

PHYS 425 MODERN PHYSICS
3
Prereq.: PHYS 305. Special theory of relativity; quantum aspects of matter and of electromagnetic radiation, Bohr model, nuclear structure, radioactivity. Irregular.

## PHYS 442 ELECTROMAGNETICS

Prereq.: MATH 222, PHYS 305. Field theory of electromagnetism. Magnetic fields of currents, magnetic materials, electromagnetic induction of Maxwell's Equations. Irregular.

PHYS 450 ADVANCED LABORATORY
1
Prereq.: PHYS 331, 425 . A study of the 400 kV Van de Graaf accelerator, particle detection electronics and a study of induced nuclear reactions. One threehour laboratory per week. Irregular.

PHYS 452 INDEPENDENT STUDY IN PHYSICS Prereq.: Approved plan of study by arrangement with supervising instructor and approval of department chair. Special work in laboratory or theory to meet individual requirements in areas not covered by regular curriculum. May be taken more than one semester up to a limit of 4 credits.

PHYS 460 SEMINAR IN PHYSICS
Prereq.: At least junior or senior standing or permission of instructor. (Alt: open to junior or senior physics majors in the B.A. \& B.S. programs and graduate students.) Through individual readings, discussions and presentations, students will study contemporary topics in various fields of physics. One conference hour per week. May be taken a maximum of two times for credit. Irregular.

PHYS $470 \quad$ QUANTUM MECHANICS I
Prereq.: PHYS 425. Limits of classical physics, wave packets and uncertainty, Schrodinger wave equation, eigafunctions and eigervalues, one-dimensional potentials, wave mechanics, operator methods. Irregular.

PHYS 471 QUANTUM MECHANICS II
Prereq.: PHYS 470. Three-dimensional Schrodinger equation, angular momentum, radial equation, hydrogen atom, operator matrices and spin, addition of $=$ angular momentum, plus additional topics to be chosen by instructor. Irregular.

PHYS $480 \quad$ STUDENT INTERNSHIP IN PHYSICS
3
Prereq.: Senior standing and permission of the student's adviser. Students participating in the program will serve as interns, obtaining outside industrial and/or research experiences in an environment directly related to their program. Before commencing work, a plan of the internship program must be approved by an Advisory Committee of Physics faculty members. Restricted to physics majors pursuing the B.A. degree. Restricted to physics majors pursuing the B.A. degree. Either semester. On demand.

## PHYS 490 TOPICS IN PHYSICS

Selected studies in physics which are not offered presently in the curriculum of the department. Course may be repeated for different topics. No topic may be taken for credit more than once. Irregular.

## POLISH

POL 111 ELEMENTARY POLISH I
Functional approach to grammar. Development of facility in speaking, understanding, reading Polish. Not open to students with one year of high school study. Fall. Area B/Skill Area III

POL 112 ELEMENTARY POLISH II
Prereq.: POL 111 or equivalent. Continuation of POL 111. Functional approach to grammar. Development of facility in speaking, understanding, reading Polish. Spring. Area B/Skill Area III [I]

POL 125 INTERMEDIATE POLISH I
Prereq.: One year of college Polish or equivalent. Principles of Polish structure are reviewed. Short stories and poems are read and discussed. Conversation and composition topics given to improve oral and written expression. Fall. Area B/Skill Area III [I]

POL 126 INTERMEDIATE POLISH II
Prereq.: POL 125 or equivalent. Continuation of POL 125. Further work in written and oral expression. Spring. Area B/Skill Area III [I]

## 3 POLITICAL SCIENCE

PS 104 THE WORLD'S POLITICAL SYSTEMS
Comparative survey of the structures and functions of the national governments of selected industrialized and Third World nations, such as the U.S., Russia, Britain, France, India, Nigeria and Brazil. Scope and methods of political science and key policy issues will be treated in a comparative context. PS 104 or 110 is required for all majors. Mode 7/Study Area II [I]

## PS 110 AMERICAN NATIONAL GOVERNMENT

Structure, functions, services and problems of government and politics at the national level. PS 110 or 104 is required of all majors. Mode 7/Study Area II

PS 230

## AMERICAN STATE AND <br> LOCAL GOVERNMENT

Organization and major problems of state and local government in the United States, with attention to intergovernmental relations, federalism and contemporary issues. Mode 7/Study Area II

## PS 231 CONDUCT OF AMERICAN FOREIGN POLICY

Theories, processes and problems of American foreign policy and the craft of diplomacy, with special attention to contemporary issues. Mode 7 [I]

## PS 232 ANCIENT AND MEDIEVAL POLITICAL THOUGHT

Political thought from Plato to Machiavelli. Fall. Mode 7/Study Area I
PS 235 INTERNATIONAL RELATIONS
Introduction to study of international relations, including international politics, international law and morality, international organization, international conflict and cooperation and the foreign policies of the major powers. Mode 7/Study Area II [I]

PS 241 WOMEN AND AMERICAN LAW
Examines the evolution of women's legal rights in the United States. Special attention given to the legal status of women in the economic, political, educational and judicial sectors of society. Fall. [E] Mode 7

PS 260 PUBLIC ADMINISTRATION
Prereq.: PS 104 or 110. Study of administrative theory and the politics of bureaucracy. Assigned readings, field projects and research papers. Mode 7/Study Area II

PS 291 SPECIAL TOPICS IN POLITICAL SCIENCE
Examination of selected topics in political science. Topics may vary from semester to semester. On demand. Mode 7

PS 315 TECHNOLOGY, BUSINESS AND POLITICS: A TELECOMMUNICATIONS FOCUS
解 decentralizing effects; economic concentration in the media industries; politics and public policy toward the telecommunications industries; the 1996 Telecommunications Act; rate deregulation; and potential threats to privacy and freedom of speech and of the press. Irregular. Mode 7/Study Area II

PS 330 AMERICAN PARTIES AND INTEREST GROUPS
Prereq.: PS 104, 110 or permission of instructor. Historical development and current operation of party organizations in the United States, with attention to voting behavior, interest groups, the influence of news media, etc. Mode 7

PS 331
AMERICAN CONSTITUTIONAL LAW
Prereq.: PS 104 or 110. Great constitutional issues through the study of Supreme Court decisions. Origins of judicial review in Marbury v. Madison to current issues, exclusive of civil liberties. In addition to the traditional case
3 approach, attention is given to a behavioral understanding of judicial decision making. Mode 7

## PS 332 CIVIL LIBERTIES

Prereq.: PS 104 or 110. Constitutional safeguards of liberty and property. Special attention to privileges and immunities, equality and civil rights. Mode 7

PS 334 MODERN POLITICAL THOUGHT
Critical consideration is given to modern political thinkers, origins, developments and present significance. Spring. Mode 7/Study Area II

PS 335 AMERICAN POLITICAL THOUGHT 3
American political thought, with special attention to early and contemporary discussion of liberalism, conservatism, pluralism and radicalism. Spring. [E] Mode 7

PS 336 WEST EUROPEAN GOVERNMENTS
Comparison of selected West European political systems, mainly in Britain,
France and West Germany. Other countries may be included. Mode 7 [I]
PS 338 INTERNATIONAL ORGANIZATION
Basic assumptions, objectives, growth, problems and prospects of international organizations, such as the League of Nations, the U.N. and its specialized agencies, the O.A.S. Irregular. Mode 7 (I)

PS 339 INTERNATIONAL LAW
Nature and functions of international law in the international community, in theory as well as in practice. Mode 7 [I]

PS 343 POLITICAL LEADERSHIP 3
Prereq.: PS 104, 110 or instructor's permission. Analysis of political leadership and its rule in the political process. Mode 7

PS 344 INTERPRETATION OF POLITICAL DATA 3
Prereq.: PS 104, 110 or permission of instructor. Basic introduction to computer applications in political science and use of computer and analytic skills in such areas as domestic and international politics, research, administration, policy studies and political campaigns. [c] Mode 7

PS 345 INTERNATIONAL TERRORISM 3
Examination of definitions, history, philosophy and theories of international terrorism, as well as tactics and strategies of terrorist groups and responses of governments, with emphasis on policy alternatives and civil liberties dilemmas for democratic countries combatting terrorism. Mode 7 [I]

## PS 380 CONFLICT AND NEGOTIATION

Prereq.: PS 104, 110 or permission of instructor. Forms of conflict between and within nations, such as war and revolution, of tactics (guerrilla warfare, terrorism, strikes and civil disobedience), and of conflict resolution (negotiation, diplomacy, arbitration and bargaining), including both theory and case studies. Mode 7 [I]

PS 415 GOVERNMENT, BUSINESS
AND PUBLIC POLICY
Prereq.: PS 104 or 110 . Analysis of the evolution of the pattern of interaction between business and government in the American administrative and political process as we enter the information age, with attention to how we as members of society are affected by and may influence this process. Spring. Mode 7

PS 420 GOVERNMENT AND POLITICS OF LATIN AMERICA
Historical, social, economic and ideological factors impacting contemporary government and politics in Latin America. Spring. (O) Mode 7 [I]

PS 421 GOVERNMENT AND POLITICS OF AFRICA
Historical, social, economic and ideological factors impacting contemporary government and politics in Africa. Spring. (O) Mode 7 [I]

PS 425 ASIAN POLITICS
3
Prereq.: PS 104. Examination of the government and politics of East and South Asia with major focus on Japan, China and India. Emphasis on historical and cultural forces shaping politics, Western impact on Asia and cross-national comparisons. Spring. Mode 7 [I]

3 PS 430
THE AMERICAN PRESIDENCY
Prereq.: PS 104, 110 or permission of instructor. Office of President and place in the political system, colonial antecedents and modern counterparts. Emphasis on the presidency's functional and institutional development, contemporary role
3 in politics and public policy, and interplay between man and office.
Spring. Mode 7
PS 431
THE LEGISLATIVE PROCESS
Prereq.: PS 104, 110 or permission of instructor. Structure, behavior and operation of U.S. Congress. Comparison with state legislatures. Interrelationships with executive and judicial branches. Problems of popular representation. Attention to the budgetary process, lobbying and campaign financing. Irregular. Mode 7

## PS 432 URBAN POLITICS AND GOVERNMENT

Selected urban conditions and problems such as housing, the racial relations, power structure, intergovernmental relations, partisan politics, group behavior,
3 forms of government, politics of planning, regionalism, economic development, transportation and communication. Field research projects. Irregular. Mode 7

PS 433

## TWENTIETH CENTURY POLITICAL THOUGHT

3 Contemporary approaches to political theory, such as socialism, conservatism, liberalism and group theory. Fall. Mode 7

PS 434 GOVERNMENT AND POLITICS OF THE MIDDLE EAST AND NORTH AFRICA
Historical background, contemporary setting, political processes and major problems of some of the countries of Middle East and North Africa. Spring. Mode 7 [I]

PS 435 RUSSIA AND EASTERN EUROPE
Government and politics of Russia and of selected Eastern European countries such as Poland, Hungary, Ukraine and Yugoslavia. Irregular: Mode 7 [I]

PS 436 PERSONNEL AND HUMAN RESOURCES IN THE PUBLIC SECTOR
Structure and political role of the Civil Service, evolution of government employment, current personnel policies, rights and responsibilities of the public servant, formal tasks such as examination, recruitment, position classification, training and evaluation, ethics in public service and collective bargaining. Fall. Mode 7

3 PS 439 U.S. MIDDLE EAST POLICY 3
Examination of the evolution of United States foreign policy towards the Middle East since W.W. II. Emphasis placed on the sources, determinants and goals of United States policy and the challenges facing the United States in the region.
Irregular. Mode 7 [I]
PS 445 PUBLIC POLICY ANALYSIS AND EVALUATION
3 Prereq.: Permission of instructor or two courses in political science, geography, economics or sociology; plus completion of, or simultaneous registration in, PS 344 or MATH 125. An investigation in perspectives and methods of measuring public policies.

PS 446 THE BUDGETARY PROCESS 3
Prereq.: PS 110 and 240. Examination and analysis of budgeting as an administrative and political process, with attention to techniques and reform efforts.

PS 447 ADMINISTRATIVE LAW
3
Prereq.: PS 110. PS 331 and 240 recommended. Study of administrative agencies and the legal boundaries within which they operate. Constitutional case law and the Uniform Administrative Procedures Act will be applied to agency rule-making and regulation. Current controversies over the role of administrative agencies.

PS 448
THE POLITICS OF HUMAN SERVICES
Study of the politics and administration of government programs that deal with human problems such as poverty, crime, health, manpower development and housing. Mode 7

PS 480
GOVERNMENT INTERN EXPERIENCE
Prereq.: Junior or senior status with 2.50 grade point average or higher. To be taken concurrently with PS 481. Students who apply and are admitted to this program are assigned to work in state and local government departments and agencies for a minimum of two days a week. Not open to students who have completed PS 482 and 483. By application.

## PS 481 INTERN SEMINARS AND RESEARCH

Prereq.: Junior or senior status with 2.50 grade point average or higher. Seminars and research projects and papers related to work assignments of PS 480. Open only to students concurrently enrolled in PS 480.

## PS 482 GOVERNMENT INTERN EXPERIENCE

Prereq.: Junior or senior status; a minimum of 3.00 grade point average unless special departmental discretionary exception is approved by the Dean of Arts and Sciences. Must be taken concurrently with PS 483. Students who apply and are admitted to this program are assigned to work on a full-time basis, five days per week, with the State legislature or administrative department or agencies. Cannot be taken by students who have completed PS 480 and 481 . No more than 3 credits may be taken by students who have completed PS 482 may be applied toward a Political Science major. By application.

## PS 483 INTERN SEMINARS AND RESEARCH

Prereq.: Junior or senior status; a minimal 3.00 grade point average unless special departmental discretionary exception is approved by the Dean of Arts and Sciences. Open only to students concurrently enrolled in PS 482. A series of seminars, assigned readings and completion of a substantial research project related to work assignment of PS 482 . No more than 3 credits of PS 483 may be applied toward a Political Science major.

