Central
Connecticut

State
University

Graduate
Catalog
1998-2000

# CONNECTICUT STATE UNIVERSITY SYSTEM 

Central Connecticut State University • New Britain Eastern Connecticut State University • Willimantic

Southern Connecticut State University • New Haven 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 nearly 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 an 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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# CENTRAL CONNECTICUT STATE UNIVERSITY <br> New Britain, Connecticut 06050-4010 

## Graduate Catalog 1998-2000

A Campus of the Connecticut State University System 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 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.

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. Central Connecticut'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 workforce. The University Office of Human Relations/Affirmative Action is located in Davidson Hall, Room 106 (832-3025).

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| Adolfo Chavarro .....................................................................................................................University Ombudsman |  |

## UNIVERSITY OFFICES

| Academic Deans |  |
| :--- | ---: |
| $\quad$ School of Arts and Sciences | $832-2600$ |
| School of Business | $832-3205$ |
| School of Education and |  |
| $\quad$ Professional Studies | $832-2100$ |
| $\quad$ School of Technology | $832-1800$ |
| Bookstore |  |
| Enrollment Center/Office of | $832-2255$ |
| $\quad$ Continuing Education | $832-2200$ |
| Financial Aid Office | $832-2350$ |
| Graduate Office | $832-2055$ |
| Library | $832-1750$ |
| Personnel | $832-1945$ |
| Prevention and Counseling Services | $832-2235$ |


| Residence Life | $832-1660$ |
| :--- | :---: |
| Special Student Services | $832-1955$ |
| Student Affairs | $832-1601$ |
| Student Center | $832-1970$ |
| Student Development Center | $832-1615$ |
| $\quad$ Advising Center | $832-1630$ |
| $\quad$ Career Services and | $832-1900$ |
| $\quad$ Cooperative Education | $832-2255$ |
| $\quad$ Educational Support Services | $832-2244$ |
| Summer and Winter Sessions | $832-2375$ |
| Transcripts | $832-1785$ |
| University Police | $832-3200$ |
| Veterans Services |  |
| For all numbers not listed above |  |

Send Inquiries to:
Graduate Office
Central Connecticut State University
P. O. Box 4010, New Britain, CT 06050-4010

Office Phone: (860) 832-2350; TDD: (860) 832-1958; FAX: (860) 832-2362
Toll free (outside local calling area): 1-888-SEE-CCSU
E-mail: graduateadmissions@ccsu.edu or ABRAHAM@ccsu.edu
Home page: HTTP://WWWGS.CCSU.CTSTATEU.EDU

## Accreditation and Memberships

The University is accredited by the New England Association of Schools and Colleges, the Connecticut Department of Higher Education, and the Connecticut Department of Education (certification programs in 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 (111 Market Place, Suite 1050, Baltimore, Maryland 21202; phone: 410/347-7700). 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, and many other professional organizations related to the activities of individual departments at Central Connecticut State University.

## University Calendar 1998-2000

## Fall Semester 1998

August 24

August 28

August 31
August 31-
September 3
September 7
September 8

September 11

September 15

September 18

September 25

October 23

October 26
November 20
November 24
November 30
December 1

December 10
December 11

December 14-18
December 19

Academic year begins Faculty Meetings, Orientation 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 Labor Day - Holiday - no classes Last day for part-time students to drop with $100 \%$ refund
Last day for full-time students to withdraw with $60 \%$ refund
Final day for graduate students to apply for December 1998 degrees (Graduate Office) Last day to declare Pass/Fail or Audit options; last day for part-time students to drop with $50 \%$ refund; last day to change from full-time to part-time status Last day to drop first eight-week courses; last day for full-time students to withdraw with $40 \%$ refund
Midterm: Last day to drop full-semester courses; first eight-week courses end Second eight-week courses begin Last day to drop second eight-week courses Thanksgiving Recess begins 10 p.m. Thanksgiving Recess ends 8 a.m. Final day for undergraduates to apply for December 1999 graduation (Office of Registrar) Day classes end
Reading Day (make-up day if needed); no day or evening classes
Examinations
Semester ends; last class meeting for Saturday classes

## Winter Session 1999

| December 28 | First session begins |
| :--- | :--- |
| January 4 | Second session begins |
| January 14 | First session ends |
| January 18 | Martin Luther King Day - Holiday - no <br> classes |
| January 21 | Second session ends |

## Spring Semester 1999

January 25-28

February 1

February 5

February 12

February 17
February 19
February 22

February 23

March 1

March 12

March 15
March 20
March 29
April 2-3
April 16
May 3
May 12
May 13-14

May 17-22
May 20
May 22

May 22

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 or Audit options; last day for part-time students to drop with $50 \%$ refund; last day to change from full-time to part-time status Last day to drop first eight-week courses Lincoln's Birthday - Holiday - no classes Washington's Birthday - Holiday - no classes
Last day for full-time students to withdraw with $40 \%$ refund
Final day for graduate students to apply for May and August 1999 degrees (Graduate Office)
Midterm: Last day to drop full-semester courses; first eight-week courses end
Second eight-week courses begin
Spring Recess begins 1:30 p.m.
Spring Recess ends 8 a.m.
Holiday - no classes
Last day to drop second eight-week courses
Final day for undergraduates to apply for
May 2000 graduation (Office of Registrar)
Day classes end
Reading Days (make-up day if needed) - no
day or evening classes
Examinations
Graduate Commencement
Semester ends; last class meeting for Saturday classes
Undergraduate Commencement

## Summer Session 1999

June 1

July 1
July 5

July 6
July 22
August 5
August 9
August 26

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

January 19
Academic semester begins
January 22 Last day for full-time students to withdraw with $100 \%$ refund
January 25

## University Calendar 1998-2000

## Fall Semester 1999

August 23
August 27

August 30
August 30-
September 2
September 6
September 7

September 10

September 15

September 17

September 20

September 24

October 22

October 25
November 19
November 23
November 29
December 1

December 9
December 10

December 13-18
December 18

Academic year begins
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
Labor Day - Holiday - no classes
Last day for part-time students to drop with $100 \%$ refund
Last day for full-time students to withdraw with $60 \%$ refund
Final day for graduate students to apply for December 1999 degrees (Graduate Office)
Last day to declare Pass/Fail or 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; last day for full-time students to withdraw with $40 \%$ refund
Midterm: Last day to drop full-semester courses; first eight-week courses end Second eight-week courses begin Last day to drop second eight-week courses Thanksgiving Recess begins 10 p.m.
Thanksgiving Recess ends 8 a.m.
Final day for undergraduates to apply for December 2000 graduation (Office of Registrar)
Day classes end
Reading Day (make-up day if needed); no day or evening classes
Examinations
Semester ends; last class meeting for Saturday classes

## Winter Session 2000

December 27
January 3
January 13
January 17

January 20

## Spring Semester 2000

January 18
January 21

First session begins
Second session begins
First session ends Martin Luther King Day - Holiday no classes
Second session ends

January 24
January 24-27

January 31
February 4

February 11

February 12

February 17
February 18

February 21

February 22

March 1

March 17

March 18
March 27

April 14

April 21-22
May 1

May 10
May 11-12

May 15-20
May 18
May 20

May 20

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
Last day for full-time students to withdraw with $60 \%$ refund
Last day to declare Pass/Fail or 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 Birthday - Holiday - no classes
Washington's Birthday - Holiday - 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
(Graduate Office)
Midterm: Last day 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 2000 graduation (Office of Registrar)
Day classes end
Reading Days (make-up days if needed) no day or evening 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; eightweek 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

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## 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 also uniquely position the University to provide students and businesses 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 to recognize 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 6,000 full-time students and nearly 5,500 part-time students, and offers undergraduate and graduate programs through the master's degree and sixth-year certificate levels. The University has a full-time faculty of some 350 members, more than 400 part-time faculty, and over 450 administrators and staff.

CCSU continues to grow, adding property, 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 an internation-ally-oriented public university.

## OUR MISSION

Our University exists to serve students. With learning at the heart of all our activities, our fundamental responsibility is to
empower students to attain the highest standards of academic achievement, public service and personal development.

Preparing students for enlightened and productive participation in a global society is our obligation; it is best fulfilled by blending the traditional liberal arts with dynamic professional education. Effective teaching, our primary function, requires that each member of our faculty have an active scholarly and professional life. Further, our programs and activities are infused with a rich multicultural perspective.

Our designation as a state-wide Center for Excellence in international education and in technology makes our University distinctive. We nurture and develop these programs as a special component of our mission. The partnership we have created with the people and institutions of Connecticut, especially those of the capital region, benefits both the state and the University. This partnership defines us as a regional university, and endows our teaching and scholarship with a special vitality and a distinctive dedication to service.

Most importantly, we value: quality in all that we do and a commitment to constant improvement; intellectual integrity in the process of teaching, learning and administration; openness to the discussion and debate of all points of view in an atmosphere of civility; and dedication to the traditions of academic freedom.

Equally, we value participation by the faculty, students, staff, alumni and friends of the University in formulating policy and making major decisions about the University's future and respect for the dignity, rights and aspirations of each member of our University's community.

Guided by these principles and values, we aspire to become one of the best public regional universities in the nation and the finest in New England.

## 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 disabil-
ities 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)

## THE GRADUATE OFFICE

The Graduate Office has as its primary mission the development and administration of graduate degree programs which reflect high academic standards for advanced study.

The University offers graduate programs leading to the degrees Master of Science, Master of Arts and Master of Business Administration, and to the Sixth-Year Certificate in Reading and in Educational Leadership. Non-degree graduate-level planned programs leading to teacher certification and for professional enhancement are also available.

Note: Changes are occurring in the Graduate Office as of this printing. Please check with the Graduate Office or the dean in your school for additional information.

## THE ACADEMIC SCHOOLS

School of Arts and Sciences. The School of Arts and Sciences offers a wide range of liberal arts programs at the bachelor's and master's level. Subject-matter majors for students in teacher education programs are provided by the academic departments within the school. Faculty in Arts and Sciences also have the primary responsibility for the University's honors program, for providing developmental course work in basic skills and for the University's general education program.

Faculty in Arts and Sciences are involved in research and other scholarly activities both on campus and in the community and state. Students have the opportunity to work with faculty in their research and to collaborate on projects relevant to their study. Certain programs require supervised clinical practica or field study experiences.