PS 490
DIRECTED READINGS IN POLITICAL SCIENCE

3 or 6
Prereq.: Permission of instructor. Individual programs of study for students with special abilities or interests in political science. On demand.

PS 491 ADVANCED STUDIES IN
POLITICAL SCIENCE
1-6
Prereq.: Permission of instructor. Extensive study of selected problems in political science. On demand.

## PS $492 \quad$ POLICY STUDIES

3
Prereq.: PS 110 and 240. Analysis and evaluation of specific policy issues at the state and national levels of government. Topics will vary from year to year. If topics differ, may be taken more than once. Irregular.

## PSYCHOLOGY

Note: Junior standing is recommended for 300-level courses; junior or senior standing is required for 400 -level courses.

## PSY 112 GENERAL PSYCHOLOGY I

Major areas involved, with emphasis on scientific methods and application to systematic study of human behavior. Required of all psychology majors and concentrates in the B.A. and B.S. programs. Mode 6/Study Area III

## PSY 113 EXPLORING PSYCHOLOGY

Prereq.: PSY 112 (may be taken concurrently). Introduction to the academic, professional and ethical aspects of the field of psychology. Develops critical thinking, research, library and information acquisition for psychology. Also explores career options. [c]

## PSY 200 LEARNING AND MEMORY

Prereq.: PSY 112. Introduction to theories, methods and research in the study of learning and memory. Underlying mechanisms of behavior and models of memory derived from animal and human research will be emphasized. Mode 6/Study Area III都
which employ a single independent variable. Each student will plan an inde pendent research project. Two-hour lecture and two-hour laboratory per week. Required for all psychology majors. Fall. [c]

PSY 222

## RESEARCH METHOD IN PSYCHOLOGY II

Prereq.: PSY 221. Controlled experiments are contrasted with non-experimental designs, such as naturalistic observation, surveys and field studies. Factorial, mixed and multivariate designs are discussed. Each student will complete the independent project proposed in PSY 221. Two hour lectures and two-hour laboratory per week. Required of all psychology majors. [c]

PSY 236 LIFE-SPAN DEVELOPMENT
Human development from conception through old age, considering physical, emotional, social and intellectual factors. Required of all psychology majors. Mode 6/Study Area III

PSY 239 SURVEY OF RESEARCH METHODS
Prereq.: MATH 213 or STAT 215. Introduction to research methods, techniques and resources in the social sciences. Emphasis will be on critical evaluation of existing research. Cannot be used to meet the requirements for a major in psychology.

## PSY 240

THE PSYCHOLOGY OF POLITICS
Examining the process by which political behavior interacts with and influences individual psychological behavior. Fall. Mode 6/Study Area III

PSY 281 COGNITIVE PSYCHOLOGY
Prereq.: PSY 112. Overview of current theory concerning the processing of information by the human mind. Emphasis placed on relevant contributions from the areas of perception, memory, language and thinking. Fall. Mode 6/Study Area III

PSY 330 ABNORMAL PSYCHOLOGY 3
Prereq.: PSY 112 and one other psychology course. Symptoms, causes and treatment of deviant behavior, anxiety disorders, psychoses, personality disorders, substance abuse disorders.

## PSY 342 SENSATION AND PERCEPTION

Prereq.: Six credits in psychology or permission of instructor. Study of the physiological, psychophysical and psychological processes through which organisms interact with the environment. Fall.

## PSY 351 PSYCHOLOGICAL EVALUATION

Prereq.: Three courses in psychology. Principles and problems basic to construction, choice and use of psychological measuring instruments, and study of application to diagnosis. Fall.

## PSY 362 CHILD PSYCHOLOGY

Prereq.: PSY 236. Advanced study in developmental psychology through the childhood years. Emphasis on topics in the areas of social, emotional, personality and cognitive development.

## PSY 363 ADOLESCENT PSYCHOLOGY

Prereq.: PSY 236. Research studies pertaining to adolescence, with special emphasis on psychological development and problems characteristic of the age. Mode 6

PSY 365

## PSYCHOLOGY OF THE

EXCEPTIONAL CHILD
Prereq.: PSY 236. Psychological characteristics of exceptional children (gifted, retarded, emotionally disturbed, physically handicapped, etc.) with emphasis on implications of these characteristics for classroom procedures. Mode 6

PSY 372 SOCIAL PSYCHOLOGY
3
Prereq.: Two courses in psychology. Influence of social factors on behavior, cognition and emotions of individuals. Analysis of methods of research in social setting.

PSY 385
HUMANISTIC PSYCHOLOGY
Prereq.: Two courses in psychology. Study of humanistic approaches to the understanding of behavior. Focus is on the healthy personality and its potential for self-actualization.

PSY 390
HUMAN SEXUALITY
Prereq.: PSY 112 and one other course in psychology. Survey of social scientific theories and studies relevant to understanding human sexuality. Topics include reproductive technology, attraction, sexual response cycle, therapeutic interventions, sexually-transmitted diseases and human development.

PSY 428 ADULT DEVELOPMENT AND AGING
Prereq.: PSY 236. Study of behavior, dynamics and developmental processes from early adulthood through old age and death. Mode 6

PSY $430 \quad$ PSYCHOLOGY OF DIVERSITY
Prereq.: PSY 112 or permission of instructor. Review of psychological research and theories pertaining to the study of diversity. Implications for clinical work and community education will be discussed. Spring. Mode 6

PSY 435 ORGANIZATION AND PERSONNEL PSYCHOLOGY
Consideration of structure, problems, human behavior and personnel functions in various types of organizations. Mode 6

PSY 440
MOTIVATION
Prereq.: Three courses in psychology. Physiological and psychological variables in selected motivational processes. Problems of measurement, empirical findings and theoretical research. Readings in contemporary literature.

## PSY 446

INTRODUCTION TO THE PSYCHOLOGY OF COUNSELING
Prereq.: Three courses in psychology. An introduction to the basic assumptions and theoretical approaches in the counseling process. Students wishing to become trained as counselors are advised to contact the Department of Health and Human Service Professions. Irregular.

## PSY 448 PSYCHOLOGY OF WOMEN

Review of research and theories pertaining to the psychology of women. The dynamic aspects of being female in the development of cognitive, emotional, motivational and social behavior is emphasized. Psycho-social implications and consequences of changing sex roles will be examined. Mode 6

PSY 450
BIOPSYCHOLOGY
Prereq.: Six credits in psychology or permission of instructor. Analysis of relationships between bodily processes and behavior.

PSY 454 DRUGS AND BEHAVIOR
Prereq.: PSY 112. Overview of the major classes of psychoactive drugs and their effect on the brain and behavior. Legal drugs, such as alcohol and caffeine, and illegal drugs are considered. Mode 6

PSY 458 HUMAN NEUROPSYCHOLOGY
Prereq.: PSY 330 and 450, or permission of instructor. Relationship between the brain and behavior is examined. Topics include disorders of speech and memory, common neurological disorders such as dementia and stroke and alcohol-related disorders. Spring.

PSY 460 BEHAVIOR MODIFICATION: THEORY AND PRACTICE
Prereq.: PSY 200 or permission of instructor. Application of learning principles to the modification of both normal and abnormal behavior. The settings for application include areas such as personal, social and marriage counseling; individual and group psychotherapy; formal and informal education and re-education; personal, vocational and correctional rehabilitation.

## PSY 462 PSYCHOLOGY OF EARLY CHILDHOOD

Prereq.: PSY 236. Study and observation of young children (birth to age six), with emphasis on the development, origins and dynamic processes of behavior within this age range.

PSY 470 THEORIES OF PERSONALITY
Prereq.: Three courses in psychology. Nature of personality theory and major contemporary theories of personality, including empirical evidence relevant to these theories.

PSY $471 \quad$ HEALTH PSYCHOLOGY
Prereq.: PSY 330 and 450, or permission of instructor. Examination of healthrelated behaviors including stress, risk factors and methods to improve wellbeing. Mind-body aspects of pain, addiction and immune system disorders are discussed. Spring. (E)

PSY $480 \quad$ PSYCHOLOGY OF DYING AND DEATH 3
Prereq.: PSY 112 or equivalent. Psychological issues of death, dying and suicide. Topics include death and denial, fear of death, grief and bereavement, child's and adolescent's view of death, psychological stages of dying and euthanasia. Mode 6

PSY $490 \quad$ HISTORY AND SYSTEMS OF PSYCHOLOGY
Prereq.: PSY 112, three other courses in psychology and junior standing.
Historical study with emphasis on general philosophical bases, development of psychology as an experimental science and comparative analysis of principal modes of psychological inquiry.

PSY 496 INTERNSHIP IN PSYCHOLOGICAL APPLICATIONS
Prereq.: Written permission of instructor. Supervised work in public and private agencies and institutions requiring the application of psychological principles. A study of appropriate references and a written report of procedures and conclusions required. May be repeated for a total of 6 credits.

PSY 498 TOPICS IN PSYCHOLOGY
Prereq.: Junior, senior or graduate standing or permission of instructor. Study of selected topics in psychology. Topics announced each semester. May be repeated with different topics for a total of 6 credits.

PSY 499

## INDEPENDENT READING AND RESEARCH IN PSYCHOLOGY

Prereq.: Junior, senior or graduate standing and written permission of instructor. Directed independent studies in psychology. May be repeated for a total of 6 credits. On demand.

## READING

RDG 140 READING EFFICIENCY
Student's reading is analyzed and training is provided to improve vocabulary, comprehension and rate. Study skills needed in college work are given attention. Area C/Skill Area IV

RDG 315 INTRODUCTION TO LITERACY
Prereq.: Admission to the Professional Program. Relationship of the language arts to current learning theories and text processing models, and their importance across grade levels, curriculum and culture. Major project specific to elementary or middle level certification required.

## RDG 412 LITERACY IN THE ELEMENTARY

 SCHOOLPrereq.: RDG 315 or 423 . Integrated approach to the teaching of reading, writing, listening, speaking and viewing in the elementary school curriculum. Field experience required.

## RDG 414 LITERACY ACROSS THE MIDDLE <br> LEVEL CURRICULUM

Prereq.: RDG 315. Integration of the language arts including reading, writing, listening, speaking and viewing as a process to construct meaning across a developmental curriculum at the middle level. Field experience required.

RDG 423 LITERACY FOR EARLY CHILDHOOD
Prereq.: Admission to Professional Program. Examination of literacy instruction across grade levels with special emphasis on the relationship between literacy and the development of the child, especially in the areas of language, and the acquisi-

## COURSE DESCRIPTIONS

tion of those skills related to success in reading, writing, speaking and viewing. Field experiences required.

RDG 427 LITERACY IN THE PRIMARY GRADES
Prereq.: RDG 423. Developmental aspects of language activity in listening, speaking, writing, reading and viewing in elementary schools. Understanding and application of knowledge, skills and materials as they relate to the primary grades. Field experiences required.

RDG 440 LITERACY IN THE SECONDARY SCHOOL
Fundamentals of strategy instruction and curriculum design to support reading and language arts development in the secondary school. Designed for preservice teachers. Field experience required.

## RECREATION

## (Physical Education/Health Fitness)

Note: Students in majors other than Physical Education must take 1 credit hour from the following. General Activity Courses are open to all students. REC 104-233 are Area D courses.

## REC 104 SELF-DEFENSE

Rigorous program designed to combine self-defense techniques, increased strength, stamina and flexibility, which provides an increased awareness and understanding of the ability to defend oneself. Area $D$

## REC 105 INTERMEDIATE SELF-DEFENSE

Prereq.: Permission of instructor. Combination of self-defense techniques, increased strength, stamina and flexibility on an intermediate level. Provides an increased awareness and understanding of the ability to defend oneself. Area $D$

## REC 120 PHYSICAL FITNESS ACTIVITIES

Tactics and strategies in performing a variety of physical fitness activities. Area D

REC 124 DOWNHILL SKIING
1
This course is designed to perform successful downhill skiing maneuvers, including ski lessons. Off-campus site. Area $D$

REC 141 VOLLEYBALL
Course designed to teach volleyball's offensive and defensive techniques. Games are designed to teach team play and strategy. Area $D$

REC 142
SOFTBALL
Program designed to teach individual and team offensive and defensive softball techniques and fundamentals. Hitting, fielding and team play will be featured. Area D

## REC 162 BADMINTON

Tactics and strategies in performing various fundamentals and methods in badminton. Area $D$

REC 166 TENNIS
Fundamentals and techniques in practicing and playing tennis. Area $D$
REC 168 WEIGHT TRAINING
Tactics, strategy and proper methods in performing a variety of weight training techniques. Area $D$

REC 169 GOLF
This course is designed to perform various golf strokes and the proper methods of how to play the game of golf. Area $D$

REC 200 BEGINNING SWIMMING
How to perform the proper tactics and fundamentals for beginning swimmers. Area D

REC 230 INTERMEDIATE SWIMMING
This course is designed to acquaint, practice and perform correct swimming techniques for intermediate swimmers. Area $D$

REC 232 LIFEGUARD TRAINING
2
Prereq.: Successful completion of the American Red Cross Screening test (administered during the first week of class). Provides skills to respond effectively to

REC 233 WATER SAFETY INSTRUCTOR'S COURSE
Prereq.: Current American Red Cross Lifeguard Training Certificate. Planning, conducting and evaluating instruction in swimming and water safety. Includes peer teaching opportunities. American Red Cross certification prepares student as a Water Safety Instructor. Fall. Area D

## RELIGIOUS STUDIES

Note: See also relevant courses offered in Anthropology, English, History and Philosophy.

## REL 105 DEVELOPMENT OF CHRISTIAN

 THOUGHTCritical survey of the central, formative ideas of Christian thought and their development from New Testament times to the present. Fall. (E) Mode
1/Study Area I
REL 110 WORLD RELIGIONS 3
Investigation of the essence of religion, the variety of religious phenomena and systems, and various approaches to the study of religion. Mode 1/Study Area I [I]

REL 257 SPECIAL TOPICS IN RELIGION
3-6
Study of selected topics in religion to be announced. Students may not take this course under the same topic more than once. On demand. (O) Mode 1

REL 361 AFRICAN-AMERICAN RELIGION
Examines history, leadership, dynamics, theology and cultural milieu of AfricanAmerican religion with focus on religious experience and on spiritual response to social, economic and political oppression and exploitation. Spring. (E)

## REL 492 INDEPENDENT STUDY

Prereq.: Permission of instructor. Individual research in selected topics. Open to any interested student who wishes to pursue a topic of special interest for which the student is qualified. On demand.

## RUSSIAN

RUS 111 ELEMENTARY RUSSIAN I
Elements of Russian linguistic structure. Facility in speaking and understanding the language is developed rapidly by the direct method. Not open to students with one year of high school study. Fall. Area B/Skill Area III

## RUS 112 ELEMENTARY RUSSIAN II

3
Prereq.: RUS 111 or equivalent. Continued study of Russian linguistic structure with further practice in speaking and writing. Intensive and extensive reading. No credit will be given to students with previous credit for more advanced course work in Russian except by permission of the department chair. Spring. Area B/Skill Area III [I]

## RUS 125 INTERMEDIATE RUSSIAN I

Prereq.: One year of college Russian or equivalent. Principles of Russian language structure reviewed. Short stories and plays are read and discussed. Conversation and composition based on topics of general interest are practiced as a means of improving oral and written expression. No credit will be given to students with previous credit for more advanced course work in Russian except by permission of the department chair. Fall. Area B/Skill Area III [I]

RUS 126 INTERMEDIATE RUSSIAN II given to students with previous credit for more advanced course work in Russian except by permission of the department chair. Spring. Area B/Skill Area III [I]

## RUS 225 RUSSIAN COMPOSITION AND DICTION

Prereq.: RUS 126 or instructor's permission. Self-expression by means of frequent compositions in Russian; systematic drills in pronunciation and intonation. Fall. Area B/Skill Area III [I]

## RUS 226 RUSSIAN STRUCTURE AND IDIOM

Prereq.: RUS 225 or equivalent. Designed to develop correct idiomatic usage and fluency of expression. Spring. Area B/Skill Area III [I]

RUS 316 RUSSIAN CIVILIZATION
Prereq.: RUS 226 (may be taken concurrently) or equivalent or permission of instructor. Cultural development of Russia from the founding of the Kievan state to the present. Spring. (E) Study Area II[I]

RUS 441 ADVANCED ORAL PRACTICE I
Prereq.: Instructor's permission. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. Fall. [I]

## RUS 442 ADVANCED ORAL PRACTICE II

Prereq.: RUS 441 or instructor's permission. Further practice in oral self-expression. Spring. [I]

## SCIENCE AND SCIENCE EDUCATION

SCI 117 PHYSICAL SCIENCE
Everyday aspects of physical science, with emphasis on conceptual understanding of the physical world around us, using basic principles of physics and chemistry. Two lectures and one two-hour laboratory per week. Spring. Mode 8/Study Area IV

SCI 412 LEARNING AND CURRICULUM STUDIES IN SCIENCE
Prereq.: BIO 211, ESCI 111 or any other earth science course. Materials of instruction and techniques of guiding children's understanding of environment.

## SCI 416 EDUCATIONAL TECHNOLOGY IN SECONDARY SCIENCE

Prereq.: Admission to the Professional Program in Teacher Education.
Examination and use of software applications, hardware and the Internet in the context of integrating educational technology into science curriculum, instruction, assessment and classroom management. On demand. [c]

SCI 417 TEACHING OF SCIENCE IN
THE SECONDARY SCHOOL
3
Prereq.: Admission to the Professional Program in Teacher Education. Examination and application of curriculum, instruction and assessment strategies in line with national and state standards/frameworks and CSDE certification requirements including the BEST program and science teaching portfolio development.

## SCI 418 TEACHING SCIENCE IN THE OUT-OF-DOORS

Prereq.: Two science courses. Development of leadership skills and instructional techniques necessary for teaching science in the outdoor classroom. The methods and materials for developing and conducting an outdoor education program in science are discussed. Three hours a week; field studies are required. Fall. (O)

SCI 419 STUDENT TEACHING SEMINAR
Prereq.: SCI 417 (EDSC 435 taken concurrently). Discussion, reflection and collaboration with peers on issues that arise in secondary science education in the areas of curriculum, instruction, classroom management and student assessment.

## SCI 420

HISTORY OF SCIENCE
3
Prereq.: Three courses in science or mathematics. Historical development of biological and physical science, interdependence of various areas of science and relations of scientific progress to society.

Methods and materials of teaching science at the middle level. Various aspects of the National Science Education Standards, including Project 2061 and the scope, sequence and coordination project will be considered.
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## SCI 452 INDEPENDENT STUDY IN SCIENCE

Prereq.: Approved plan of study by arrangement with the supervising instructor and approval of a department chair. Includes special work in the laboratory or study of theory to meet the individual requirements in areas not covered by the regular curriculum. May be taken for more than 1 credit up to a limit of 4 credits. On demand.

## SCI 453 ENVIRONMENTAL INTERPRETATION INTERNSHIP

 approved by advisory committee and senior standing. Responsible experiences in an environmental education facility. Before commencing the internship, a plan of the internship must be approved by the Advisory Committee on Environmental Interpretation.
## SCI 485 STUDIES IN SCIENCE

Prereq.: Permission of instructor. Selected studies in the sciences which are not offered presently in the curriculum of the science departments. Course may be repeated for different topics, but the student may not take this course for credit under the same topic more than once.

## SOCIAL SCIENCES

## SSCI 414 TEACHING SOCIAL STUDIES IN

 THE MIDDLE SCHOOLPrereq.: Admission into the professional program of teacher education. Concepts, methods and materials for teaching social studies in the middle school. Emphasis on the middle school concept, thematic strands, learning styles, skill and exploratory based instruction, interdisciplinary planning and the use of developmentally appropriate materials. Fall.

## SSCI 415 SOCIAL STUDIES METHODS AT THE SECONDARY LEVEL

Prereq.: Admission into the professional program of teacher education. Concepts, methods and materials for teaching social studies in the secondary school.
Emphasis on the use of documents, learning styles, process skills and the interdisciplinary nature of social studies. Field experience required.

SSCI 420 TEACHING SOCIAL STUDIES IN SECONDARY SCHOOLS
Prereq.: Acceptance as a major in social sciences or history and eligible for student teaching. Concepts, methods and materials for teaching social studies in secondary schools.

SSCI 421 SOCIAL STUDIES STUDENT TEACHING SEMINAR

1
Seminar during student teaching semester enabling students to share resources and ideas for upcoming lessons, difficulties and successes, and discover how various schools and teachers approach the same issues. Must be taken concurrently with EDSC 435.

## SOCIAL WORK

SW 226
SOCIAL WELFARE POLICY AND SERVICES I
Prereq.: SOC 110 or ANTH 140, SOC 111 and PS 110 or 230 . Exploration of the historical background of social work and social welfare institutions in the United States and around the world; knowledge, values and practice skills that distinguish social work as a discipline. Field work required. Pre-Social Work majors only. Fall.

SW 227 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I ties, taking an ecological perspective of the life span; various cultural, economic and ethnic factors that influence lives; application of social work values and how these relate to developmental tasks in a socio-political environment. Field work required. Pre-Social Work majors only. Spring.

## COURSE DESCRIPTIONS

SW 360
GENERALIST SOCIAL WORK PRACTICE WITH INDIVIDUALS AND FAMILIES
Prereq.: SW 226, 227 and admission to Social Work major. Study of delivery of direct service to individuals and families interacting within groups and communities; tasks and skills necessary for generalist social workers to empower clients to modify and change their situations. Field work required. Fall.

SW 361 GENERALIST SOCIAL WORK PRACTICE WITH SMALL GROUPS
Prereq.: SW 226, 227 and admission to Social Work major. Use of the small group as a resource for delivering direct service in generalist social work practice; tasks and skills necessary for the social worker to use group process to empower clients. Field work required. Spring.

SW 362

## GENERALIST SOCIAL WORK PRACTICE WITH FAMILIES, ORGANIZATIONS AND COMMUNITIES

Prereq.: SW 360 and 361. Interventions and strategies for assisting families, organizations and communities in the context of generalist social work practice; tasks and skills necessary to bring about change in large systems. Recommended SW 450 and 451 or SW 452 and 453 be taken concurrently. Fall.

SW 368 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II
Prereq.: SW 360 (may be taken concurrently) and admission to the Social Work major. The ecosystems framework provides the framework to examine systems of all sizes; families, groups, organizations and communities. Special attention given to the impact of human diversity, discrimination and oppression in the context of these social systems. Field work required. Fall.

SW 374 INTRODUCTION TO SOCIAL WORK RESEARCH
Prereq.: STAT 215. Research knowledge and skills essential for beginning social work practice. Theory of social research, hypothesis testing, research design, sampling, data collection techniques and ethical issues germane to social workers. Quantitative and qualitative research and the problem-solving model, associated with a research proposal applicable to social work practice, will be developed. Fall.

SW 426
SOCIAL WELFARE POLICY AND SERVICES II
Prereq.: SW 360, 361 and ECON 200. Uses of policy analysis and planning as intervention strategies in generalist social work practice. Recommended that SW 450 and 451 or SW 452 and 453 be taken concurrently. Spring.

SW 433 INDEPENDENT STUDIES IN SOCIAL WORK
Prereq.: Senior standing in the Social Work major and permission of the program director. Student must have a written study proposal approved by the program director prior to registering for this course. Readings and research in selected areas of social work. On demand.

SW 436 HEALTH AND SOCIAL WORK
Prereq.: SW 226 and 227; or permission of the instructor. Examination of health issues such as cancer, AIDS, Alzheimer's, and other disabilities; prevention, treatment and attitudes; policies and programs in both public and private sectors which impinge upon the lives of clients with health problems. Irregular.

SW 437 CHILD WELFARE I
Prereq.: SW 226 and 227; or permission of the instructor. Examination of the role of the social worker in meeting the needs and protecting the rights of children. Irregular.

SW 438 CHILD WELFARE II
Prereq.: SW 226 and 227; or permission of instructor. Examination of current social issues, such as war, poverty and divorce, that impact the lives of children. Irregular.

SW 441

## PUERTO RICANS IN TRANSITION: A SOCIAL WORK PERSPECTIVE

3
Prereq.: Permission of instructor. Overview of critical areas in understanding the Puerto Rican population on the island and in the U.S. Puerto Rican history, migration, demographic trends, culture, socio-political issues, family and gender
roles will be explored, in addition to health, education, employment and poverty. Micro/macro approaches to providing culturally relevant intervention. Irregular. Mode 6 [I]

## SW 442 THE SOCIAL CONSEQUENCES OF IMMIGRATION

Prereq.: Permission of instructor. Explores the development of immigration policies, social service delivery structures and practices that help social workers provide services to immigrants and refugees. Irregular. Mode 6 [I]

SW 450
FIELD PRACTICUM I
3
Prereq.: All other requirements for the major except SW 362 and 426 (may be taken concurrently with this course); completed field application and permission of field coordinator. Placement in a social work agency in the community for a minimum of 200 hours. Students are engaged in social work roles and activities which help them to develop generalist practice skills and knowledge. Must be taken concurrently with SW 451.

SW 45
FIELD PRACTICUM SEMINAR I
Prereq.: All other requirements for the major except SW 362 and 426 (may be taken concurrently with this course); completed field application and permission of field coordinator. Shared learning experience among all students placed in a community social work agency to provide an opportunity for information exchange in depth. Case processes and agency analysis are required. Social work philosophies, values and ethics in the social service delivery system are reinforced. Relevant readings, assignments and projects to help students integrate theory and practice. Must be taken concurrently with SW 450.

SW 452 FIELD PRACTICUM II
Prereq.: SW 450 and 451 and permission of field coordinator. Continued placement in a social work agency in the community for a minimum of 200 hours. Students are engaged in social work roles and activities which further prepare them for professional practice responsibilities. Must be taken concurrently with SW 453.

## SW 453 FIELD PRACTICUM SEMINAR II

Prereq.: SW 450 and 451 and permission of field coordinator. Shared learning experience among all students placed in a community social work agency to provide an opportunity for information exchange in depth. Evaluation of practice and organized community outreach in the social service delivery system are reinforced. Relevant readings, assignments and projects help students integrate theory and practice. Must be taken concurrently with SW 452.

SW 478 CURRENT TOPICS IN SOCIAL WORK
3
. general field of social work. Topics will vary from year to year. If topics vary, may be taken more than once. Irregular.

## SOCIOLOGY

SOC 110 INTRODUCTORY SOCIOLOGY
Major theoretical models and research methodologies used by sociologists in examining the institutions of societies and everyday lives of individuals. Topics include social stratification, ethnic relations, race, poverty, gender roles, aging, the family, population and urban/suburban communities. Mode 6/Study Area III

SOC 111 SOCIAL PROBLEMS
Conditions or patterns of behavior that are considered to be harmful to society or its members, about which it is considered that something should be done. Included as possible topics are sexism, physical and mental health, drug and alcohol abuse, sexuality, inequality, discrimination, environmental problems and abuses of power. Fall. Mode 6/Study Area III

## SOC 112 RACE, CLASS AND GENDER

Sociological definition of race, class and gender, at academic and experiential levels; the interrelationship of these social characteristics as they affect individual consciousness, group interaction and access to institutional power and privileges in the United States. Mode 6/Study Area III

SOC 210
SOCIOLOGICAL INQUIRY
Prereq.: SOC 110. Exposes students to the sociological imagination, the link between theory and methods, how evidence is assembled to produce explanations of social phenomena, and the impact of sociological knowledge on public policy and culture.