The graduate program in Biological Sciences: Nurse Anesthesia is accredited by the Council on Accreditation of Nurse Anesthesia Programs. The school's undergraduate programs in chemistry, computer science and social work are accredited by their respective professional organizations.

School of Business. The School of Business prepares undergraduates for entry-level positions in business organizations through
programs in accounting, international business, finance, management, management information systems and marketing. At the graduate level, students are prepared for leadership positions in international business through the Master of Business Administration. The School also offers the state's only comprehensive graduate program in business teacher education.

## School of Education and Professional

Studies. Central Connecticut State University, along with the other three institutions within the Connecticut State University System, has special responsibility to prepare teachers and other professionals for the public schools of Connecticut.

Founded as the New Britain Normal School in 1849, Central Connecticut State is a university where teacher education and professional programs for educators remain a very high priority.

The School of Education and Professional Studies, with the participation of the other academic schools, has primary responsibility for preparing prospective teachers. In addition, the School provides master's programs, two sixth-year certificate programs and several non-degree programs for the professional development of teachers and counselors. The School also offers an undergraduate nursing program which is accredited by the National League for Nursing.

School of Technology. Central Connecticut State University is unique in that it has the only School of Technology within the Connecticut public university system. The School of Technology offers programs in technology education (also certification for vocational-technical education teachers), industrial technology and engineering technology, in addition to graduate programs in industrial technical management and technology education. 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 (TAC of ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202; (401) 347-7700. The industrial technology program is accredited by the National Association of Industrial Technology (NAIT).

Designated as a Center of Excellence by the State of Connecticut, the School provides state-of-the-art equipment and facilities, with an emphasis on computer-
integrated design and manufacturing. The Institute for Industrial and Engineering Technology, supported in part by the business community, facilitates outreach and research.

## THE GRADUATE PROGRAMS

Central Connecticut State University offers graduate degree programs in 32 fields of study.

The Master of Arts (MA) degree signifies completion of at least 30 credits of advanced study, including research and/or a thesis. Students in an MA program seek to expand their knowledge of a particular subject, and may specialize in an aspect of the subject relevant to their career goals. Students also choose an MA degree program when planning to continue their studies at the doctoral level.

The Master of Science (MS) degree is primarily a professional degree for educators and others seeking to enter or advance in public service professions. Degree programs include at least 30 credits of course work; a thesis is optional. Most MS programs at Central Connecticut are designed for certified teachers, although some departments admit students who have not completed certification or who intend to pursue other professions.

The Master of Science in Industrial Technology Management (MS) degree is a 36 cr. Plan B program which includes a required 15-credit core of courses, and a specialization of 21 credits of restricted and directed electives. The student must pass a comprehensive examination.

The Master of Business Administration (MBA) is a 33 cr . plan which includes an international core, a concentration and an integrative experience.

The Sixth-Year Certificate provides graduate study beyond the master's degree for teachers and other educators. Presently offered only in the fields of reading and educational leadership, the sixth-year certificate signifies completion of a program of study designed to prepare the recipient for a high level of professional practice and responsibility in public education.

Graduate certification programs are available for initial teacher certification in elementary, middle level, secondary and some pre-kindergarten through grade
twelve fields. Certification as school counselor, media specialist, reading consultant and intermediate administrator/supervisor may be completed through course work taken within related degree programs. The Office of the Dean, School of Education and Professional Studies, provides up-to-date information concerning certification programs and state requirements for certification.

## GRADUATE PROGRAMS IN THE SCHOOL OF ARTS AND SCIENCES

Art
Biology

|  | Anesthesia, MS in <br> Health Sciences, <br> Certification |
| :--- | :--- |
| Chemistry | Certification |
| Communication | MS |
| Criminal Justice | MS |
| Earth Sciences | Certification |
| English | MA, MS, Certification |
| General Science | MS, Certification |
| German | Certification |
| Geography | MS |
| History | MA, MS, Certification |
| International |  |
| $\quad$ Studies | MS |
| Italian | Certification |
| Mathematics | MA, MS, Certification |
| Modern |  |
| $\quad$ Languages | MA, MS, Certification |
| Music | MS, Certification |
| Natural Sciences | MS |

(Chemistry, Earth
Sciences, Physics)

| Physics | Certification |
| :--- | :--- |
| Psychology | MA |
| Social Science | MS, Certification |
| Spanish | MS, Certification |
| TESOL | MS |

## GRADUATE PROGRAMS IN THE SCHOOL OF BUSINESS

Business
Education MS, Certification
Business
Administration MBA


| Educational |  |
| :--- | :--- |
| Technology <br> Elementary <br> Education | MS |
| Middle Level <br> Education | Certification |
| Pedagogy and <br> Leadership | MS (jointly offered) |
| Physical <br> Education | MS, Certification |
| Reading <br> Secondary <br> $\quad$ Education | MS, SYC |
| Special Education | MS, Certification |

Additional non-degree 30 -credit programs of study beyond the master's degree are available in selected disciplines for certified teachers seeking professional development.

## GRADUATE PROGRAMS IN THE SCHOOL OF TECHNOLOGY

Industrial Technical
Management MS
Technology
Education MS, Certification

Further information about each of these programs is found in the program descriptions section of this catalog.

## GRADUATE ADMISSIONS

## APPLYING FOR ADMISSION

Central Connecticut State University welcomes advanced level applicants from a broad range of abilities, interests and backgrounds. Students are admitted to either full-time ( 9 hours or more) or parttime ( 8 hours or less) study, and applications are accepted for both the fall and spring semesters.

To be considered for full-time or parttime admission, applicants should submit the completed Application for Graduate Admission. The Application for Admission is available upon request or it may be obtained in a number of campus offices. The back portion of the form includes important information about the application and admission process, and must be submitted to the University accompanied by a non-refundable application fee of $\$ 40$.

As part of the application and admission process, the applicant must request that official undergraduate and graduate
transcripts be submitted from every institution attended except Central Connecticut State University. Failure to identify on the application form all institutions attended, or to have transcripts sent from each of them, may be considered sufficient reason for non-admission or for subsequent dismissal from the graduate program. Applicants who have attended Central Connecticut State University must list all dates of attendance so their official record can be appropriately evaluated.

In addition to submitting the application form, the fee and official transcripts, applicants must provide any additional evidence of admissibility (such as test scores, essays, letters of recommendation, etc.) if so required by the program of application. The program descriptions section of this catalog provides additional information about any specific application requirements relevant to various graduate programs. All academic credentials submitted by applicants become part of the student's permanent file at the University and cannot be returned.

Application Deadlines. Admissions are conducted on a rolling basis for each regular academic semester (fall or spring). The preferred deadline for receipt of the application form is August $\mathbf{1}$ for fall semester and December 1 for spring semester. Some programs have established earlier deadlines or admit students only once per year. International applicants should submit all application materials as soon as possible preceding a semester's beginning date to ensure adequate time for processing visa applications and for making other arrangements.

Prospective students may request a meeting with a graduate adviser to discuss the admission process. A personal interview with the academic department may also be required for entry into some graduate programs.

International Students. International applicants must meet all regular requirements for admission (including such tests as the Graduate Record Examination or the Graduate Management Admissions Test when required). In addition, applicants must submit a satisfactory score on the Test of English as a Foreign Language (TOEFL) when required and provide a Declaration of Finance form which documents financial responsibility. Qualified applicants who cannot demonstrate finan-
cial responsibility will not be admitted. There is at present no financial aid available for non-U.S. students. Graduate assistantships, which are very limited in number, are normally available only to students who are available for on-campus interviews and/or who have completed successfully a semester of graduate study at Central Connecticut State University.

International applicants must submit the following in addition to the application form, application fee, official transcripts and records of undergraduate and graduate studies, and any program-specific application requirements:
(1) two letters of academic and character reference;
(2) a Declaration of Finance form which is provided to international applicants and includes provisions for indicating and for verifying financial capability and responsibility;
(3) translations of academic records produced and verified by the educational institution in the home country or a U.S. academic credential evaluation agency if such materials are not in English;
(4) proof of competency in English as indicated by the Test of English as a Foreign Language (TOEFL) with a score of no less than 550 (or 213 on the computerbased test) unless waived by the University.

Information about the TOEFL test is available from the Educational Testing Service, P.O. Box 6151, Princeton, NJ 085416154, USA. An undergraduate academic degree from a U.S. institution of higher education or from an overseas institution where the primary medium of instruction is English may be considered as proof of English competency. Central Connecticut State University reserves the right to require additional evidence of competency or to require that students admitted to graduate programs take courses to develop their English language skills. Decisions regarding the need for such courses will be made by the dean in conjunction with the student's adviser and appropriate faculty from the English Department.

Central Connecticut State University is authorized under federal law to enroll nonimmigrant, permanent resident students. These students will be required to submit proof of immigration status.

Intensive English Language Program. The Intensive English Language Program (IELP) offers dynamic English language instruction to international students, fac-
ulty, foreign professionals and other nonnative English speakers. The Intensive English Language Program includes highly-participatory instruction in reading, writing, listening, grammar, pronunciation, speaking and TOEFL preparation. Students are placed in the appropriate level based primarily on the results of an entrance exam which is administered the first day of the course. The IELP also administers an institutional TOEFL test five times per year.

All registration for these courses is done directly through the IELP office.

Please contact the office at 832-3376 for application, course scheduling or other information.

## Re-Admission of Former Students and

 Admission of Non-Matriculated Students Who Have Been in Attendance. Students who wish to be considered for re-admission after being withdrawn from a graduate program must complete a Request for Reinstatement form. Only students in good standing ( 3.00 graduate GPA or higher) may be considered for re-admission. Students may request file reactivation when their previous program has not been completed for the same or a new major.The requirement of a 3.00 or higher GPA earned at Central Connecticut State University also applies to non-matriculated attendees who desire admission to a graduate program upon submission of a graduate application and fee.

If a former student wishes to enter a program other than the one to which she or he was originally accepted and/or since completed, a new application (including the application fee and official transcripts from any additional institutions) must be filed. Good standing status on the accumulated graduate record ( 3.00 or higher GPA) also applies to such students.