## SOC 225 SOCIAL STRATIFICATION

Examines forms of inequality and social stratification within societies; theories and research on social class and its consequences for ideology, opportunities and health; interrelationships between social class and inequality by race, gender and age. Mode 6

## SOC 231 <br> RACIAL AND ETHNIC RELATIONS

3
Prereq.: SOC 110 or 112. Examines selected racial and ethnic groups, their history, social and ethnic patterns, and position in the social structure in the United States. Includes theories of racial and ethnic relations. Fall. Mode 6/Study Area III

## SOC 232 CITIES AND URBAN LIFE STYLES

3
Prereq.: SOC 110. Examination of the development of preindustrial cities and how they differ from modern urban areas. Research on differences between suburban and urban life will be explored as well as contrasting lifestyles which coexist within urban areas. Post-World War II policies which helped to lead to many of today's problems will be identified and discussed. Fall. Mode 7

SOC 233
THE FAMILY
3
The family in its social context, including cross-cultural perspectives and theories of family structure and change. The contemporary American family and its emerging alternatives will be studied, with special reference to the family life cycle and current issues in family studies. Mode 6/Study Area III

SOC 234 SOCIAL INTERACTION
Prereq.: SOC 110. Study of social behavior arising out of group contexts. Analysis of development and change of self-concepts and leading theories of social interaction. Spring. Mode 6

SOC 240 THE SOCIOLOGY OF GENDER
Gender as biology, social learning, social organization and social structure. The gendered nature of friendships, sexuality, conversation, power and violence. Interpersonal/institutional sexism as it affects women and men. Issues of inequalities in work, education, politics and health. Women's and men's movements.
Mode 6/Study Area III
SOC 300 SOCIOLOGICAL THEORY
3
Prereq.: SOC 210. Previously SOC 217. Examines the work of Marx, Weber, Durkheim, Goffman and selected other theorists. Discussion of theories within their historical context.

SOC 310 RESEARCH METHODS
Prereq.: SOC 210. Previously SOC 222. Examines scientific method as used in sociology. Topics include inductive and deductive reasoning, quantitative and qualitative research designs, measurement, sampling, methods of data collection and analysis strategies.

SOC 332
THE SOCIOLOGY OF POVERTY
Prereq.: SOC 110. Analysis of poverty conditions and their causes in historical and cross-cultural perspectives. Role of poor in the larger social system and on the way needs and potentialities of the poor are determined. Spring. Mode 6

SOC 335
SOCIOLOGY OF POWER
3
Prereq.: SOC 110. The inequality of personal, collective and institutional power. The paradigms of structural power; pluralism, the elite model, class model and the corporate state. Emphasis on institutional aspects including issues of gender, conflict mediation and socio-political movements. Fall. (E) Mode 6

SOC 336 SOCIOLOGY OF DEVIANCE
Prereq.: SOC 110. Deviance as types of persons and behaviors which violate the norms of a social group, as well as attempts to control or limit such persons or behaviors. A historical and cross-cultural perspective will be used to analyze a variety of deviant types of individuals and behaviors. Mode 6

Prereq.: SOC 110. Analysis of demographic changes, role shifts, age stereotyping, institutionalization and their implications for the treatment and status of the elderly. Exploration of the processes of aging in the later years and the impact of the same on people's lives. Fall. Mode 6

Prereq.: SOC 210 and 300. Selected topics in social theory. May be repeated with different topics for a maximum of 6 credits. On demand.

SOC 410 QUANTITATIVE ANALYSIS
Prereq.: SOC 310, STAT 215. Analysis of quantitative data using computer applications to test hypotheses and to complete a research project. Spring. [c]

## SOC 412 QUALITATIVE ANALYSIS

Prereq.: SOC 310. Intensive exposure to participant observation, in-depth interviewing, and context analysis. Emphasis on the collection, coding, and interpretation of primary data. Additional focus on the ethics and politics of qualitative research designs.

SOC 433 INDEPENDENT STUDIES IN SOCIOLOGY
Prereq.: Senior standing and permission of instructor. Student must present a written study proposal to the department chair at least three weeks prior to registering for this course. Readings and research in selected fields of sociology. On demand.

SOC 440 DEATH AND DYING: SOCIOLOGICAL IMPLICATIONS
Prereq.: SOC 110. Different cultural, social and historical perspectives on death and their impact on social roles and institutional change. Problems faced by the sure profession in meeting the needs of the terminal Student will be required to have a field experience with a terminally ill patient and/or bereaved family. Spring. (E) Mode 6

## SOC 450 SOCIAL JUSTICE AND CIVIL SOCIETY

Prereq.: SOC 110. Examination of situational contexts, institutional structures and cultural differences on social justice concerns in a civil society. Emphasis on distributive, procedural, interactive and/or organizational justice. Analysis of criteria used to assess justice and examination of responses to real and/or perceived injustices. Irregular.

SOC 452 COMPLEX ORGANIZATIONS
Prereq.: SOC 110. Systematic study of large scale, bureaucratic organizations with emphasis on relations among the organization's members, the organization as a social entity and its social and physical environment. Spring.

SOC 475 SEMINARS IN SOCIOLOGY
Examination of selected topics in sociology. Irregular.
SOC 478 CURRENT TOPICS IN SOCIOLOGY
Prereq.: Permission of instructor. Analysis and evaluation of special topics in the field of sociology. Not a seminar. May be repeated with different topics for a maximum of 6 credits. Irregular.

SOC 490 COMMUNITY INTERN EXPERIENCE
Prereq.: Sociology major with 2.70 GPA or higher and two letters of recommendation addressing academic ability and maturity. Taken concurrently with SOC 491. Accepted students are assigned to work in either a profit or nonprofit com-munity-based organization for 6 to 8 hours per week.

SOC 491 INTERN SEMINAR AND RESEARCH
Prereq.: Sociology major with 2.70 GPA or higher and two letters of recommendation addressing academic ability and maturity. Taken concurrently with SOC 490. Assigned readings and research projects related to work assignment of SOC 490.

## SPANISH

*Not open to speakers of Spanish. See SPAN 190/191.
*SPAN 111 ELEMENTARY SPANISH I
Through a direct conversational approach, foundations of Spanish linguistic structure are established. Open only to non-speakers of Spanish, and to students with one year or less of high school study. Area B/Skill Area III
*SPAN 112 ELEMENTARY SPANISH II
Prereq.: SPAN 111 or equivalent. Study of spoken and written Spanish is continued with analysis of Spanish language structure. Open only to non-speakers of Spanish. No credit given to those with credit for two or more years of high'school study. Area B/Skill Area III [I]

## *SPAN 114 BASIC SPANISH REVIEW

Prereq.: Three years of Spanish in high school or equivalent preparation. Refresher course in structure patterns and sound systems of the Spanish language. Open only to non-speakers of Spanish. No credit given to those with credit for three or more years of high school study. Area B/Skill Area III [I]
*SPAN 115 SPANISH FOR THE PROFESSIONS
Prereq.: SPAN 112 or permission of instructor. Designed to develop language proficiency in business practice, law enforcement, medical work, travel, social work and other fields of everyday professional life. May be repeated with different topics for a maximum of 6 credits. Only three credits may be applied to the General Education and International requirements. Open only to non-speakers of Spanish. No credit given to those with credit for three or more years of high school study. Irregular. Area B/Skill Area III [I]

## *SPAN 120 INTENSIVE ELEMENTARY SPANISH

Intensive oral-proficiency based Spanish language course designed to bring students to intermediate level production and receptive skills in one semester. Six classroom hours per week. Only three credits may be applied toward the International requirement. Open only to non-speakers of Spanish and to students with one year or less of high school study. Only three credits may be applied toward the International requirement. Area B/Skill Area III [I]

## *SPAN 125 INTERMEDIATE SPANISH I

Prereq.: One year college Spanish or equivalent. Principles of Spanish language structure reviewed. Short stories and plays are read and discussed. Conversation and composition on topics of general interest. Open only to non-native speakers of Spanish. No credit given to students with credit for more advanced course work in Spanish. Area B/Skill Area III [I]

## *SPAN 126 INTERMEDIATE SPANISH II

Prereq.: SPAN 125 or equivalent. Continuation of SPAN 125 with the study of grammatical structures. Open only to non-native speakers of Spanish. No credit given to students with credit for more advanced course work in Spanish. Area B/Skill Area III [I]

## SPAN 190 SPANISH FOR SPANISH SPEAKERS I

Prereq.: Permission of instructor. Designed to improve diction, reading and writing skills, and to study grammar of standard Spanish and dialect variations. Short stories, plays and newspaper articles are read and discussed. Open only to nonnative speakers of Spanish. Fall. Area B/Skill Area III [I]

SPAN 191 SPANISH FOR SPANISH SPEAKERS II
Prereq.: Permission of instructor. Continuation of SPAN 190. Further study of grammar and additional practice in diction, reading and writing. Eligible Spanish speakers will take this course in place of SPAN 126. Spring. Area B/Skill Area III [I]

SPAN 225 INTERMEDIATE SPANISH III
Prereq.: SPAN 126 or permission of instructor. Designed to help students improve speaking skills through the discussion of contemporary texts. Further study of grammar. Open only to non-native speakers of Spanish. Fall. Area B/Skill Area III [I]

SPAN 226 INTERMEDIATE SPANISH IV
Prereq.: SPAN 225 or permission of instructor. Designed to help students improve writing skills by means of frequent composition. Further study of grammar. Open only to non-native speakers of Spanish. Spring. Area B/Skill Area III [I]

SPAN 261 BUSINESS SPANISH
Prereq.: SPAN 190 or 225 , or permission of instructor. Previously SPAN 410. Development of skills geared to specific situations which would be encountered in business offices, foreign firms, travel agencies and the like. Fall. Skill Area III [I]

SPAN 290 SPANISH FOR SPANISH SPEAKERS III
Prereq.: SPAN 191 or permission of instructor. Designed to review Spanish grammar and to improve writing, reading and diction skills. Discussion of cultural topics and further study of grammar. Fall. Area B/Skill Area III [I]

SPAN 291 SPANISH FOR SPANISH SPEAKERS IV
Prereq.: SPAN 290 or permission of instructor. Continuation of SPAN 290. Further work in Spanish grammar designed to improve writing, reading and diction skills. Emphasis on discussion of cultural topics. Spring. Area B/Skill Area III [I]

SPAN 300 LITERARY ANALYSIS
Prereq.: SPAN 226 or 291 (may be taken concurrently), or permission of instructor. Taught in Spanish. Instruction in the techniques of literary analysis as an instrument for the development of critical reading ability, and as a necessary step in literary research. Fall. [I]

## SPAN 304 LITERARY MASTERPIECES TO 1700

Prereq.: SPAN 300 (may be taken concurrently); or permission of instructor. Previously SPAN 360. Taught in Spanish. Introduction to great literary works of Spain from the Middle Ages to 1700. Fall. Mode 3/Study Area I [I]

## SPAN 305 LITERARY MASTERPIECES SINCE 1700

Prereq.: SPAN 300 (may be taken concurrently). Taught in Spanish.
Introduction to the major works in Spanish literature since 1700. Spring. Mode 3/Study Area I [I]

SPAN 315 SPANISH CIVILIZATION
Prereq.: SPAN 226 or 291 (may be taken concurrently). Taught in Spanish. Cultural evolution of Spain with emphasis on modern period. Fall. Study Area II [I]

SPAN 316 LATIN AMERICAN CIVILIZATION
Prereq.: SPAN 226 or 291 (may be taken concurrently). Taught in Spanish.
Cultural evolution of Latin America with emphasis on modern period. Spring. Study Area II [I]

SPAN 335 ADVANCED SPANISH FOR ORAL EXPRESSION 3
Prereq.: SPAN 226 or 291. Taught in Spanish. Development of oral proficiency through discussion of readings and films. Fall. [I]

SPAN 336 ADVANCED SPANISH COMPOSITION
Prereq.: SPAN 226 or 291. Taught in Spanish. Advanced practice in Spanish based on readings, translations, and frequent compositions. Spring. [I]

SPAN 371 POETRY AND DRAMA OF THE GOLDEN AGE
Prereq.: SPAN 300 or permission of instructor. Taught in Spanish. Outstanding poets and dramatists including Garcilaso de la Vega, Fray Luis de Leon, Lope de Vega, Tirso de Molina and Calderon de la Barca. Spring. (E)

SPAN 375 SPANISH AMERICAN LITERATURE I
Prereq.: SPAN 300 or permission of instructor. Taught in Spanish. Study of selected writings of major Spanish-American authors from the age of discovery and the colonial period up to the end of the nineteenth century. Fall. Mode 3/Study Area I [I]

SPAN 376 SPANISH AMERICAN LITERATURE II 3
Prereq.: SPAN 300 or permission of instructor. Taught in Spanish. Readings and interpretation of great works of Spanish American literature from end of Romanticism to present. Fall. Study Area I [I]

SPAN 426 THE SPANISH AMERICAN SHORT STORY
Prereq.: Permission of instructor. Taught in Spanish. Survey of representative authors and selected works with emphasis on the twentieth century. Irregular. [I]

## SPAN 434 WOMEN WRITERS OF THE <br> SPANISH-SPEAKING WORLD

Prereq.: Permission of instructor. Taught in Spanish. Discussion of representative works will center around cultural and gender issues. On demand.

SPAN 441 CROSS CULTURAL COMMUNICATION
Prereq.: Permission of instructor. Open only to non-native speakers of Spanish. Development of fluency in oral expression. Speech analysis and phonetic theory to improve pronunciation and intonation. Introduction to problems of translation, enhancement of oral competence, and development of cross-cultural understanding. Fall. (E) [I]

SPAN 460 THE STRUCTURE OF THE SPANISH LANGUAGE Prereq.: Permission of instructor. Taught in Spanish. Study of syntactical and morphological aspects of the Spanish language. Spring. (E) [I]

SPAN 461 TOPICS IN SPANISH-AMERICAN LITERATURE
Prereq.: Permission of instructor. Taught in Spanish. Detailed study of a literary figure, movement, or theme. May be repeated with different topics for a maximum of six credits. Irregular. [I]

## SPAN 471 GENERATION OF '98

Prereq.: Permission of instructor. Taught in Spanish. Detailed study of some major works of authors such as Unamuno, Baroja, Valle Inclán, and Antonio Machado of the Generation ' 98 in the context of historical, ideological, and aesthetic trends of their time. Fall. (O) (I)

SPAN 472 20TH CENTURY SPANISH LITERATURE
Prereq.: Permission of instructor. Taught in Spanish. Representative authors and literary movements of the period following the Generation of '98. Spring. (E) [I]

## SPAN 476 CERVANTES

Prereq.: Permission of instructor. Taught in Spanish. Works of Cervantes with particular emphasis on Don Quixote. On demand. [I]

## SPECIAL EDUCATION

## SPED 315 INTRODUCTION TO EDUCATING LEARNERS WITH EXCEPTIONALITIES

Prereq.: Admission to the Professional Program in Teacher Education. Examines growth and development of learners with exceptionalities, including gifted and talented and those who may require special education, and methods for identifying, planning for and working effectively with these populations in educational settings. Meets State of Connecticut requirement for teacher certification. Field experience required. Area $C$

SPED $420 \quad$ BASIC MANUAL COMMUNICATION I
An introduction to the Manual Alphabet and American Sign Language of the Deaf, designed to provide basic skill in non-verbal communication. Fall.

## SPED 421 BASIC MANUAL COMMUNICATION II

Prereq.: SPED 420 or permission of instructor. A continuation of the Manual Alphabet and American Sign Language for the Deaf designed to provide further skill in non-verbal communication. Spring.

SPED 423

## ASSESSMENT, INSTRUCTION AND CURRICULAR ADAPTATIONS FOR PRESCHOOLERS

3Prereq.: SPED 315 and admission into the Professional Program. Development of Individualized Education Programs, adapting curricula, and the utilization of assessment and teaching strategies to promote the development and independence of preschoolers with disabilities in community and integrated school settings. Taken concurrently with EDEC 423. Field experience required.

## CHARACTERISTICS AND EDUCATION OF

 INDIVIDUALS WITH BEHAVIORAL/ EMOTIONAL DISORDERSPrereq.: SPED 315 or permission of instructor. Taken concurrently with SPED 431. Overview of the education of behavioral/emotional disorders, autism and attention deficit hyperactivity disorders. Topics include characteristics, identification, etiology, theoretical and educational approaches. Involves field experience component.

## SPED 431 BEHAVIOR MANAGEMENT AND SOCIAL SKILLS DEVELOPMENT

Prereq.: SPED 315 or permission of instructor. Taken concurrently with SPED 430. Examination of methodologies for evaluation, assessment, management of student behavior and program planning/instruction utilized in special education settings. Involves field experience component.

## SPED 432 CHARACTERISTICS AND EDUCATION OF INDIVIDUALS WITH LEARNING DISABILITIES

Prereq.: SPED 315 or permission of instructor. Overview of the education of students with learning disabilities and traumatic brain injury. Topics include characteristics, identification, etiology, theoretical and educational approaches. Involves field experience component.

SPED 433 EDUCATIONAL ASSESSMENT FOR EXCEPTIONAL LEARNERS
Prereq.: Admission to the Professional Program and SPED 432. Examines formal and informal assessment materials and techniques used in evaluating adaptive skills, processing abilities and academic achievement in individuals with learning and/or behavior problems. Topics include procedures for test selection/administration, methods for scoring and interpreting test results. Involves field experience component.

SPED 434 CHARACTERISTICS AND EDUCATION OF INDIVIDUALS WITH DEVELOPMENTAL DISABILITIES
Prereq.: Admission to the Professional Program. Taken concurrently with SPED 435. Overview of mental retardation, developmental disabilities, autism and physical disabilities. Topics include characteristics, identification, etiology, theoretical and educational approaches. Involves field experience component.

SPED 435

## CURRICULUM ADAPTATIONS AND TEACHING STRATEGIES FOR LEARNERS WITH EXCEPTIONALITIES

Prereq.: SPED 433. Taken concurrently with SPED 434. Techniques for assessing social studies, science and prevocational skills, as well as for selecting, developing and adapting curricula and methods for students with exceptionalities. Involves field experience component.

SPED 436 LANGUAGE ARTS FOR LEARNERS WITH EXCEPTIONALITIES

3
Prereq.: SPED 432, 433. Taken concurrently with SPED 438. Techniques for planning and delivering instruction in the areas of reading, writing and oral language specific to students with special needs.

SPED 437 INTEGRATIVE SEMINAR FOR BEGINNING SPECIAL EDUCATORS
Prereq.: SPED 436. Taken concurrently with SPED 439. Examines collaborative strategies for assessment and program planning. Communication skills, professional ethics and codes of conduct will be examined.

SPED 438 STUDENT TEACHING WITH EXCEPTIONAL LEARNERS I
Prereq.: Taken concurrently with SPED 436. Supervised teaching in special education classrooms, agencies or institutions. Attendance at on-campus seminars is required. Students must make application to the Office of Field Experiences before September 15 for spring and before February 1 for fall.

## STUDENT TEACHING WITH

## EXCEPTIONAL LEARNERS II

6
Prereq.: SPED 438. Taken concurrently with SPED 437. Supervised teaching in special education classrooms, agencies or institutions at a different age level and with a different exceptionality. Attendance at on-campus seminars is required. Students must make application to the Office of Field Experiences before September 15 for spring and before February 1 for fall.

## SPED 498 INDEPENDENT STUDY IN SPECIAL EDUCATION

Directed independent studies in special education. May be repeated for a total of 6 credits.

## STATISTICS

Note: See Quantitative Analysis
STAT $104 \quad$ ELEMENTARY STATISTICS
Prereq.: MATH 101 (C- or higher) or Placement Exam. Intuitive treatment of Prereq.: MATH 101 (C- or higher) or Placement Exam. Intuitive treatment of
some fundamental concepts involved in collecting, presenting and analyzing data. Topics include frequency distributions, graphical presentations, measures of relative position, measures of variability, probability, probability distributions (binomial and normal), sampling theory, regression and correlation. No credit given to students with credit for STAT 108, 200, 215 or 315. Mode 2/Skill Area II

STAT 108
INTRODUCTION TO BIOSTATISTICS
Prereq.: MATH 101 (C- or higher) or Placement Exam. Principles of statistics applied to the analysis of health and biological data. Emphasis on concepts and principles from biostatistics to facilitate critical reading of literature relevant to health data. The development of analytic skills is enhanced by the use of one of the widely available statistical packages and/or graphing calculator. Topics include graphical presentations, testing, estimation, cross-classification, correlation, life tables and survey analysis. No credit given to students with credit for STAT 104, 200, 215, 315. Mode 2/Skill Area II

STAT 200 BUSINESS STATISTICS I
Prereq.: MATH 101 (C- or higher) or Placement Exam. Application of statistical methods used for a description of analysis of business problems. The development of analytic skills is enhanced by use of one of the widely available statistical packages and a graphing calculator. Topics include frequency distributions, graphical presentations, measures of relative position, measures of central tendency and variability, probability distributions including binomial and normal, confidence intervals and hypothesis testing. No credit given to students with credit for STAT 104, 108, 215, 315. Mode 2/Skill Area II

STAT 201 BUSINESS STATISTICS II
Prereq.: STAT 200 or equivalent (C- or higher). Application of statistical methods used for a description and analysis of business problems. The development of analytical skills is enhanced by use of one of the widely available statistical packages. Topics include continuation of hypothesis testing, multiple regression and correlation analysis, residual analysis, variable selection techniques, analysis of variance and design of experiments, goodness of fit and tests of independence. No credit given to students with credit for STAT 216, 416 or 453. Area C

## STAT 215 STATISTICS FOR THE BEHAVIORAL

 SCIENCES IPrereq.: MATH 101 (C- or higher) or Placement Test. Introductory treatment of research statistics used in behavioral sciences. Quantitative descriptive statistics, including frequency distributions, measures of central tendency and variability, correlation and regression. A treatment of probability distributions including binomial and normal. Introduction to the idea of hypothesis testing. No credit given to students with credit for STAT 104, 108, 200 or 315. Fall. Mode 2/Skill Area II

## STAT 216 STATISTICS FOR THE BEHAVIORAL SCIENCES II

STAT 217 ELEMENTARY SURVEY SAMPLING
Prereq.: STAT 104 or 108 or 200 or 215 . Introduction to design and analysis of sample surveys emphasizing practical aspects of survey problems. Topics include survey design, questionnaire design, types of sampling and computer-aided analysis using statistical software. Spring. Mode 2/Skill Area IV [c]

## STAT 314 INTRODUCTORY STATISTICS FOR

 SECONDARY TEACHERSPrereq.: MATH 218 and 221. Techniques in probability and statistics necessary for secondary school teaching. Topics include sampling, probability, probability distributions, simulation, statistical inference and the design and execution of a statistical study. Computers and graphing calculators will be used. No credit given to those with credit for STAT 201, 216 or 453. Fall. [c]

STAT 315 MATHEMATICAL STATISTICS I
Prereq.: MATH 218, MATH 221. Theory and applications in statistical analysis. Combinations, permutations, probability, distributions of discrete and continuous random variables, expectation and common distributions (including normal). Fall.

## STAT 400 STATISTICAL QUALITY CONTROL

3
Prereq.: STAT 216 or STAT 201 or IT 464 or permission of instructor. Statistical introduction to quality control. Topics include statistical quality, construction and analysis of control charts for variables and attributes, capability analysis, reliability and acceptance sampling. Fall. ( $E$ )

## STAT 416 MATHEMATICAL STATISTICS II

Prereq.: STAT 315. Continuation of theory and applications of statistical inference. Elements of sampling, point and interval estimation of population parameters, tests of hypotheses and the study of multivariate distributions. Spring.

STAT 425 LOSS AND FREQUENCY DISTRIBUTIONS AND CREDIBILITY THEORY
Prereq.: STAT 416 (may be taken concurrently). Topics chosen from credibility theory, loss distributions, simulation and time series. Spring. ( $E$ )

## STAT 440 BIOSTATISTICAL METHODS

Prereq.: STAT 216 or 201, or 453 with permission of instructor or STAT 416. Statistical methods applied to the analysis of health and biological data with emphasis on multivariate methods. Computer packages assist in the design and interpretation of models fitted to health data. Spring. ( $O$ ) $[c]$

## STAT 451 APPLIED STOCHASTIC PROCESSES

Prereq.: STAT 315 and MATH 228. An introduction to stochastic processes. Topics include Markov, Poisson, birth and death, renewal and stationary processes. Statistical inferences of Markov processes are discussed. Fall. (O)

## STAT 453 APPLIED STATISTICAL INFERENCE

Prereq.: STAT 104. Statistical techniques used to make inferences in experiments in social, physical and biological sciences and in education and psychology. Topics included are populations and samples, tests of significance concerning means, variances and proportions and analysis of variance. No credit given to students with credit for STAT 201 or 216. Fall. Mode 2

STAT 455 EXPERIMENTAL DESIGN
Prereq.: STAT 201 or 216 or 416. Introduction to experimental designs in statistics. Topics include complete randomized blocks, Latin square and factorial experiments. Fall. (O)

STAT 456 STATISTICS LABORATORY
Prereq.: CS 151 and STAT 201 or 216 or equivalent. Study of SAS, one of the major statistical procedures and analysis. Spring. (E) [c]

STAT 465 NONPARAMETRIC STATISTICS

STAT 467 LINEAR MODELS
Prereq.: STAT 416 and MATH 228. Introduction to the methods of least squares. Topics include general linear models, least squares estimators, inference and hypothesis testing. Fall. (E)

STAT 470 APPLIED MULTIVARIATE ANALYSIS
Prereq.: STAT 216 or 201 or 453 with permission of instructor, MATH 228 or STAT 416. Introduction to analysis of multivariate data with examples from economics, education, psychology and health care. Topics include multivariate normal distribution, Hotelling's T2, multivariate regression, analysis of variance, discriminant analysis, factor analysis and cluster analysis. Computer packages assist in the design and interpretation of multivariate data. Spring. (O) $[c]$

STAT 475 MATHEMATICAL STATISTICS III
Prereq.: STAT 416 or equivalent. Continuation of theory and applications of statistical inference. Advanced topics in the estimation of population parameters and the testing of hypotheses. Introduction to Bayesian methods, regression, correlation and the analysis of variance. Fall. (E)

STAT 476 TOPICS IN STATISTICS
Prereq.: Permission of instructor. Topics depending on interest and qualifications of the students will be chosen from sampling theory, decision theory, probability theory, Bayesian statistics, hypothesis testing, time series or advanced topics in other areas. May be repeated under different topics to a maximum of 6 credits. Spring. ( $O$ )

## TECHNICAL COURSES

Note: Laboratory courses designed to develop technical competence; for majors in Technology Education, Industrial Technology and Engineering Technology, and, where indicated, to satisfy General Education requirements.