## ADMISSION CRITERIA

Admission for a graduate program is based on the applicant's academic record. Students must hold a bachelor's degree from a regionally-accredited institution of higher education. The undergraduate record must demonstrate clear evidence of ability to undertake and pursue successfully studies in a graduate field.

A minimum undergraduate GPA of 2.70 on a 4.00 point scale (where A is 4.0 ), or its equivalent, and good standing (3.0 GPA) in all post-baccalaureate course work is required.

Some graduate programs have established additional admissions requirements beyond the minimum requirements of the Graduate Office. Prospective applicants should consult the program descriptions section of this catalog to determine the requirements of the program to which they are applying. Such program-specific admission standards may include a higher minimum cumulative average; an undergraduate major or its equivalent in the program for which admission is sought; scores from the Advanced Test of Graduate School Examination (GRE) or the Graduate Management Admission Test (GMAT); evidence of language proficiency; and additional evidence of admissibility such as letters of reference, statement of goals and objectives, etc.

Applicants to all programs are urged to consult the appropriate program description, the Graduate Office or the department chair to assure that all special admissions requirements are met.

Further, some programs can accept only a limited number of qualified applicants and may review admission files only at certain times of the year.

Admissions requirements are subject to change without notice.

Teacher Certification Programs. Central Connecticut State University offers programs of preparation for teacher certification at both the undergraduate and graduate levels. Consistent with state requirements for the undergraduate academic preparation of teachers, only those applicants who present at least a 2.70 (B-) undergraduate cumulative average may be considered for admission to a certification program at the graduate level.

After admission to the graduate program a student seeking acceptance to the professional program in the School of Education and Professional Studies is required to submit separate application and accompanying documents for review by the Office of the Dean, School of Education and Professional Studies, and the respective department. The application must be submitted by September 10 (for Fall consideration) or by February 10 (for Spring consideration) for students in Elementary or Middle School programs, and for all other programs by September 21 or February 21 of the semester in which the student is first eligible. An eligible student is someone who has: been admitted to the graduate program; completed or is
enrolled in no less than six credits of postbaccalaureate course work at CCSU; met special departmental requirements; and passed the basic skills examination for prospective teachers (Praxis I) or received an official waiver.

A complete application for the Professional Program in Education includes two letters of recommendation from persons able to testify to the candidate's suitability as a prospective teacher; an essay which demonstrates a command of the English language, describes in written narrative the reasons for wanting to enroll in the professional program and emphasizes experiences which are relevant to teaching; verification of a Praxis I completion by test or waiver; a copy of the letter of admission to the graduate program; and a signed copy of the official planned program of graduate study.

The student is responsible for presenting a complete application packet to the Assistant Dean of the School of Education and Professional Studies (Barnard Hall 248).

Students admitted for graduate study but not yet admitted to the professional program for teacher certification develop, with their assigned adviser, a planned program of required courses. The length of the planned program depends on the undergraduate preparation of the student, but most students must devote the equivalent of at least a year or more of full-time study in order to complete professional education, undergraduate deficiencies in areas of study required for certification, and student teaching.

Students must be accepted to the professional program before registering for student teaching. Those requesting student teaching in the fall semester must submit student teaching applications by March 1 in the preceding spring semester. Applicants requesting student teaching in the Spring semester must apply by October 1 in the preceding fall semester.

Further information about the requirements for entry into the professional program may be obtained from the Office of the Dean, School of Education and Professional Studies (Barnard Hall 248). Student teaching applications and information are available in the Office of Clinical and Laboratory Experiences (Barnard Hall 329).

## Sixth-Year Certificate and Other Post-

Master's Study. Central Connecticut State University offers the Sixth-Year Certificate in Educational Leadership and in Reading.

Students wishing to develop a program of study for other fields may request admission to a 30 -credit planned program of post-master's study in an available area of interest. All applicants are advised that planned programs of post-master's study, with the exception of the Sixth-Year Certificates in Educational Leadership and in Reading, are non-degree programs and are provided in a limited number of fields. Admission to programs of post-master's study, including the sixth-year certificate, is based on performance at the master's degree level in addition to the undergraduate GPA. In addition, admission is limited to students who hold the appropriate Connecticut teaching certificate. Most programs also limit admissions to applicants who hold an appropriate master's degree or who present other evidence of advanced course work in the field of study. Additional admissions requirements are described in the program descriptions section of this catalog.

## CONDITIONAL ADMISSION PROGRAM

An applicant for graduate study who does not meet regular admission standards but has an undergraduate GPA between 2.40 and 2.69 may be considered for conditional admission when the department of application has agreed in advance to make this option available to prospective students. The conditional admission program is a non-degree arrangement which allows students to demonstrate the ability to perform successfully in a graduate degree program. The conditional admission plan is available only in a limited number of fields by departmental agreement and does not apply to teacher certification areas.

Students admitted conditionally, where appropriate, are notified of preadmission requirements. When any course requirements set forth are completed with a GPA of at least 3.00 and no grades below $B$, the academic adviser may recommend regular acceptance.

## ADMISSIONS APPEALS

Applicants who are denied admission to a graduate program at Central Connecticut State University may request a review of this decision. Such requests must be made in writing to the appropriate official and should include additional academic information (such as scores from standardized tests or grades in very recent courses)
which was not submitted with the original application.

Depending on the nature of the appeal, the Graduate Appeals Committee, an appropriate designee of the academic school, and the department chair of the relevant major will be consulted as required before making a decision.

GRADUATE STUDENT POLICIES AND DEGREE REQUIREMENTS

The policies and degree requirements for graduate students at Central Connecticut State University are governed by the University faculty and administered through the appropriate dean's office. The Graduate Studies Committee, composed of faculty and students who represent the graduate programs at Central Connecticut State University, reviews graduate curriculum and recommends to the Faculty Senate academic policies affecting graduate students and programs. The Graduate Studies Committee also hears appeals from the administrative decisions of the Dean relative to student academic matters.

The sections which follow summarize the academic policies of the University. All graduate students are urged to become familiar with these policies and to follow them when making decisions about their graduate studies at Central Connecticut State. Advisers are provided to assist in planning the academic program, but they are not authorized to change established policy of the University. Advisers and students are responsible for ensuring that the academic program complies with the policies of the University.

## THE PLANNED PROGRAM OF GRADUATE STUDY

The planned program of graduate study is an official document which lists courses and other degree requirements which students must finish prior to graduation or recommendation for certification.

After a student has been admitted to study for a graduate degree, certification or planned program of any kind, the student
must consult with the faculty adviser to develop the planned program of graduate study. After the adviser has signed the planned program form, it must be submitted for approval by the appropriate official. It then becomes the student's formal plan for graduate study.

An approved planned program is required for all graduate programs, including programs leading to the master's degree and sixth-year certificate, programs for initial teacher certification and others designed to meet 30 -credit requirements for professional development and school district pay increments.

The planned program, once submitted by the student, recommended by the adviser and approved by the appropriate dean, represents a formal agreement between the University and the student. Any changes in the planned program must be approved by the adviser and the dean. "Planned Program of Graduate Study" forms are provided to the student upon admission. Additional planned program forms and course substitution forms are available in department offices and in the Graduate Office or the Enrollment Center/Office of Continuing Education.

The planned program should be developed with the adviser early in the student's graduate studies and must be approved prior to the completion of 15 credits of course work. There is no assurance that course work completed prior to admission to a program, or before the planned program has been agreed upon with the academic adviser, will be approved.

## Changes in the Planned Program. A

 course substitution form must be completed whenever a student wants to modify degree requirements or apply a course not previously included in an approved planned program toward requirements. Requests to change program requirements which are initiated after the student has started a thesis or attempted the comprehensive examination must be approved by the student's academic department as well as by the dean.Changes in Major. To change a graduate major after admission to a graduate program, the student must complete a change of major/adviser form. Students must be matriculated and will need to meet any special requirements of the program to which they are seeking approval for a change.

If the change in major is approved, the student will be notified and assigned a new adviser. The student must then consult with the new adviser to develop a new planned program of graduate study for submission and approval. Subject to approval, course work completed prior to a change in major may be recommended for inclusion on the new planned program at the adviser's discretion.

## MASTER'S DEGREE REQUIREMENTS

The master's degree is conferred upon the student who has completed, subject to approval of the faculty and administrative officials, all requirements of the planned program of graduate study. Requirements include a minimum of 30 credits of approved graduate courses and either a master's thesis (Plan A), a comprehensive examination (Plan B), or a special project appropriate to the major such as an art exhibit, performance or applied research project (Plan C). The program descriptions section of this catalog explains the capstone options available for each degree program.

Each candidate for the master's degree is expected to demonstrate ability to present effectively the results of graduate study at the University and to analyze problems related to the area of specialization. Candidates must also maintain a minimum cumulative grade point average of 3.00 (B) on the graduate record at Central Connecticut State University. No more than two courses with grades of $C$ may be carried in the planned program, otherwise such courses may have to be repeated. Courses in which students receive a $C$ or lower may not be counted for graduate credit in the planned program and may not be used to meet prerequisite requirements for graduate courses.

## Degree Candidacy. Some graduate pro-

 grams require students to make formal application for degree candidacy following the completion of nine credits (at least six of which must be from the area of specialization) in the planned program of graduate study. Students should consult the academic adviser concerning degree candidacy requirements of the particular program for which they have been accepted.Admission to degree candidacy involves a formal review of the student's progress and potential by department faculty and a decision as to whether the student will be permitted to continue in the graduate pro-
gram. Degree candidates must have a minimum cumulative average of 3.00 and must meet requirements for candidacy established by the academic department.

Recommendations concerning degree candidacy are included in the student's permanent graduate file. If a student is not approved for degree candidacy, he or she will be withdrawn from graduate study.

Capstone Requirements. All master's degree programs at Central Connecticut State University include the capstone requirement of a thesis, a comprehensive examination or a special project appropriate to the major.

The master's thesis is required of all graduate students completing degrees under the Plan A option. The thesis represents a report of original scholarship completed under the supervision of a faculty thesis adviser. Depending on department policy, students receive either three or six credits for completing the thesis requirement.

Students electing to write a thesis will select or be assigned a faculty thesis adviser. Students select a topic in consultation with the thesis adviser. The adviser and committee must approve the thesis proposal and the thesis prior to their submission to the dean. Some departments require their students to give an oral defense of their thesis before it is submitted to the dean. The dean assures that the thesis meets University standards for format and quality, and transmits the thesis to the University library.