TC 112 DIGITAL IMAGING FOR PRE-PRESS
Techniques of drawing and digital imaging for pre-press. Emphasis on computer operations and the use of image editing software programs in digital pre-press production. Skill Area IV [c]

## TC 113 INTRODUCTION TO INFORMATION

 PROCESSINGEmphasis placed on the computer as a productivity tool. Student will use application software for word processing, spreadsheets, databases, and CAD. HTML programming, operating systems, and electronic mail are also presented. Laboratory assignments are related to technical applications. Area C/Skill Area IV [c]

TC 114

## INTRODUCTION TO ENERGY PROCESSING

Survey of energy conversion systems, including aspects of energy transmission and control employed by industry to increase its value and usefulness.
Laboratory experiments include development and use of various energy systems. Open to all students. Area C

TC 118 INTRODUCTION TO MATERIAL PROCESSING
Principles and concepts of how industry changes forms of raw materials to increase value and usefulness. Laboratory work and demonstrations to develop awareness of nature and characteristics of raw materials, thereby permitting associations to be made regarding selection of processes by which materials may be changed. Open to all students. Area C

TC 121
TECHNICAL DRAFTING AND CAD
Prereq.: TC 113. Introduction to geometric construction, 3D modeling, orthographic projection, sectional and auxiliary views, dimensioning/tolerancing and pictorials. Emphasis on the use of CAD. Technical drafting equipment and sketching are used to reinforce drawing techniques. [c] Area C

## TC 122

INTRODUCTION TO CAD FOR AEC I
Prereq.: TC 113 or permission of instructor. Concepts of computer-aided drafting and design applied to engineering drawings and schematics for the architec-

## utilizing AUTOCAD application software. Fall. [c]

TC 123 INTRODUCTION TO CAD FOR AEC II
Prereq.: TC 113 or permission of instructor. Concepts of computer-aided drafting and design applied to engineering drawings and schematics for the architectural, civil, construction, electrical and mechanical disciplines. Laboratory course utilizing MicroStation application software. Spring. [c]

TC 155 CONSTRUCTION DOCUMENTS
Examination of the role of the construction project administrator. Emphasis on interpretation of construction documents and administration of project related documents and reports associated with the construction process.

TC 212 GRAPHIC ARTS INDUSTRIES
Introduction to graphic communications. Letterpress, printing, offset lithography, screen process printing, elementary bookbinding, mimeo duplicating and spirit duplicating are discussed. Open to all students. Area C/Skill Area IV [c]

## TC 213 ELECTRICAL ENERGY

A study of the electrical nature of matter, its conduction and magnetic properties. Focus on the behavior of electricity as a phenomenon. Area $C$

TC 214 MECHANICAL ENERGY
A study of laws and concepts involved in the conversion, transmission and control of mechanical energy. Experiences will include the analysis of common mechanical and fluid-mechanical circuits. Area $C$

TC 215 MATERIALS AND PROCESSING
A laboratory course to develop concepts involved in the efficient processing of multiple materials. Appropriate hand tools and equipment are employed to demonstrate the relationship between materials, properties and processes. Attention is given to procedures common to a variety of manufactured products. Fall. Area C

TC 216 MATERIAL PROCESSING II (METALLICS) 3
Comprehensive study of and experiences with those materials which possess metallic characteristics and manufacturing processes. Area C

TC 223 BASIC ELECTRICAL CIRCUITS
Prereq.: MATH 115 (may be taken concurrently) or Placement Exam. Operation of DC circuits including voltage, current, resistance, power, electromagnetism, capacitance, inductance and basic laws and theorems. Introduction of AC sine wave, phasor mathematics and transformers. Laboratory experiments involve building circuits and using basic instruments to measure quantities. Fall. [c]

## TC 229 COMPUTER HARDWARE ARCHITECTURE

Prereq.: TC 113 or CS 115 or MIS 201. Laboratory based course emphasizing the computer architecture and related components. Analyzing and troubleshooting the interrelationships between the operating system, computer hardware, and peripheral devices. Fall. [c]

## TC 233 ADVANCED ELECTRICAL CIRCUITS

Prereq.: TC 223, MATH 115 or Placement Exam, PHYS 111; or PHYS 122 or 126. Reactance and power concepts in AC. Phasor analysis of RC, RL and RCL circuits, resonance and filters. Laboratory experiments involve building circuits, using instruments to measure quantities and observing phenomena. Spring. [c]

TC 243
ELECTRONIC DEVICES
3
Prereq.: TC 223, MATH 115 or Placement Exam, PHYS 111. Introduction to basic semiconductor theory including p-n junction, structure, parameters and performance characteristics of diodes, bipolar transistors, JFETs, thyristors and opteolectronic devices. Laboratory experiments involve building circuits, using instruments to measure quantities and observing phenomena. Spring. [c]

TC 261 INTRODUCTION TO GRAPHIC DESIGN AND COLOR
Prereq.: TC 112, 212; or permission of instructor. Introduction to typography and typography design. Topics include design in brochures and packaging, and theory and practice of full color printing. Lecture and laboratory. [c]

## COURSE DESCRIPTIONS

TC 303
Prereq.: TC 213 or 223 or 233 . Analysis of DC and AC single and three-phase motors and generators with focus on performance characteristics and their function in control systems. Fall. [c]

TC 313 ELECTRICAL POWER SYSTEMS
3
Prereq.: TC 213 or 233 or PHYS 122 or permission of instructor. Commercial, industrial and residential applications of the National Electrical Code and Contemporary Wiring practices and techniques. Spring. Area C

TC 316 METALS MACHINING
Prereq.: TC 216 or permission of instructor. Study of and experiences in techniques of machining, precision measurement and heat treatment of metallic materials. [c]

TC 321 COMPUTER-AIDED DRAFTING
Prereq.: TC 112 or 121 or permission of the instructor. Laboratory-based instruction to the utilization of the computer in preparing architectural, civil, mechanical, electrical, piping and pictorial drawings. [c]

TC 323 ANALOG CIRCUITS
3
Prereq.: TC 243. Linear integrated circuits and their applications including operational amplifiers, comparators, oscillators, 555 timers, rectifiers, power amplifiers, power supplies, active filters and voltage regulators. Laboratory experiments stress circuit building, troubleshooting, theoretical and instrumental concepts. Fall. [c]

## TC 324

FLUID POWER SYSTEMS
A study of the design and fabrication, diagnosis and repair of fluid power systems, including hydraulics, pneumatics and fluidics.

TC 333 DATA ACQUISITION AND CONTROL
Prereq.: TC 213. An examination of digital electronic and microprocessor-based techniques for data acquisition and control. Interfacing, signal processing and computer communications are included. Spring. [c] Area C

TC 334 MECHANISMS FOR AUTOMATION
A study of the design and fabrication, diagnosis and repair of mechanical power systems, including mechanical transmission and control components. Fall.

## TC 339 COMPUTER SYSTEM ADMINISTRATION

Laboratory course emphasizing concepts, tools, and application of technologies related to computer system administration. Includes the design, implementation, management, and maintenance of a state-of-the-art network operating system. Spring. [c]

TC 342 POROUS PRINTING AND

## POST-PRESS OPERATIONS

Fundamental operations and related information in post-press printing operations, rubber stamp making and screen process printing. Study of layout, paper, ink and hand binding. Area $C$

TC 345 HEAVY AND HIGHWAY CONSTRUCTION ESTIMATING
Prereq.: IT 245, 254. Examination of the role of the heavy and highway construction estimator. Emphasis on pricing labor, material, and equipment cost as they relate to civil construction projects. Spring. [c]

## TC 349 FUNDAMENTALS OF NETWORKING

Prereq.: TC 229. Laboratory based course focusing on wide area networking technologies. Includes the design, implementation and analysis of the functions and capabilities of various networking configurations. Spring. [c]

TC 351 ESTIMATING FOR CONSTRUCTION 3
Prereq.: IT 150 and 254. Examination of the role of the construction estimator. Emphasis on pricing labor, material and equipment costs in the areas of sitework, concrete, masonry, steel and carpentry.

TC 352 GRAPHIC DESIGN AND TYPOGRAPHY 3
Prereq.: TC 212 or permission of the instructor. The study of type and its relation to paper. Emphasis will be on the relationship of type choice and context,

3 purpose, space, audience and method of printing. Desktop publishing will be examined. Spring. [c] Area $C$

TC 353 INTRODUCTION TO SURVEYING 3

Prereq.: MATH 115 or 119 or 121 . Activities that will acquaint the student with instruments and tools of the surveyor including their use in the techniques of field surveying. Emphasis on actual layouts and areas and elevations as performed in the civil and construction disciplines. Fall.

TC 355 CONSTRUCTION PLANNING
3 Prereq.: TC 351. Examination of the role of the construction planner/scheduler. Emphasis on CPM scheduling using arrow and precedence diagram techniques. Procedures associated with determining project completion dates, progress schedule updating and project time reduction.

3 TC 356 MATERIALS OF CONSTRUCTION 3
Prereq.: MATH 115 and IT 150. Investigates the strength and other properties required of various materials used in construction. The testing, proper use and application of aggregates, concrete, structural steel and timber will be emphasized. Area C

TC 363 DIGITAL CIRCUITS 3
Prereq.: TC 233. Principles and applications of digital circuits, number systems, Boolean Algebra, combinatorial and sequential logic circuits, arithmetic circuits and MSI logic circuits. Laboratory experiments focus on circuit building and troubleshooting using TTL integrated circuits. Fall. [c]

TC 405 APPLIED TECHNICAL TOPICS
A laboratory-oriented course providing comprehensive study of a selected technological topic. Course may be repeated for maximum of 6 credits for different topics, but students may not take the course under the same topic more than once. Irregular.

TC 414 AUTOMATED ASSEMBLY CELL DESIGN 3
Prereq.: ET 251, IT 480. Industrial robotics programming, cell design proce-
3 dures, product evaluation, feeder selection, cell layout and multi-task end effector design. Emphasis on developing a cost-effective automated assembly cell followed by cell simulation testing and evaluation. Fall. [c]

TC 416 PRINCIPLES OF NUMERICAL CONTROL 3
Prereq.: TC 316 or permission of instructor. A study of the principles and concepts essential for numerical control part programming and machine tool operations. Laboratory experiences will include word address programming, computeraided programming and CNC machine tool setup and operation. [c]

## TC 442 PRINTING PRODUCTION

## TC 443 ELECTRONIC COMMUNICATION

Prereq.: TC 323. RF transmitting and receiving circuits, amplitude and frequency modulation and detection, phase modulation, antennas, RF transmission lines and
resonance, modulation, demodulation and transmission channels. Spring. [c]

## TC 445 CONSTRUCTION SYSTEMS <br> Prereq.: TC 215. Comprehensive study of carpentry and related construction

3
industries. Emphasis toward gaining modern concept of wood technology. Fall.
TC 446 TOOL AND DIE FUNDAMENTALS 3
Prereq.: TC 416 or permission of instructor. Introductory study of and experiences in design and construction of tools, dies and work-holding devices used in tooling for manufacturing. [c]

TC 449 ADVANCED NETWORKING
Prereq.: TC 349. Laboratory based course focusing on local area networking technologies. Includes the design, implementation and analysis of the functions and capabilities of various networking configurations. Fall. [c]

TC 453
MICROPROCESSORS
Prereq.: TC 363. Microprocessor architecture including basic memory design, address decoding and internal register structure, and assembly language programming including addressing modes and instruction set. Laboratory work consists of programming and debugging assignments. Spring. [c]

## TC 455 CONSTRUCTION PROJECT

MANAGEMENT
Prereq.: TC 355. Examination of the role of the construction project manager. Emphasis on administrative procedures, quality control, time and cost control, resource management, field office practices, construction processing, job site meetings and correspondence.

TC 462

## ADVANCED GRAPHIC ARTS TECHNIQUES

Prereq.: TC 442. Integrated experience of advanced instruction in both letterpress and offset printing. Experiences will include advanced camera work leading to halftone photography, process color photography and other camera manipulations. Cultural and historical aspects of graphic arts and industrial visitations. [c] Area C

## TC 463 PROGRAMMABLE LOGIC CONTROLLERS

Prereq.: Junior standing. A study of programmable sequence controllers and programmable logic controllers for motion and process control. The role of feedback as a control strategy, regulators and servomechanisms is included. Fall. [c] Area C

## TC 472 INTRODUCTORY AND

 PUBLICATIONS PHOTOGRAPHYProfessional and laboratory course for instructors and students interested in photography. Principles of camera, camera handling, exposure, lighting, taking black-and-white pictures and slides, composition, developing, printing and enlarging. Darkroom plans and equipment listings will be evaluated. Students will prepare black-and-white pictures and slides. Field trips to selected photographic studios. Open to all students. Fall and Summer. Area C

TC 479
INTERNET TECHNOLOGIES
Prereq.: TC 349. Laboratory based course emphasizing concepts, tools, applications, and development of internet-related technologies. Includes the planning, design, building, and management of a HTTP server. Spring. [c]

## TECHNOLOGY EDUCATION

TE 110 TECHNOLOGICAL SYSTEMS
A holistic perspective of technological systems and their impacts on social institutions. Focus on human endeavors in the development, use and control of technology. Fall. Mode 7/Study Area II

TE 199 ORIENTATION TO TECHNOLOGY
EDUCATION
Orientation to teaching technology Education. Develops a sense of professional behavior, purpose and identity. Introduces planning of technical lessons, teaching technology education and laboratory safety procedures. Spring.

TE 399

## PROFESSIONAL STRATEGIES OF TECHNOLOGY EDUCATION TEACHING

Prereq.: Permission of instructor. Development of knowledge and skills needed by an individual to function as a professional technology education teacher
Preparation, presentation and evaluation of student-developed lessons and methods of student assessment, unique to technology education laboratories, will be emphasized. Fall.

TE 400
TEACHING OF TECHNOLOGY EDUCATION

Prereq.: Admission into the Professional Program. A professional course which stresses preparation for student teaching, or supervised teaching, and objectives, planning techniques and problems of teaching technology education at the secondary, middle and elementary school levels. Required of all undergraduate majors in Technology Education, and graduate studenis in the Technology Education certification program. This course is a prerequisite to student teaching. Fall.

3 TE 410
Prereq.: 24 credits of technical courses including TC 113, 121 and 212, or permission of instructor. Laboratory application of graphic and electronic communication systems which extend human capability with focus on how the individualized components function together as a given system. Research and lab activities will include computer-aided design, desktop publishing, photography and telecommunications. Lecture/lab. Spring.