The following University requirements apply to all students writing theses:
(1) Whenever possible, the student's graduate adviser will serve as the thesis adviser. If the student and the adviser deem it appropriate, another faculty member may be appointed by the department chair to serve as thesis adviser.
(2) The thesis topic and outline will not be approved until at least one-half of the student's course work has been completed. A copy of the approved thesis outline should be submitted to the appropriate dean by the thesis adviser.
(3) The thesis must be prepared in a style and format appropriate to the discipline and approved by the dean. Among the currently approved styles are APA, MLA, Campbell and Turabian.
(4) Students expecting to graduate in May should submit a typed draft to their adviser no later than March 15.
(5) Two copies of the approved thesis, and five additional copies of the thesis abstract (not to exceed 500 words), must be submitted to the dean by April 15 of the year in which the student plans to graduate.

The comprehensive examination is required of all students who select the Plan $B$ option. The comprehensive examination covers the course work in the student's planned program. At the option of the department, the comprehensive examination may include an oral examination and/or an oral defense of the written examination.

The comprehensive examination is normally taken during the last semester of study, but may be attempted any time after the completion of at least 24 credits of planned program requirements. Examinations are given each fall and spring semester and, at the discretion of the academic department, during the summer. Students should consult their advisers and/or department chairs concerning the availability of summer session comprehensive examinations.

To be eligible to take the examination, students must complete an application form which is available in department offices, the Graduate Office or the Enrollment Center/Office of Continuing Education. Students should submit this form to their academic department no later than October 1 for fall semester examinations, and no later than February 15 for spring semester examinations. The department will notify students concerning the time and place of the examination and will inform students of the results.

With departmental permission, students may retake the comprehensive examination. Students who do not pass the examination on a first attempt may be required to enroll in additional course work or to make other special preparations for reexamination. Students who fail the examination a second time must appeal to the dean for permission to retake the examination.

Students who elect the Plan C option must complete a special project. The availability of this option and the requirements for the special project vary according to the degree program. In general, the special project involves completion of a body of work appropriate to the degree specialization. The faculty adviser or another faculty member in the department will supervise the project. The student's work will be eval-
uated by the adviser and by other members of the department as appropriate.

Students should consult the program descriptions section of this catalog concerning availability of a Plan C option and discuss with their advisers the department's requirements for the special project. Students normally receive three credits upon successful completion of their project.

Six-Year Time Limit. All course work and non-credit capstone requirements (i.e., theses, comprehensive examinations and special projects) for the degree must be completed during the six years which precede degree conferral. That is, the student has six years from the earliest course listed on the planned program (including any work transferred from another institution or completed prior to matriculation) to complete ALL degree requirements.

If a student, due to extenuating circumstances, anticipates that he/she will be unable to complete all degree requirements before the six-year limit is reached, it might be possible for the student to get an extension. To do this, the student must request an extension in writing to the graduate adviser who will forward it with recommendations to the appropriate dean. When making the request, the student should include the date when the six-year limit will be reached, the amount of additional time needed to complete all degree requirements, and the reason for not meeting the six-year limit. If the appropriate dean deems the request justified, due to extenuating circumstances, an extension may be granted.

## THE SIXTH-YEAR CERTIFICATE

The Sixth-Year Certificate is presently offered in educational leadership and in reading. The Certificate is awarded, subject to faculty approval, to students who complete all requirements of the planned program.

All course work and any related requirements for the Sixth-Year Certificate must be completed as specified within the "Six-Year Time Limit" section above.

## GRADUATE CERTIFICATION PROGRAMS

Requirements for certification at the graduate level will be individually prescribed by the adviser in the School of Education and Professional Studies after the student has been admitted. Certification requirements include not only course work (such as completion of undergraduate deficiencies and
requirements for appropriate subject majors, professional education and student teaching) but also the satisfactory completion of all requirements for admission to the Professional Program of the School of Education and Professional Studies.

Students are advised to contact their adviser as soon as possible after they are admitted to graduate study and to consult the Office of the Dean, School of Education and Professional Studies, for current information concerning Connecticut and University requirements for certification.

## POST-MASTER'S PLANNED PROGRAMS

The Sixth-Year Certificate is awarded only in two fields of study at CCSU. Students wishing to pursue post-master's study in other areas may request admission to a planned program of post-master's study. Thirtycredit planned programs of graduate study beyond the master's degree are individually prescribed programs of advanced study for educators. Students develop a planned program with their adviser. All requirements must be completed within a six-year time period dating from the earliest course included on the planned program. When requirements have been completed, students may request an official letter from the dean which documents that they have completed 30 credits in a planned program of graduate study beyond the requirements for a master's degree. Completion of post-master's requirements is also noted in the student's official University record. Students completing planned programs of post-master's study do not participate in graduation ceremonies.

## ENROLLING IN GRADUATE COURSES

Information about registration and fees is provided beginning on page 15 . This section includes information about course numbers, enrollment and withdrawal from graduate study.

Course Numbering System. The following numbering system is used by Central Connecticut State University:
001-099 Non-credit courses
100 Search courses (undergraduate credit)
101-199 Courses open to first-year students, and in general to all undergraduate students
200-299 Courses open to sophomores, and in general to all undergraduate students

300-399 Courses open to juniors, and in general to sophomores, juniors and seniors
400-499 Courses open to seniors, and in general to juniors, seniors and graduate students. Additional work may be required for graduate credit.
500-599 Graduate courses; undergraduates require approval of adviser, department chair and dean.
600-699 Graduate courses open only to master's and sixth-year students. Courses numbered 400 and above may be included in a planned program of graduate study when they are listed in the graduate catalog and the course description so allows and/or when approved by the adviser and the dean. Courses numbered under 400 may be applied toward teacher certification programs when recommended by the adviser but will not be approved for inclusion in a master's degree program.

Maximum Course Load. Students who register as part-time students in the Enrollment Center/Office of Continuing Education may enroll for a maximum of eight credits. Students who register as full-time students enroll for no fewer than nine credits, up to a maximum of 18 credits.

Adding a Course. Students may add courses (that is, enroll in courses in addition to those for which they have previously registered) prior to the scheduled beginning and through the first four days of each semester. Registration after a semester's scheduled beginning is dependent on course enrollment and/or the willingness of the instructor and department chair to approve an additional student. All students add courses in the Enrollment Center/Office of Continuing Education.

Dropping a Course. Dropping courses will be allowed up to the chronological midpoint in the course, with the exception that full-time graduate students must maintain a minimum credit load of 9 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.

Graduate full-time students for whom dropping a course would reduce their credit load to fewer than 9 credits must APPLY for withdrawal from that course. (Follow the same procedure as for withdrawal from courses described below.)

The deadline for dropping all fullsemester courses is included in the Enrollment Center/Office of Continuing Education bulletin and in the schedule of classes provided by the Registrar's Office.

Withdrawing from a Course. After posted deadlines for dropping courses pass, or if student status is otherwise affected, withdrawal from a course will be permitted only with the instructor's approval and provided that there are extenuating circumstances. Poor academic performance is not considered an extenuating circumstance. If withdrawal or early withdrawal is recommended, a "W" will be recorded on the student's transcript. All withdrawals, including early withdrawals, are to be initiated by using appropriate course withdrawal forms. These forms are available in the Registrar's Office and the Enrollment Center/Office of Continuing Education.

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.

## Withdrawing from the Graduate Program.

A full-time student who wishes to withdraw in good standing from all course work in progress during the current semester at the University must consult with the Registrar or designee and file all appropriate forms. If the student subsequently wishes to resume full-time graduate study, a change of status form must be submitted.

A part-time student who wishes to withdraw in good standing from all course work in progress during the current semester must consult with the Director or a designee in the Enrollment Center/Office of Continuing Education (Willard Hall).

Any student who no longer wishes to pursue a graduate degree program must provide written notification to the Enrollment Center/Office of Continuing Education. Readmission into a graduate program will be contingent on the student's academic standing. Students obtain forms for reentry in the Graduate Office or the Enrollment Center/Office of Continuing Education.

## THE GRADING SYSTEM

Letter grades, including their plus and minus combinations, are utilized by the Graduate Office. The following grade point equivalents will be used to compute cumulative grade averages: A (4.0); A(3.7); B+ (3.3); B (3.0); B- (2.7); C+ (2.3); C (2.0); C- (1.7); D+ (1.3); D (1.0); D-
(0.7); $\mathrm{F}(0.0)$. No planned program credit is awarded for grades below C , but all grades received in post-baccalaureate status at Central Connecticut State are included in the student's cumulative grade average. Additional grades used at CCSU include:
Inc Incomplete
Aud Audit (no credit)
NC Satisfactory completion of a non-credit course offered through the Enrollment Center/Office of Continuing Education
U Unsatisfactory performance in a non-credit course
The Pass/Fail grading option is not available to graduate students.

Incomplete Grades. A grade of Incomplete may be recorded at the discretion of the instructor when a student, for circumstances which cannot be controlled, is unable to complete the requirements of a course in which he or she is registered during the current semester or session.

The student who receives a grade of Incomplete will be responsible for assuring that all course requirements are completed within one calendar year of issuance, or sooner if required by the instructor. A grade of Incomplete which has not been changed by the instructor within the year allowed for course completion will become an F (failure) automatically.

Grade Appeals. Academic grading reflects careful and deliberate judgment by the faculty member instructing a course. However, the University recognizes that there may on occasion be error or injustice in the determination of a final grade for a course.

Any student who believes that a final grade involved an error or a palpable injustice should confer with the instructor who awarded the grade no later than the fourth week of the following regular academic semester (fall/spring). If the outcome is not satisfactory, the student may present the case next to the department chair who may effect a settlement upon written agreement with the instructor. Further appeal shall be to the dean of the appropriate academic school, and, if no settlement can be effected, to the Grade Appeals Review Board of the Academic Standards Committee. The full text of the Appeals for Grade Changes Policy may be found in the Student Handbook (available from the Office of Student Affairs, Davidson Hall 103).

## GOOD ACADEMIC STANDING

All graduate students must maintain a 3.00
(B) cumulative grade point average (CPA) in course work at Central Connecticut State University in order to be in good academic standing. Good academic standing is required to receive financial aid and to graduate. Students who drop below a 3.00 average will receive a letter of warning from their dean. Once a letter is received, the student is expected to promptly meet with their dean and provide an explanation for his/her poor performance. If a student fails to meet with the dean before the beginning of the new semester, the student's schedule will be dropped and he/she will be withdrawn from his/her program. Any student who is dropped from the program must reapply for admission through the Graduate Office.
The appropriate dean will decide whether or not the student may continue with his/her studies. Continuation will be contingent upon the student's progress in meeting the requirements for good academic standing. In addition to grade-point requirements for good academic standing, students should note that no more than two grades of C are permitted for courses included on the planned program of graduate study leading to a master's degree or sixth-year certificate.

Students who receive more than two grades of C or who achieve grades low enough so that, in the judgment of the academic dean, they will not be able to attain the 3.00 CPA required for graduation will be dismissed from the graduate program. Students who are dismissed for academic reasons may appeal to the Graduate Studies Committee through the appropriate dean's office.

Students who are dismissed from graduate study may apply for reentry upon attainment of a 3.00 (B) cumulative grade point average on the Central Connecticut State graduate record. Forms for requesting file reactivation are available in the Graduate Office or the Enrollment Center/Office of Continuing Education.

## TRANSFER OF GRADUATE CREDIT IN DEGREE PROGRAMS

Students may request transfer of credit for graduate courses completed at another regionally-accredited institution of higher education. All credit presented for transfer must show an earned grade of 3.00 (B) or higher, must be included on the student's planned program of graduate study at Central Connecticut State University, and must be completed within the six-year
period preceding graduation and conferral of the graduate degree. Courses which were applied to a previously completed degree will not be transferred to a new degree program.

Transfer of credit is limited to the following:
Up to 21 credits may be transferred from another Connecticut State University system institution (that is, from Eastern, Southern or Western). Regardless of the number of credits transferred from another university in the CSU System, no fewer than 15 credits in the student's degree program must be completed at Central Connecticut State, with at least six $\sqrt{\text { credits of the } 15 \text { in the student's area of }}$ specialization.
Transfer of credits from accredited insti tutions other than universities in the CSU System is limited to nine credits. In addition, any combination of course ${ }^{-}$ work from CSU institutions and other accredited institutions is limited to a total of nine credits.
Students who have been admitted to a graduate program must obtain prior written approval from the adviser and the appropriate dean if they wish to take a course at another institution for transfer into their planned program of graduate study. Forms for requesting transfer and substitution of credit are available in the Enrollment Center/Office of Continuing Education. Students who do not receive prior approval may not be able to use courses from other institutions as part of their planned programs. Students are responsible for requesting that an official transcript of any approved transfer courses is sent to the Graduate Office.

Graduate students are advised that the Connecticut Department of Higher Educadion as well as our various accrediting organizations have very strict policies concerning the recognition of credit awarded by non-collegiate institutions. The University does not presently have any agreements with non-collegiate institutions which allow for recognition and transfer of credit. Students should also be aware that "continling education units" (CEU's) may not be transferred to graduate degree programs or applied toward the completion of graduate degree requirements.

## GRADUATION

Upon completion of requirements for the master's degree or for the sixth-year certificate, students are eligible for graduation.

Students who anticipate completing degree requirements during the spring semester or in summer session must apply for graduation no later than March 1. Students who anticipate completing degree requirements during the fall must apply for graduation by September 15. Applicaton forms are available in the Enrollment Center/Office of Continuing Education.

Students who have completed requirements or who apply for graduation by March 15 will be eligible to participate in the annual Commencement. Information about Commencement will be mailed to all students who apply for graduation.

## STUDENT REGULATIONS AND CONDUCT

Graduate students at Central Connecticut State University are expected to follow University regulations outlined in the Student Handbook (available from the Student Affairs Office, Davidson Hall 103). The handbook describes in detail the code of student conduct and the subsequent disciplinary actions which violations of this code may incur. Policies of particular importance to graduate students are sum- 2 marized below.
 Attendance. Regular attendance for classes is expected of all graduate stuetents and may be a course requirement. Frequent absences can result in a lowered grade or possible course failure.

Academic Honesty. The graduate student pursuing advanced studies or an advanced degree has a special obligation to maintain the highest standards of academic practice. Because the graduate student has complated a previous degree program, he or she is expected to know that presenting another's work without acknowledgment, whether in the same or in some modified form, is plagiarism. The sources for all papers must be appropriately acknowledged and documented.

Any graduate student found guilty of plagiarism or of academic dishonesty in any form will be subject to the strict penalties permitted by the Code of Conduct. These penalties include failing the course, involuntare withdrawal from the graduate program for a specified period of time and suspension from Central Connecticut State Universty. The full text of the academic honesty policy is found in the Student Handbook.

Computer Use. The campus computing facilities are available to graduate students to facilitate educational objectives, research and study. In exercising computer privileges, graduate students are expected to follow University rules and regulations governing the use of computer accounts and equipment. These regulations are found in the Student Handbook.

## REGISTRATION, TUITION AND FEES

A student admitted to a graduate program at Central Connecticut State University may attend the University full-time or part-time. Graduate students are permitted to change from full-time to part-time status (and vice versa) on a semester-by-semester basis while they complete degree requirements. Full-time students who plan to change their status must contact the Enrollment Center/Office of Continuing Education to avoid billing problems. THESIS FEE

Matriculated graduate students must be registered every fall and spring semester. During fall and spring semesters in which
 no course work is taken, matriculated grad-
 late studentang Regis- F access to computer facilities, the library, parking and the faculty.
A matriculated graduate student who Fo ls
fails to pay the Continuing Registration Fee will be withdrawn and lose his/her matriculation status. Matriculated graduate students with drawn for this reason will have to re-apply and pay a Re-enrollment Fee to regain their matriculation. The length of time to obtain a graduate degree will remain at six years from initial acceptance.

The cost of graduate study at Central Connecticut State University depends on whether the student registers full-time or part-time. In addition, costs may vary depending on Connecticut residency and on certain other categories of attendance. Full-time and part-time graduate students who receive appointments as graduate assistants pay tuition or course costs but receive a waiver for certain other fees.

Connecticut Resident Status. Connecticut resident status is defined by Public Act 74-474 as explained in the Application for Graduate Study. To request a change of resident status, the student must contact the University's Registrar and supply all
necessary documentation. Until such time as a determination of Connecticut residency can be made, the applicant will be otherwise classified. Failure of any student to disclose fully and accurately the facts related to residence in the state may result in dismissal from graduate study.

## New England Regional Student Program.

 Central Connecticut State University is a participant in the New England Regional Student Program. This arrangement offers residents of the other New England states the opportunity to enroll at Central Connecticut State for programs unavailable in their home state at the Connecticut resident tuition and state university fee rate plus a surcharge. Other fees are also required. Similarly, state residents may avail themselves of programs offered by schools in other New England states not available at public institutions within Connecticut.For further information about the programs available through the New England Regional Student Program contact the New England Board of Higher Education, 45 Temple Place, Boston, MA 02111 (617) 357-9620.

Full-time Student Status. A graduate student who registers for nine (9) credits or more is considered a full-time student for tuition purposes.

Full-time graduate students are charged the tuition and fees established by the Board of Trustees of the Connecticut State University. New students register in the Enrollment Center/Office of Continuing Education. Continuing full-time students receive information in the mail about registration and related procedures conducted by the University Registrar.

Full-time students who fall below the nine credit minimum course load required to maintain full-time status may need to re-register through the Enrollment Center/Office of Continuing Education. Parttime student fees or receipt of an early withdrawal may be involved. Exceptions to this policy may be granted by the appropriate dean.

Part-time Student Status. A student who enrolls in eight (8) or fewer credits is considered a part-time student. Part-time students must register and pay fees through the Enrollment Center/Office of Continuing Education. Students who have not filed a planned program may need to consult with a faculty adviser prior to registration.

Part-time graduate students are charged a fixed rate per credit, depending on the level of the course(s) selected. Part-time students are also charged a $\$ 45$ Registration Fee which gives them access to various University services and facilities, including the Student Center, the University library and student parking.

Summer and Winter Sessions. Summer and Winter Session registration is conducted by the Enrollment Center/Office of Continuing Education for all graduate students. The Summer Session Bulletin and the Winter Session Bulletin are available from the Enrollment Center/Office of Continuing Education. Summer and Winter Session fees are the same as part-time fees during regular academic semesters. The University permits a maximum registration of seven credits during each fiveweek Summer Session. During Winter Session, students may enroll in up to four credits of academic course work.

## FULL-TIME TUITION AND FEES

Tuition and fees are subject to change at any time without notice by action of the Connecticut State University Board of Trustees. The per semester costs for 1998-99 of tuition and fees charged to fulltime graduate students (nine or more credits of courses) are as follows.

|  | Resident | Nonresident |
| :---: | :---: | :---: |
| Tuition | \$1,284.00 | \$3,578.00 |
| Enrollment Deposit |  |  |
| Fee (credited toward tuition) | (\$90.00) | (\$90.00) |
| State University Fee | \$307.50 | \$756.00 |
| General Fee | \$387.50 | \$387.50 |
| Student Activity Fee | \$30.00 | \$30.00 |
| Information Technology Fee | \$60.00 | \$60.00 |

Sickness Insurance. An annual fee of $\$ 256.00$, payable in the fall semester, is required of all students who do not submit a waiver form.