## TE 411 ANIMATION GRAPHICS

Prereq.: TC 112 or 121 or 122 . Using animation software, digitizing equipment, and paint/draw programs to produce two- and three-dimensional presentations, slide shows and videotapes. Irregular. [c]

TE 412 COMPUTER-AIDED PUBLISHING
Prereq.: TC 113. Presentation and application of the basic concepts of electronic publishing. Instruction and laboratory activities will focus on software usage applying accepted design techniques and producing appropriate materials for classroom implementation. Irregular. [c]

TE 420 MANUFACTURING SYSTEMS
Prereq.: 24 credits of technical courses including TC 118 and 215 , or permis-
3 sion of instructor. Laboratory application of the systems and technical means used to manufacture and construct products. Students will create designs, prototypes, tooling, transport devices, advertising strategies, line production techniques and quality control mechanisms. Lecture/lab. Fall.

## TE 428 RESEARCH AND EXPERIMENTATION

Prereq.: Completion of 18 semester hours of required technical courses (T.C.). Planning, directing and evaluating effective research procedures with emphasis on the application of research and experimentation to the teaching of technology education and its relationship to mathematics, science and social studies.

TE 430 TRANSPORTATION SYSTEMS
Prereq.: 24 credits of technical courses including TC 114 and 214, or permission of instructor. Laboratory application of the systems which extend the means of transportation beyond the physical capability of the human body. Includes terrestrial, atmospheric, marine and space transportation technologies and their social, environmental and economic impact. Lecture/lab. Spring.

TE 450 TECHNOLOGICAL ENTERPRISE
Prereq.: TE 410, 420 and 430, or permission of instructor. Synthesis of the production, transportation and communication systems used to organize and operate an entrepreneurial business endeavor through laboratory application. Lecture/lab. Spring.

TE 459 TECHNOLOGY EDUCATION IN THE ELEMENTARY SCHOOL

Prereq.: Junior standing. Elective for technology education majors who wish to examine technology education activities suitable for elementary school.
Integrating such activities with typical grade school curriculums. Irregular.

## TE 460 CONSTRUCTIVE ACTIVITIES FOR

 NON-TECHNICAL TEACHERSTo provide in-service or pre-service personnel with the techniques and skills necessary to use basic tools and materials to enhance their teaching. Emphasis will be placed on "hands-on" experiences with tools and materials, and experiences with group activities relating to industry, technology, careers and occupations. Not open for credit to majors in School of Technology. Irregular.

TE 488
INDEPENDENT STUDIES IN
TECHNOLOGY EDUCATION
Prereq.: Senior or graduate standing and permission of instructor. Directed independent studies in technology education for students who wish to pursue specialized areas which are not covered in regular course offerings. May be repeated with different topics for a maximum of 6 credits. On demand.

## THEATRE

TH 099 THEATRE PRACTICUM

No Credit
Prereq.: Theatre major status. Required of Theatre majors each semester. All students must complete a minimum of two practicums in the areas of technical theatre and front-of-house. Participation in theatre production activities, such as acting, directing, technical-backstage, costuming, box-office, ushering and other production concerns. Duties will be assigned each student with hours arranged at beginning of each semester. (This course carries no load credit.)

TH 110 INTRODUCTION TO THEATRE
Introduction to theatre as a social institution. Students are required to attend Theatre Department productions. Mode 4/Study Area I

## TH 111 STAGECRAFT

Constructing and rigging scenery for different stages. Two lectures and average of two hours laboratory work per week. Mode 4/Study Area I

TH 115 PLAY PRODUCTION
Open to all students who enjoy working on plays. Students may elect to work in stagecraft, lighting, sound, scene painting or properties, costuming, front-of-house management or performance. An average of three hours laboratory work per week is required. May be repeated for maximum of 6 credits. Mode 4

## TH 117 LIGHTING

Lighting techniques in modern theatre practice. Two lectures per week. Mode 4/Study Area I

TH 121 COSTUMING
Brief history of costume and constructing costumes. Introduction to design principles. Two lectures and average of two hours laboratory work per week. Mode 4/Study Area I

## TH 126

MAKEUP I
Laboratory course in stage makeup. Crew assignments on theatre productions are normally required. One two-hour session per week. Fall. Study Area I

## TH 135

SPEAKING-VOICE DEVELOPMENT
Development of a more relaxed and vibrant speaking voice in dramatic performance through analysis of each student's non-clinical voice-use problems followed by drills and body-voice exercises to free body, breath and vocal tract. Spring. Mode 4/Study Area I

TH 143

## THEATRE GAMES AND IMPROVISATIONS

Theatre games and improvisations to build concentration, relaxation, imagination and the ability to react, leading to heightened awareness and confidence in both exercises and very brief scenes. Exploration of the theatrical moment. Mode 4/Study Area I

## TH 145

ACTING I
Concentration, relaxation and freeing the imagination, body and voice.
Improvisational exercises for exploration and discovery in relation to acting fundamentals. Students are required to audition for main stage productions, if only for the audition experience. Mode 4/Study Area I

TH 211 RENDERING AND DRAWING

## FOR THE STAGE

Prereq.: TH 111 and 121. Studio course covering the various media for drawing and rendering stage and costume designs. The emphasis will be in developing student skills in drawing and rendering with watercolor, gouache, pen and ink. Irregular.

## TH 212 STAGE MECHANICS

Prereq.: TH 111 or prior permission of instructor. Study of multi-scene productions, including change-time factors and quick-change systems, as well as unit sets and machinery of the theatre. Spring. (O) Mode 4

## TH 213

## SCENE PAINTING I

Laboratory/studio course in the techniques of painting scenery for the stage. Meets two hours twice each week. Irregular.

## TH 214 SCENE PAINTING II

Continuation of TH 213. Meets for two hours twice each week. Irregular.

2

3

2
TH 217 SCENO-GRAPHIC TECHNIQUES 1
Prereq.: TH 111. Laboratory/studio course in various methods of graphic presentations of stage sets and designs, including measurements and specifications. Meets one hour each week. Spring. (E) Mode 4

TH 222 HISTORY OF FASHION
Study of the history of dress stressing the influences of culture upon fashion and original period research for the theatre. Two lectures and an average of two hours per week laboratory time working on period costumes. Spring. (E) Mode 4/Study Area I [I]

## TH 235 THEATRE MOVEMENT I

2
Prereq.: DAN 151 or 152 or permission of instructor. Development of an understanding of body placement and projection. Emphasis on body and spatial awareness in relation to environment. What, where, why and how of movement. Interaction of body and mind.

TH 236 THEATRE MOVEMENT II
2
Prereq.: TH 235. Application of body-space-movement awareness to acting and characterization objectives. Physicalization of a character and movement in a scene. Reinforces and extends organic connections in characterization, assisting the actor to find the organic reality of character.

TH 246 ACTING II 3
Prereq.: TH 145. Continuation of TH 145. Emphasis on basic techniques of acting, including introduction to scene study and characterization. Fall. Mode 4/Study Area I

## TH 251 STAGE MANAGEMENT

Prereq.: TH 111 and 253 or permission of instructor. Study of function, duties and methods of operation of the stage manager, to include a study of the Actor's Equity Association contract.

## TH 253 SCRIPT ANALYSIS FOR THE THEATRE

Reading and analysis of plays from various periods and countries. Focuses on text analysis from viewpoint of theatre artists: director, actor, designer. Fall. Mode 4/Study Area I

TH 275 AMERICAN THEATRE TODAY 3
Survey of theatre in America, with special focus on current developments. Topics include: organizational structure, social and cultural objectives, economics issues, artistic trends, theatre education, multi-culturalism and new plays. May include field trips (ticket charge required), guest speakers and research on selected subject. Spring. (E) Mode 4/Study Area I

TH 316
SCENE DESIGN
Prereq.: TH 111 and 217 and departmental permission. Designing scenery for various kinds of stages and plays. Work on ground plans and elevations, perspective drawing and finished design. Fall. (E)

TH 318
LIGHTING DESIGN
Prereq.: TH 111, 117. Lighting design and layout for the proscenium, open and arena stages. Special emphasis on design problems, equipment and control systems. Spring. (O)

TH 327 MAKEUP II
Prereq.: TH 126 or prior permission of instructor. Advanced makeup projects with attention to mask building and prosthesis. Crew assignments on theatre productions are normally required. One two-hour session per week. Open to Theatre majors only. Fall. (E)

Prereq.: Major or minor in Theatre and permission of instructor. Tutorial to solve skill problems through individual lessons and coaching with design major preparing to fulfill project requirements. May be repeated for a total of six credits.

Prereq.: TH 121, 222 and permission of instructor. Designing costumes for various styles of plays. Work on design renderings and patterns for construction of costumes. Spring. (O)

TH 336 STAGE DIALECTS
Survey of dialects for stage use with mastery of a select few. Dialect drills, practice and performance. Spring. ( $E$ )

TH 338
ADVANCED VOICE DEVELOPMENT
3
Prereq.: TH 135. TH 339 should be taken concurrently. Expanding and developing range, flexibility and vibrancy of the speaking voice in dramatic performance. Development of effective articulation. Fall.

TH 339
VOICE TUTORIAL
Prereq.: TH 338 (may be taken concurrently) and B.F.A. Acting major status. Tutorial to solve speaking-voice problems through individual lessons and vocal coaching. May be repeated for a total of 6 credits.

TH 347
ACTING III
3
Prereq.: TH 338, 246 or permission of instructor. Performance considerations in scene study and character development, as well as self-scripted pieces. Two lectures and one two-hour lab per week. Spring.

## TH 352 DIRECTING FOR THE STAGE

Prereq.: TH 253. Principles of stage directing and practice. Emphasis on modern methods of directing and the use of its main elements such as space, time, sound, image and the actor. Spring. (O)

## TH 373

THEATRE SURVEY I
Theatre from 18th century to present day, including physical theatre, audiences, acting style and other elements of production. Representative plays from standpoint of performance. Fall. [I]

## TH 374 THEATRE SURVEY II

Theatre from Greeks to 18th century. Spring. (E)
TH 447
ACTING IV
Prereq.: TH 347 and departmental permission. Performance considerations in scene study and role development, with emphasis on plays of varying styles and different periods. Fall. ( $O$ )

## TH 456

SHAKESPEAREAN PRODUCTION
Prereq.: TH 253 and 246, or permission of instructor. Analysis of selected plays from perspective of actor and director. Students act in and stage scenes as major requirements. Irregular.

TH 465 CREATIVE DRAMATICS FOR CHILDRF.N 3
Trains teachers to develop the imagination, creativity and communication skills of children ages 5 through 12. Includes pantomime, theatre games, improvisation and formal theatre experience. Spring. Area $C$

TH $480 \quad$ PROJECTS: DANCE 1-3
Prereq.: Permission of instructor. Individual projects in choreography, research or production under the guidance of Dance/Theatre staff. Irregular.

TH 481 PROJECTS: SCENERY 1-3
Prereq.: TH 316 and departmental permission. Individual projects in reading, research or production under guidance of member of Theatre staff.

TH 482 PROJECTS: COSTUMING
1-3
Prereq.: TH 332 and departmental permission. Individual projects in reading, research or production under guidance of member of Theatre staff.

TH 483 PROJECTS: ACTING A
Prereq.: TH 347 and junior standing and departmental permission. Individual projects in reading, research or production under guidance of member of Theatre staff.

3 TH 484 PROJECTS: ACTING B $1-3$
Prereq.: TH 483 and departmental permission. Individual projects in reading, research or production under guidance of member of Theatre staff.

TH 486 PROJECTS: LIGHTING/SOUND,
STAGE MANAGEMENT
Prereq.: TH 318 and departmental permission. Individual projects in reading, research or production under guidance of member of Theatre staff.

3 TH 487 PROJECTS: RESEARCH 1-3
Prereq.: TH 374 or departmental permission. Individual projects in reading, research or production under guidance of member of Theatre staff.

TH 488 PROJECTS: DIRECTING
1 Prereq.: TH 352 and departmental permission. Individual direction of student production under faculty supervision.

## TH 489 STUDIES IN THEATRE/DRAMA

Prereq.: Permission of instructor. Selected area of theatre and/or drama not covered in other courses. Topic varies. May be repeated for credit. Irregular. Mode 4

TH 490 SUMMER THEATRE WORKSHOP 3
Prereq.: Permission of instructor. Students work with experienced directors in a summer theatre production workshop learning the craft of acting and performing, culminating in a public performance. May be repeated for a maximum of 6 credits. Summer.

TH 495 THEATRE INTERNSHIP 3-6
Prereq.: Permission of department. Substantial work in approved area/regional theatre(s) offering experience or research opportunities unavailable on campus. May be repeated for a total of 12 credits. On demand.

## URBAN STUDIES

 ry. Course serves as a foundation for the Urban Studies concentration. Fall. Mode 6 or 7/Study Area III
## URS 420 INTERNSHIP IN URBAN STUDIES

Prereq.: URS 300, nine additional credits in Urban Studies concentration, permission of supervising department chair and a 3.00 GPA . Practical experience working with agencies active in dealing with the issues and problems of urban communities. On demand.

URS 430 READINGS IN URBAN STUDIES 3
Prereq.: URS 300, nine additional credits in Urban Studies concentration, permission of supervising department chair and a 3.00 GPA. Directed independent study in Urban Studies. On demand.

## VIETNAMESE

VIET 111 ELEMENTARY VIETNAMESE I
Basic sounds and structure patterns of Vietnamese established through a direct audiolingual approach. Irregular. Skill Area III

ELEMENTARY VIETNAMESE II 112
Prereq.: VIET 111 or permission of instructor. Continued study of Vietnamese linguistic structure with further practice in conversation, pronunciation and diction. On demand. Skill Area III [I]

VIET 190 VIETNAMESE FOR VIETNAMESE SPEAKERS I
Prereq.: Permission of instructor. Designed to improve diction, reading and grammar of standard Vietnamese. On demand. Skill Area III [I]

VIETNAMESE FOR VIETNAMESE

SPEAKERS II
Prereq.: VIET 190 or permission of instructor. Continuation of VIET 190 designed to further improve diction, reading and grammar of standard Vietnamese. On demand. Skill Area III [I]

## VOCATIONAL-TECHNICAL EDUCATION

Note: Courses designed to develop professional competence; for majors in Vocational Technical Education.