## Total Tuition and other required fees <br> Fall $\quad \$ 2,069.00 \$ 4,811.50$ <br> Spring <br> \$2,069.00 \$4,811.50

## PART-TIME COURSE AND REGISTRATION FEES '

The 1998-99 fees charged to part-time graduate students (eight or fewer credits of
courses) are as follows. These fees are subject to change without notice.

| Registration Fee | $\$ 45.00$ |
| :--- | ---: |
| Courses numbered 100-499 <br> $\quad$ per credit | $\$ 155.00$ |
| Courses numbered 500-699 <br> per credit | $\$ 175.00$ |
|  |  |

## OTHER FEES

Depending on student status and/or courses selections, other fees will be charged to students as follows:
Applied Music Fee (1/2 hour) $\$ 300.00$ Applied Music Fee (1 hour) $\$ 400.00$
Audit Fees (same as for credit-bearing courses)

On-Campus Room and Meals. Very limited on-campus graduate student housing is available for international graduate students only on a space-available basis. Offcampus residents may participate in the meal plan which is required for all students living in the campus residence halls.
Room Deposit
\$100.00
Residence Hall Room
Balance [Note: Vance Hall
(singles) and James Hall
(newest accommodations)
require additional room sur-
charges of \$397 and \$316
respectively.]
\$1,461.00
Meal Plan (required of on-campus residence hall students):
A. 19 Meals/week \& 10 Guest Meals
\$1,175.00
B. $220 \mathrm{Meals} /$ semester \& 10 Guest Meals
\$1,125.00
C. $150 \mathrm{Meals} /$ semester \& 10 Guest Meals plus $\$ 200$ Blue Chip
\$1,225.00
D. 180 Meals/semester \& 10 Guest Meals plus \$100 Blue Chip
\$1,162.00

## PAYMENT OF FEES

All graduate students accepted for fulltime study must pay a non-refundable \$90 Graduate Enrollment Deposit which secures a place at the University. This fee is later applied towards the full-time tuition.

Tuition and fees are due by July 15 for Fall Semester and December 15 for Spring Semester.

Penalties. The University will assess a Late Charge of $\$ 25$ if payment is received after the due date. A Service Charge of $\$ 25$ will be assessed for bad checks. Registration materials and transcripts may be withheld
for any student who has an unpaid financial obligation.

## WITHDRAWAL AND REFUND POLICY FOR FULL-TIME GRADUATE STUDENTS

All full-time students who have paid tuition and fees but wish to withdraw from Central Connecticut State University must do so through the University Registrar (Davidson Hall 115). Refunds to eligible full-time students are processed by the cashier (Davidson Hall, second floor).

Full-time graduate students who have not registered for classes at the University and have not paid tuition or fees, but who have been accepted for a graduate program should notify the Registrar's Office (Davidson) if they wish to change their full-time status.

Prior to the first day of classes, students who are ineligible to continue because of grades or because of other actions by the University are entitled to a refund of tuition and fees as applicable.

All applicable refunds are automatic upon formal withdrawal from the University and will be granted according to the following schedule:
Deposit Fee: Non-refundable
Housing Deposit: Non-refundable
Balance of Housing Fee:
Upon withdrawal from the University,
$100 \%$ of the balance refunded prior to the first day of classes
$60 \%$ of the balance during the first two weeks of classes
$40 \%$ of the balance during the third and fourth week of classes
No refund after the fourth week.
Students cancelling their room reservation within the four weeks prior to the start of classes will be subject to a cancellation charge.

## Meal Fee:

Refundable upon withdrawal at a prorated basis
Balance of Tuition and Fees:
Upon withdrawal from the University, $100 \%$ of the balance refunded prior to the first day of classes $60 \%$ of the balance during the first two weeks of classes $40 \%$ of the balance during the third and fourth week of classes
No refund after the fourth week.

## WITHDRAWAL AND REFUND POLICY FOR FALL AND SPRING SEMESTERS FOR PART-TIME GRADUATE STUDENTS

Part-time graduate students go to the Enrollment Center/Office of Continuing Education (Willard Hall) to process withdrawals from the University for all scheduled courses and refund requests. Upon written request to the Enrollment Center, a refund of course fees for the semester will be made according to the following schedule.

If the Enrollment Center/Office of Continuing Education cancels a course, students are notified by mail. A refund of the tuition and registration fee will be processed upon return of the written notification of cancellation.

## Courses meeting for a full semester:

$100 \%$ of course fee through the first week of classes
$50 \%$ of course fee through the second and third weeks of classes
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.
Courses meeting for fewer than eight weeks:
$100 \%$ of course fee before the first class meeting
No refunds after the first class meeting.
Note: The registration fee is non-refundable.
Please allow approximately 4 to 6 weeks for processing of refund checks. Credit card adjustments are applied to the cardholder's account.

## TUITION AND FEE WAIVERS

The University will waive the tuition and certain other fees for persons age 62 or older who have been formally admitted to a graduate program and register on a space-available basis.

Veterans. Veterans and certain others may qualify for veterans assistance programs, including waivers. Eligible students should consult the University Registrar (Davidson Hall 115). Anyone seeking to receive veterans benefits must be formally admitted to a graduate program and enrolled in courses required within the planned program of graduate study.

## CENTRAL PAYMENT PLAN (CPP)

The CENTRAL Payment Plan is an alternative to the standard semester one 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 full-time students, faculty and staff; parttime students are encouraged to do so for library and computer lab services. 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 cafeterias (including the Devil's Den in the Student Center, Memorial Hall upper level dining rooms and the Grand CENTRAL Cafe coffee shop) and in the campus Barnes and Noble Bookstore. Purchases may now be made using the Blue Chip Card in all campus vending machines, including campus copiers, residence hall laundry machines and at several off-campus food locations, such as Blimpie's, College Getty, Tony's Central Pizza and Domino's Pizza.

Starting in the Fall '98 semester, there will be a charge for laser printing at the Microcomputer Lab. This may be paid with the Blue Chip Card, or by purchasing a Guest Card at a Card Value Center. There will be no cash transactions.

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 offcampus ATM machines. EDCONN's CCSU office is located in Barnard Hall, main floor (832-0139).

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, or the EDCONN banking program, may be directed to the Card Office, 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 $832-2140$. When the Card Office is closed, lost cards should be reported to the Police Department (832-2375); a temporary ID will be issued.

## 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 students 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.

## FINANCIAL AID

The Financial Aid Office is located in Davidson Hall 107. Students who wish to apply for financial aid should begin by requesting a financial aid packet from the Financial Aid Office. All questions regarding the application procedure or the award of financial aid should be addressed to the Financial Aid Office.

Financial aid for graduate students at Central Connecticut State University is awarded on the basis of demonstrated financial need, subject to the availability of funds. Financial need is determined through an assessment of the student's family financial situation as defined by federal regulations and the needs analysis services of the United States Department of Education.

## Eligibility Criteria. To be eligible to

 receive assistance from federal and/or state financial aid programs, a student must: (1) be a U.S. citizen or an eligible non-citizen; (2) have demonstrable financial need; (3) be matriculated (that is, be admitted to a graduate program and enrolled in courses applicable to the program); (4) be attending classes at least half-time (defined for financial aid purposes as six credits of course work); and (5) be making satisfactory academic progress toward the degree as defined by the University and in the Graduate Catalog.An application and all supporting documents required by the University must be filed each year that assistance is requested. Eligibility for financial aid can be determined only after all required forms have been submitted to the Financial Aid Office. Applicants will be notified if they qualify for the financial aid programs via an award notification.

Sources of Financial Assistance. The primary source of financial assistance for graduate students is the Federal Stafford

Loan Programs. Other sources, such as University Grants, Federal Perkins Loans and Federal Work Study, are available to graduate students only if and when all undergraduate needs have been met and funds remain, and the individual need and circumstances of the particular graduate student cannot be met fully by the Federal Stafford Loan Programs.

Federal Subsidized Stafford Loan. Variable interest rate loan ( $8.25 \%$ cap). Interest rate is adjusted July 1 each year. Subsidized loans are based on need. Student is responsible for interest when studies have been terminated or dropped below half time, and repayment begins after a six month grace period. Graduate annual limit is $\$ 8500$ per year. Aggregate loan limit $\$ 65,500$. Students must meet eligibility criteria.

Federal Unsubsidized Stafford Loan. Variable interest rate loan ( $8.25 \%$ cap). Interest rate is adjusted July 1 each year. Unsubsidized loans are awarded to students without demonstrated financial need. Student is responsible for interest payment while in school. Students have an option to capitalize the interest payment. Repayment begins six months after studies have been terminated or dropped below half time. Graduate annual limit is $\$ 8500$ per year. Students must meet eligibility criteria.

Other Sources. In addition to applying for the aid programs previously mentioned, students are encouraged to explore other sources of financial assistance, such as graduate assistantships, private scholarships, Veterans/GI Bill Benefits, the National Guard and the Army Reserve. The Financial Aid Office and the Office of Personnel and Employee Relations provide students with referrals for a wide variety of part-time jobs, both on and off campus.

Applying for Financial Aid. In order to be considered for any financial aid programs at CCSU all applicants must complete the Free Application for Federal Student Aid (FAFSA). Central Connecticut State University's code number is 001378 . The Financial Aid Office requires that applicants submit their Student Aid Report and signed copies of Federal Income Tax Returns by a priority deadline date. (Please contact the Financial Aid Office for deadline dates.)

Award Notification. A Notice of Eligibility Letter is generated to accepted, matriculated students who have submitted all required documents. The Notice of Eligi-
bility Letter outlines the types and amounts of aid offered, including eligibility for Federal Subsidized and Unsubsidized Stafford Loans. Students are expected to carefully read and follow instructions included in the award notification packet.

## Satisfactory Academic Progress. To

remain eligible for financial aid, students must earn a minimum number of credits (see below) during a given academic year and remain in good academic standing (3.00 GPA for graduate students).

Students receiving financial assistance must make satisfactory progress toward degree completion. Failed or audited courses will not be counted toward the minimum number of hours required for satisfactory progress.

For full-time graduate students, satisfactory progress is defined as the successful completion of at least 18 credits of academic work toward the graduate degree or planned program of graduate study each academic year for students who enroll initially for the fall semester. Full-time students enrolling initially for the spring semester, or enrolling for the fall semester or Summer Session only, must complete nine credits during the academic year. Full-time students are eligible for financial assistance for up to four semesters of fulltime attendance, or until certified for graduation, whichever occurs first.

For part-time graduate students, satisfactory progress is defined as the successful completion of a minimum of 12 credits of academic work toward the graduate degree or planned program of graduate study each academic year for students who enroll initially for the fall semester. Parttime students enrolling initially for the spring semester, or enrolling for the fall semester or Summer Session only, must complete six credits during the academic year. Part-time students are eligible for up to eight semesters of part-time attendance, or until certified for graduation, which ever comes first.

Students who do not successfully complete the required number of credits during the fall and spring semesters may complete the needed credits during the Summer Session without Title IV financial assistance. Anyone who does not complete the needed credits will be ineligible for financial assistance during the following academic year. Upon presentation of evidence of medical or other legitimate per-
sonal or family emergencies, students denied financial assistance under this policy may appeal to the campus officer designated by the President.