VTE 113

> ANALYSIS AND TEACHING OF VOCATIONAL-TECHNICAL EDUCATION I

Basic introductory course for students in vocational education. First principles of teaching and learning and their applications in the development of instructional objectives, occupational analysis techniques, progress records, skill and informational lesson plans, instructional sheets, written and performance tests and grading systems.

## VTE 116 <br> ANALYSIS AND TEACHING OF VOCATIONAL-TECHNICAL EDUCATION II

An introduction to the principles and philosophy of vocational education and its impact on sociery. A brief historical development of vocational education, supportive legislation, characteristics of the various program fields, delivery systems and current issues and problems. Area $C$

VTE 421 OCCUPATIONAL SPECIALIZATION
Award of academic credit for occupational experience through an occupational competency evaluation process. Candidates must demonstrate trade or occupational competency in technical knowledge and manipulative skills by passing a written and performance examination. Open to vocational technical instructors and occupational subjects teachers, as well as others meeting the experience requirements. College credit will in general be awarded to those persons matriculated in the Vocational Technical Education B.S. degree program. Credit is entered on transcripts as "credit by examination" and a course grade is not recorded.

Occupational competency examinations from the National Occupational Competency Testing Institute can be arranged through Central Connecticut State University. Persons interested in taking the competency examinations and obtaining college credit should contact the Coordinator/Adviser, School of Technology, Central Connecticut State University, New Britain, CT (Phone: 832-1807). On demand.

## VTE 440

HUMAN RELATIONS IN THE WORKPLACE
3 A study of human relations with emphasis on self-awareness, role multiplicity and the effect of life stresses on the adult in the workplace. Attitudes, values, problemsolving and communication techniques are explored in the context of effective interpersonal relationships. Concepts of group dynamics and adult learning are addressed with emphasis on recognition and skill development. Fall. Area $C$

## VTE $450 \quad$ PRINCIPLES AND ORGANIZATION OF COOPERATIVE WORK EDUCATION

The development and organization of work experience programs at the second-
Prereq.: VTE 113 or taken concurrently and employed at least half-time as a vocational teacher in a public school system. Beginning instructors in the vocational technical programs teach for one semester under the supervision of Central Connecticut State University faculty with emphasis on Connecticut teaching competencies in both classroom and shop/lab areas. Two seminars provide opportunity for identification of problems and solutions applicable to vocational teaching. Open to instructors in vocational technical education during their first calendar year of teaching. Open only to matriculated BS-VTE majors.

VTE 118

## SUPERVISED TEACHING FOR VOCATIONAL-TECHNICAL EDUCATION II

Prereq.: VTE 116 and VTE 117 (VTE 116 may be taken concurrently) and at least half-time employment as a vocational teacher in a public school system. Continuation of VTE 117 with an emphasis on integrating instructional theory and practice in the shop or related subject areas. Instructors teach for one semester under the supervision of Central Connecticut State University faculty. Two seminars provide opportunity for identification of problems and solutions applicable to vocational teaching. Should be taken in first year of teaching.

## VTE 328

## SHOP ORGANIZATION AND MANAGEMENT

Physical aspects of vocational industrial buildings and shops. Purchase and inventory of supplies, selection and installation of equipment and development of desirable shop layouts. The basic philosophies and practices of exploratory work offered and the specialized training which follows. Industrial safety, public relations, use of instructional aids and development of programs for special groups. Fall.

VTE 400
EVALUATING STUDENT ACHIEVEMENT IN VOCATIONAL-TECHNICAL EDUCATION

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Prereq.: VTE 113. Additional development and application of principles and practices introduced in VTE 113. The selection and/or development of audiovisual materials, learning activity packages and techniques of individualizing instruction. Students develop and present planned lessons utilizing lecture-discussion and lecture-demonstration techniques.

VTE 117

## SUPERVISED TEACHING FOR VOCATIONAL-TECHNICAL EDUCATION I

ary school level. Examines those activities necessary to establish, maintain and improve cooperative work education programs. Fall.

## VTE 455 LABOR MARKET TRENDS AND STUDENT JOB READINESS

Analysis of factors influencing the work placement of cooperative work education students. Special attention given to the study of present needs as well as anticipated trends in Connecticut's labor market, and the development of a curriculum to establish job readiness skills. Spring.

## VTE 490 TOPICS IN VOCATIONAL TECHNICAL EDUCATION

Special purpose programs designed to meet the needs of selected groups of vocational teachers or directed independent studies for individual students.
Provides a mechanism that encourages the vocational instructor to elect, with the guidance of University faculty, job-specific and short-term selective experiences to insure the instructor's technical expertise. May be repeated on different topics to a maximum of 6 credits. On demand. (Contact the Coordinator/Adviser, School of Technology, 832-1807, prior to registration.) On demand.

VTE 491 SUPERVISION OF VOCATIONAL AND TECHNICAL EDUCATION
3 Prereq.: Teaching experience. Roles and functions of supervisors of vocational and technical education on the local and state level. Fall.

VTE 492 ORGANIZATIONAL AND ADMINISTRATION OF VOCATIONAL AND TECHNICAL EDUCATION
Prereq.: Teaching certificate and teaching experience. Organizational patterns, administrative practices and legal requirements of federally supported programs in vocational and technical education on the local and state level. Spring.

Prereq.: VTE 113. Procedures for evaluating student achievement of instructional objectives with application in occupational education subjects. Spring.

## VTE 415

EDUCATION


## WOMEN'S STUDIES

## WS 200 INTRODUCTION TO WOMEN'S STUDIES 3

Focus on issues concerning women. Examines gender issues in societies, political institutions, education, the arts, medicine, science and the family. Spring. Mode 6/Study Area III

## WS 400 FEMINIST THEORY

Prereq.: WS 200 or permission of instructor. Examination of central theoretical and critical concepts, ideas and traditions in the development of feminist theory. Spring.

## WORD PROCESSING

WP 204 INTRODUCTION TO WORD PROCESSING 1
Introduction to a popular word processing software package. Includes document creation, editing, formatting, printing, archiving and some specialized software features. Irregular. [c] Area C

# FACULTY, ADMINISTRATIVE STAFF, LIBRARIANS 

Note: Date of appointment to Central Connecticut State University in parenthesis.

ELIZABETH N. AARONSOHN, Ed.D., University of Massachusetts; Associate Professor of Teacher Education (1991).
HELEN ABADIANO, Ph.D., Ohio State University; Associate Professor of Reading and Language Arts (1992).
FATEMAH ABDOLLAHZADEH, Ph.D., Loughborough University; Professor of Computer Science (1989).
FAROUGH ABED, Ed. D., Indiana University; Professor of Educational Leadership (1993).
DEBBIE A. ABUELGHANAM, Ph.D., Texas Tech University; Assistant Professor of Political Science (1999).
STEPHEN ADAIR, Ph.D., Northeastern University; Assistant Professor of Sociology and Social Work (1997).
ABIGAIL ADAMS, Ph.D., University of Virginia; Assistant Professor of Anthropology (1996).
DON ADAMS, Ph.D., Cornell University; Assistant Professor of Philosophy (1998).
JEAN ALICANDRO, M.S., Central Connecticut State University; Assistant Director, Student Center Operations and Event Services (1984).
PAUL L. ALTIERI, Ph.D., Boston College; Professor of Economics (1975).
GAVRO ALTMAN, Ph.D., University of Belgrade; Professor of Political Science (1992).
GABRIEL D. ALUNGBE, Ph.D., University of Florida; Assistant Professor of Engineering Technology (1991).
MARIA ALVAREZ, B.A., Central Connecticut State University; Assistant Registrar (1983).
BETH AMTER, B.A., Southern Connecticut State University; Admissions Representative (1997).
PETER G. ANDERSON, Ph.D., University of Utah; Assistant Professor of Geography (1998).
MICHAEL ANSARRA, M.S., Southern Connecticut State University; Director of Pre-Collegiate Access Services and Special Counsel to the President for African-American Affairs (1988).
ALI A. ANTAR, Ph.D., University of Connecticut; Professor of Physics and Earth Sciences (1980).
WAYNE ANTONINI, Director of Facilities Management (1986).

JAMES V. ARENA, Ph.D., University of Connecticut; Associate Professor of Chemistry (1989).
RICHARD I. ARENDS, Ph.D., University of Oregon; Dean, School of Education and Professional Studies (1991).

DOMINGO ARIAS, M.A., University of Chile; Assistant Director, Career Services and Cooperative Education (1991).

EDWARD R. ASTARITA, M.S., Columbia University; Associate Professor of Marketing (1966).
LOUIS AULD, Ph.D., Bryn Mawr College; Associate Professor of Modern Languages (1987).
CAROL SHAW AUSTAD, Ph.D., North Texas State University; Professor of Psychology (1987).
RICHARD BACHOO, M.P.A., University of Connecticut; Chief Administrative Officer (1998).
STEPHEN A. BACON, Ph.D., University of New Hampshire; Professor of Mathematical Sciences (1970).
ROSS J. BAIERA, M.A., Ohio University; Interim Associate Dean, Arts and Sciences, and Professor of English (1967).
ABNER S. BAKER III, Ph.D., University of Oregon; Associate Professor of History (1970).
TIMOTHY BAKKEN, J.D., University of Wisconsin; Assistant Professor of Criminology and Criminal Justice (1998).

JOSEPH K. BANNON, C.P.A., M.B.A., Boston University; Assistant Professor of Accounting (1974).
CATHERINE R. BARATTA, Ph.D., Syracuse University; Assistant Professor of Sociology and Social Work (1998).
LINDA A. BARILE, Ph.D., University of Connecticut; Associate Professor of Health and Human Service Professions (1995).

STUART BARNETT, Ph.D., State University of New York-Buffalo; Associate Professor of English (1992).
PEARL BARTELT, Ph.D., Ohio State University; Vice President for Academic Affairs (1999).
CHARLES BASKERVILLE, Ph.D., New York University; Professor of Physics and Earth Sciences (1990).
EUGENE BATEN, Ed.D., Harvard University; Associate Professor of Management and Organization (1988).
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ANTHONY BERRY, B.S., Bentley College; Assistant to the Director of Residence Life; Residence Hall Director (1999).
FELTON BEST, Ph.D., The Ohio State University; Professor of Philosophy (1991).
KAREN C. BEYARD, Ph.D., Arizona State University; Professor of Educational Leadership (1986).
IVAN R. BLANCO, Ph.D., Oklahoma State University; Professor of Management and Organization (1998).
RICHARD BLANCO, M.FA., Florida International University; Assistant Professor of English (1999).
ROBERT E. BLATZ, JR., J.D., University of Detroit School of Law; Professor of Accounting (1999).
aNTHONY R. BLAZINI, B.S., Pennsylvania State University: Assistant to the Director of Residence Life; Residence Hall Director (1995).
STANISLAUS BLEJWAS, Ph.D., Columbia University; CSU Professor of History and holder of the Endowed Chair in Polish and Polish-American Studies (1974).
DAVID BLITZ, Ph.D., McGill University; Associate Professor of Philosophy (1989).
RICHARD L. BONACCORSO, Ph.D., University of Connecticut; Professor of English (1975).
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MOLLY BORST, M.S., Central Connecticut State University; Assistant Director of Recruitment and Admissions (1995).
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RITA BRANN, B.A., Central Connecticut State University; Assistant Director of Continuing Education and the Enrollment Center (1992).
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NOTES

## DIRECTIONS TO CENTRAL CONNECTICUT STATE UNIVERSITY



## FROM THE NORTH

Take I-91 South to I-84 West to Exit 39A, to Rte. 9 South. Take Exit 29 off Rte. 9 South to Ella Grasso Boulevard and take a right turn to the University. Alternate Route: Take I-91 South to I-84 West to Exit 40 (Corbins Corner). As you proceed down the Exit 40 ramp, bear left at the first traffic light. At the next traffic light (facing Sears), turn right onto Route 71 South. The University is approximately three (3) miles away.

## FROM THE SOUTHWEST

Take I-95 North to I-91 North to Exit 22 North to Rte. 9 North. Follow Rte. 9 to Exit 29, Cedar Street (Rte. 175). At the traffic light at the end of the ramp, take a left turn to the second traffic light, and take a right turn onto Paul Manafort Drive to the University.

## FROM THE SOUTHEAST

Take I-95 South to Rte. 9 North to Exit 29, Cedar Street (Rte. 175). At the traffic light at the end of the ramp, take a left turn to the second traffic light, and take a right turn onto Paul Manafort Drive to the University.

## FROM THE EAST

Take I-84 West to Exit 39A to Rte. 9 South. Take Exit 29 off of Rte. 9 to Ella Grasso Boulevard and take a right turn to the University. Alternate Route: Take I-84 West to Exit 40, (Corbins Corner). As you proceed down the Exit 40 ramp , bear left at the first traffic light. At the next traffic light (facing Sears), turn right onto Route 71 South. The University is approximately three (3) miles away.

## FROM THE WEST

Take I-84 East to Exit 39A, to Rte. 9 South. Take Exit 29 off of Rte. 9 South to Ella Grasso Boulevard and take a right turn to the University. Alternate Route: Take I-84 East to Exit 35, Rte. 72 East (New Britain exit). Follow Rte. 72 East to Rte. 9 North and take Exit 29 to Cedar Street (Rte. 175). At the traffic light at the end of the ramp, take a left turn to the second traffic light, and take a right turn onto Paul Manafort Drive to the University.


Central Connecticut
State University
1615 Stanley Street
New Britain, CT 06050


[^0]:    *These organizations are adjunct to University departments.

[^1]:    *Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.**
    **Pending approval of SDE and DHE.

[^2]:    * Revision subject to Connecticut State Department of Education approval.

[^3]:    * Pending approvals of the Connecticut Department of Higher Education and the State Department of Education.

[^4]:    *Require admission to the Professional Program prior to enrollment