## GRADUATE ASSISTANTSHIPS

Central Connecticut's graduate assistantship program provides some financial support for students who wish to participate in an academically-relevant work experience while pursuing graduate study. A limited number of graduate assistantships are available for full-time and part-time graduate students. Graduate assistants may teach, supervise laboratories or work with faculty who are conducting research. Faculty provide careful guidance so that graduate assistants develop new skills while carrying out their assigned responsibilities. At the same time, graduate assistants help faculty to meet their obligations as teachers and scholars. Thus, the program provides real benefits both to the graduate student and to the University community.

## Applying for a Graduate Assistantship.

Prospective graduate assistants must be admitted for graduate study toward a master's degree, sixth-year certificate, postmaster's planned program or post-baccalaureate teacher certification.

Applications for graduate assistantships may be provided at the time of admission and may also be obtained in the Graduate Office and appropriate dean's office.

The Career Services Office assists students in finding graduate assistantships and also has a telephone job line (832-1647).

Students are also encouraged to contact their academic department chair concerning the availability of assistantships. Graduate assistants are appointed by the academic dean upon the recommendation of a department chair or dean.

Eligibility. Graduate assistants must be fully admitted students pursuing course work leading to completion of the programs designated previously.

Assistantship recipients are expected to be enrolled in courses required within the planned program of graduate study and/or prerequisites necessary to offset
any undergraduate deficiencies prior to taking such requirements.

To receive or to maintain an assistantship placement, a minimum GPA of 3.00 for all post-baccalaureate course work completed at Central Connecticut State University is required.

Types and Work Commitments. Assistantships are available on a full-time or half-time basis. Students appointed as full-time GA's provide approximately twenty (20) hours of service per week during the semester; students appointed as half-time GA's provide ten (10) hours of service per week.

Course Loads for Graduate Assistants. To be awarded a full-time assistantship, a graduate must be classified as a full-time student. Nine (9) credits comprises the required course load minimum for fulltime graduates. Half-time appointed GA's who are full-time students must also enroll for nine (9) or more credits of course work. A part-time student who receives a graduate assistantship may take from three (3) to eight (8) credits of course work.

Stipends. Full-time ( 20 hours per week) graduate assistants may receive a maximum stipend of $\$ 4,800$ each semester, in addition to a waiver of the State University Fee and most of the General Fee. They pay resident or non-resident tuition as appropriate, a portion of the University General Fee attributable to student accident insurance, and other insurance coverage costs as needed. Some insurance charges may be waived on the basis of alternate coverage.

Half-time graduate assistants receive a maximum stipend of $\$ 2,400$ each semester. If half-time assistants enroll fulltime in the general fund (nine or more credits), they pay full-time tuition but receive a waiver of the State University Fee and most of the General Fee as specified for full-time assistants. Other provisions described above also apply to half-time graduate assistants who are full-time graduate students. If a graduate assistant enrolls for less than nine course credits within a semester, the student pays appropriate costs for part-time extension fund graduate students.

## SCHOLARSHIPS AND FELLOWSHIPS

Graduate Academic Scholarships are annual awards provided to highly-qualified
students recommended by their departments. Academic departments and the Graduate Office have information about the scholarship program for graduate students.

The Anna Bubser Judd Minority Graduate Educational Administration Fellowship is awarded to a minority student who resides in the cities of Hartford or West Hartford and is enrolled in the Educational Leadership program. The Department of Educational Leadership can provide additional information.

## GRADUATE

 ADVISING AND STUDENT SERVICES
## ACADEMIC ADVISING

Upon formal admission to a graduate program, each student is assigned a faculty adviser. All students are encouraged to seek regular advice from their advisers about registration and course selection, progress toward degree completion and opportunities for career development and further study. A student should also consult with the adviser before registration for course work, if possible. An official planned program of graduate study, designed by the student and an adviser, must be submitted and approved prior to completion of 15 credits of course work.

A student may request a faculty adviser other than the one assigned by their department. To request a new adviser, the student must complete a "Request for Change of Major and/or Adviser" form in the Enrollment Center/Office of Continuing Education. To the extent that individual faculty schedules permit, student requests for advisers will be honored.

Pre-admission advising is available in each school and in the offices of the academic departments during fall and spring academic semesters.

## GRADUATE STUDENT <br> ASSOCIATION

The Graduate Student Association of Central Connecticut State University includes as members all full-time graduate students and, as associate members, any part-time student who pays a nominal membership fee. (Full-time student dues are included in the fees paid by full-time students.)

The Graduate Student Association (GSA) sponsors orientation activities for new graduate students, lectures and Leadership Development Grants. The latter assist graduate students to attend conferences and workshops or to complete research associated with the preparation of the thesis. The GSA also funds the activities of graduate student societies in the academic departments.

In addition to sponsoring graduate student programs and activities, the GSA serves as the representative organization promoting graduate student interests on the Central Connecticut State University campus. The GSA president is a member of the President's Cabinet which includes the University's administrative officers and the presidents of the Faculty Senate and the Student Government Association. In addition, fulltime and part-time graduate students are represented on the University Planning Committee, the University Budget Committee and the Graduate Studies Committee.

For further information, contact the Graduate Student Association, located in the Student Center.

## OTHER STUDENT SERVICES

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 (Barrows 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.

## Enrollment Center/Office of Continuing

 Education. The Enrollment Center (Willard Hall Lobby) is a centralized service center for all students (full- or parttime). 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.The University offers more than 500 courses each semester in the evening and on weekdays and Saturdays for graduate
students. Credit and non-credit courses, workshops and seminars are also available to students, community groups, civic organizations, businesses and industry.

The Enrollment Center/Office of Continuing Education registers all part-time and full-time graduate and undergraduate students. Students are notified in advance of registration dates and procedures. All graduate students who have been formally admitted to one of the University's graduate programs receive advisement from their faculty advisers.

International Student Services. All international students should contact the International Student Program Assistant in the Center for International Education (Barnard 138) as soon as they are admitted to graduate study. The Center for International Education provides a wide range of orientation and advisement services for international students.

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 coordinator of Special Student Services (Willard 100) helps students to obtain a wide range of services designed to make more accessible the academic opportunities of the Central Connecticut State campus. Certified sign language interpreting, textbooks on tape, individualized testing, priority scheduling and reserved handicapped parking are among the support services
available. Please note that requests for accommodation should be made well in advance. For more information contact Dr. George Tenney, director of the Office of Special Student Services (832-1955), (TDD 860/832-1958).

Student Development Center. The University Student Development Center offers placement services and job listings through its Career Services and Cooperative Education office (Willard Hall 100). Career Services offers career counseling and workshops on resume writing, interviewing techniques and job search strategies to students and alumni, as well as a weekly jobs bulletin by phone (832-1647) and on their website at www.ccsu.edu/career/. Through its Advising Center office (Willard 100) it offers general career counseling; information and application forms for such tests as GRE, LSAT and GMAT; and information on internship opportunities and SIGI Plus, an interactive computer-assisted career information program. Continuallyupdated information on recruiters, workshops, internships and job listings is always available on the Career Services home page. The Educational Support Services office (Memorial Hall SW Quad) provides learning assistance and referrals for tutoring. Graduate assistantships are available through each office of the Student Development Center.

University Health Service. Under the direction of a Medical Director, Health Service (Marcus White Annex) provides medical services for both the evaluation and treatment of acute illnesses and injuries and the maintenance of health to all students. Many services are provided at no cost to the patient. Patients are seen by appointment. In addition to routine appointments, we offer clinics for allergy, travel and sexual health, to name a few. Referrals to appropriate specialty consultants are made as needed. General information (832-1925); Medical appointments (832-1926).

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 109) 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).

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, re-entry 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.

## GENERAL INFORMATION

## 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 46,000 members. The Association offers its members access to the campus computing facilities (for two semesters following graduation), career and library services, Internet access at a competitive rate 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 Associ-
ation and its relationship with the University community. For more information contact the Alumni Affairs Office (832-1740).

## BOOKSTORE

The University Bookstore, operated by Barnes and Noble, Inc., is located in the Student Center. In addition to carrying course textbooks, the University Bookstore maintains an inventory of office and school supplies, gifts, apparel and cosmetics. A photography service is also available.

## 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, WFSBTV 3 and WTNH-TV 8 are notified. Cancellation of evening classes will normally be decided by 2:00 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).

## 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.

## CHANGE OF NAME OR ADDRESS

Any change in name or address should be reported immediately to the Registrar's Office or the Enrollment Center/Office of Continuing Education. If the University's name and address files are not updated, there will be delays in grade reporting, billing, etc.

## CHILDCARE

A fully-licensed, developmentally-appropriate childcare program and nursery school operates in the Judith Ward Center in Maloney Hall. The center is open from 7:45 a.m. to 5 p.m. Many scheduling options and fee schedules are offered to accommodate students, faculty and staff. The program serves children from ages 2 years 9 months to 5 years. The Early Learning Program is a private non-profit corporation. For information contact the Judith Ward Center (832-3760).

## FOOD SERVICE

On-campus meals are served in Memorial Hall to students on the meal plan. The meal plan is optional for graduate students, although any student who obtains on-campus housing is required to participate in a meal plan. Meal plan expenses are listed on page 16. Additional food service is also available on a cash basis in the Student Center.

## GRADE REPORTS

Students receive grades by mail from the Registrar's Office following the posting of grades at the conclusion of each academic semester and, for all summer courses, at the end of the second Summer Session.

## HOUSING

The Office of Residence Life (Mildred Barrows Hall) provides information about the availability of campus housing for students and about off-campus housing in the local community. Graduate students interested in living on campus should contact the Office of Residence Life (832-1660).

## IDENTIFICATION CARDS

All full-time graduate students are required to obtain a photo identification card after payment of tuition and fees. Part-time graduate students are encouraged to do so, especially for library and computer lab use.

The ID card, known as the Blue Chip Card, can be used as a debit card to make purchases from vending machines and public-use copiers, as well as at dining locations in the Student Center and Grand CENTRAL Cafe. Off-campus vendors accepting the Blue Chip Card are Tony's Central Pizza, Blimpie's, College Getty and Domino's Pizza.

Starting in the Fall ' 98 semester, there will be a charge for laser printing at the Microcomputer Lab. This may be paid with the Blue Chip Card, 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 at any of four Card Value Centers, located at the Student Center Devil's Den, Library main floor, Microcomputer Lab and the Police Station, which has 24 -hour coverage.

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 832-2140. After Card Office hours, lost cards should be reported to the Police Department (832-2375); a temporary ID will be issued.

## LOCATION

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.

## MEDICAL HISTORY AND IMMUNIZATION VERIFICATION

All full-time students are required to submit a medical history, including current immunization records and the results of a medical examination signed by a physician. In addition, State of Connecticut law effective July 1, 1989, requires that all full- or part-time students present a physician's verification of measles and rubella (German measles) immunization or immunity. The required forms will be provided after acceptance to the University or at the time of registration. The health form is available from Health Service (Marcus White Annex).

## 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, non-human animals are prohibited in campus buildings.

## 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.

## 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).

## STUDY ABROAD

Central Connecticut State University, designated a Center of Excellence in International Education in the state of Connecticut, offers opportunities to study abroad during the academic semesters and in courses taught abroad during Summer and Winter Session. Although many of these programs are designed primarily for undergraduates, opportunities are available for graduate students as well. The summer bulletin of the Enrollment Center/Office of Continuing Education describes the international summer offerings of the University. Information about other programs may be obtained from the Center for International Education (Barnard 138).

## TRANSCRIPTS

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 Registrar's Office, Davidson 115. The cost, which is subject to change, is $\$ 3$. All requests for transcripts must be in writing and include payment in advance.

## UNIVERSITY CENTERS

Within the University and its academic schools are special centers and research institutes which enhance the academic programs offered by individual departments. Academic centers are listed with their schools. Some of the more prominent centers are described below.

Center for International Education. Central Connecticut State attracts students from many countries. The Center for International Education (CIE) is the primary source of assistance for all international students.

Services include orientation to campus and community, academic advising, personal and cross-cultural counseling and handling of all immigration matters, including extension of stay and work permission. The Center for International Education coordinates its services with other offices on campus, including Residence Life,

Financial Aid Office, University Health Service, Bursar, Recruitment and Admissions, and Registrar and Veteran Affairs.

The office seeks to assist international students to learn about, adjust to and enjoy a new culture. Activities are planned to facilitate cultural awareness and sharing among international students and U.S. students, and the community. Inquiries should be addressed to the International Student Adviser, Center for International Education, Barnard Hall 138 (832-2050).

In recognition of the University's longstanding interest in international education, Central Connecticut State University was designated a Connecticut Center for Excellence in International Education in 1986. The Center for International Education works cooperatively with the International and Area Studies Committee (IASC) which has responsibility for the BA/BS and MS programs in International Studies. The CIE provides opportunities for faculty to develop their international expertise and for students to study abroad on exchange, teach, work or take courses taught abroad.

Through a worldwide network of liaison institutions, the CIE facilitates student and faculty exchanges. It also acts as a host for visiting international scholars in residence and, with the IASC, sponsors a series of lectures and discussions on international topics each year. Other outreach efforts to off-campus communities include the International Festival in April and various international studies programs for high school students and teachers.

The CIE also has responsibility for coordinating education in CCSU's overseas instructional programs and serves as the administrative home for the Intensive English Language Program and the School for International Studies, the latter a joint summer program with the Capital Region Educational Council for high school students.

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.

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 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. Housed at CCSU since January 1997, the Council works in partnership with the China Resource Center to promote Chinese market opportunity and professional experience to CCSU students.

## FACILITIES

## CULTURAL RESOURCES

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, theater, choral performances and dance presentations by student groups, faculty and professional companies from around the world.

Locally, students will find two nation-ally-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 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 online 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 avail-
able 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 press. Using email, students can communicate with research centers, commercial enterprises, other universities and individuals throughout the world.

## MEDIA CENTER

The Media Center (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 students, with the approval of a faculty member, may request $\mathrm{AV} / \mathrm{TV}$ equipment for class use.

## 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 Department of Physical Education and Health Fitness Studies and the Athletics Department, 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.

Central Connecticut'State's Blue Devils have gained national recognition on the playing fields. The University is a member of the National Collegiate Athletic Associa-
tion, 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 CENTER

The Student Center, a meeting place for the campus community, offers a variety of formal and informal programs. There are lounges and TV rooms, a game room, a ballroom, meeting rooms and special facilities for the campus radio station, newspaper and yearbook. The University Bookstore, the Devil's Den Cafeteria and Semesters are popular facilities. Detailed information is available at the Student Union World Wide Web site at http://scoes.ccsu.ctstateu.edu/.

From late Spring 1999 until September 2000, the Student Center will be closed for extensive renovations and expansion. During this time, the services now provided in the Center, including the Bookstore and Food Services, will be relocated to other facilities. Most will be in Memorial Hall or nearby buildings. Please look for materials, which will be available around campus, to guide you to needed services during this 14 month period.

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

The School of Arts and Sciences offers the M.A. degree in biology, English, history, mathematics, modern language and psychology and the M.S. in criminal justice, organizational communication and international studies. New programs in information design and computer information technology are pending.

Many academic departments within the School of Arts and Sciences provide the major for a number of M.S. degrees in education and for the post-baccalaureate certification program for secondary school teachers.

A limited number of graduate assistantships are available in each department offering a master's degree program. Students seeking information about assistantships or program requirements should contact the academic department directly. For general information, students may call the Office of the Dean of Arts and Sciences (832-2600), located in DiLoreto 112.

## ANTHROPOLOGY

The Department of Anthropology does not offer a graduate program at the present time. Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## ART

## Faculty

Sherinatu Fafunwa (Chair, Maloney 151), Cassandra Broadus-Garcia, James Buxton, Sean Patrick Gallagher, Faith Hentschel, Elizabeth Langhorne, Rachel Siporin, Mark Strathy, Ron Todd (Dept. phone: 832-2620)

## Department Overview

The Department of Art offers programs of study leading to the Master of Science
degree. Courses are also designed to serve as part of the General Education requirement for students preparing to teach in fields other than Art.

The graduate programs in Art Education are designed primarily to meet the needs of experienced art educators who have completed an undergraduate program in the field. Programs are available for elementary and secondary education teachers who wish to seek additional State Certification, as well as for students with a non-teaching undergraduate art-related degree from an accredited institution. These students may work towards the M.S. degree while they prepare to meet certification requirements in Art Education.

## Programs

The Art Department offers programs in a wide range of visual arts and art education. Both concepts and technical excellence are stressed. High quality resources are provided: equipment; a faculty of practicing artists, designers, and art educators; and a location convenient to major museums and numerous galleries.

After completing 15 credits of courses, the student must apply for Degree Candidacy. The student must present a resume, statement of purpose, portfolio of at least five pieces and two letters of recommendation to a committee of the adviser and two other faculty members selected by the student and approved by the adviser. After 27 credits, the student must undergo a final review, including committee approval of the thesis (Plan A) or exhibition/special project (Plan C). The comprehensive exam option (Plan B) is not available. Please follow the directions on page 11 concerning the planned program.

## MASTER OF SCIENCE IN ART EDUCATION

( 33 cr . including thesis/Plan A or exhibition or project/Plan C)

Professional Education ( 12 cr .):
EDF 500 Contemporary Educational Issues
ART 500 Problems in Art Education
ART 598 Research in Art Education
ART 597 Exhibition Research
or
ART 599 Thesis

Art Concentration (21 cr.):
Department offerings, as approved by faculty adviser

## ART EDUCATION CERTIFICATION

Persons holding a bachelor's degree from an accredited institution with an art-related major or concentration may follow a planned program of graduate study leading to certification in Art Education K-12.
These candidates are required to have the equivalent of 45 cr . in art-related courses.

## POST MASTER'S STUDY

Thirty-credit planned programs of postmaster's study in specific studio areas are available with the consent of the chair.

## BIOLOGICAL SCIENCES

## Faculty

Leeds Carluccio (Chair, Copernicus 332), Douglas Carter, Michael Davis, Sylvia Halkin, Jeremiah Jarrett, Martin Kapper, Thomas King, Kathy Martin-Troy, Thomas Mione, Barbara Nicholson, Peter Osei, Clayton Penniman, Ruth Rollin, David Spector, Cheryl Watson, Kim Wilson (Dept. phone: 832-2645)

## Department Overview

The Department of Biological Sciences offers programs of study leading to the Master of Arts and Master of Science degrees, as well as courses which may serve as part of the general education requirement for students preparing to teach in fields other than 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, cell culture facilities, mouse and rat colonies, protein purification facility, photosynthesis research laboratory, molecular genetics research laboratory, darkrooms, experimental gardens, controlled environment room, growth chambers and a computer laboratory.

Through the academic and extracurricular opportunities which the department offers, students are prepared to understand
and participate in a wide variety of biological specializations. Students in the graduate programs are expected to expand their understanding of biological concepts, to become familiar with recent developments in biology and to become familiar with library, computer, and laboratory resources for biological research.

## Programs <br> MASTER OF ARTS IN BIOLOGICAL SCIENCES

The master of arts program provides study in the biological sciences for those graduate students desiring to major in biology. The program is designed to fulfill the educational needs of biologists outside the teaching profession who desire further specialization and/or knowledge of recent advances in the field; students who seek a subject matter concentration as an intermediate step toward preparation for work at the doctoral level; and teachers who are interested in specializing in a particular area, or updating their knowledge within the discipline of biology. Specialization may be in such areas as botany, zoology, physiology, and environmental studies. Each student will be assigned a graduate committee whose function it will be to help the student plan a sound program.

There are two options (Plan A and Plan B) leading to the Master of Arts degree, both of which require 30 cr .

Plan A requires 12 credits in biology including BIO 400 and BIO 540, 12 cr. elected in the major or in related field, 6 cr . devoted to a thesis based on research and a thesis defense. Plan B requires 12 cr . in biology including BIO 400 and BIO 540, 15 cr . elected in the major or related fields, BIO 590 (Research Problem), and a comprehensive examination.

## Admission Requirements

The following items are required:

- application for admission to graduate study
- narrative statement
- letters of recommendation by three college instructors familiar with your ability and record in biology and the related sciences
- Graduate Record Examination scores for the aptitude and advanced biology tests are recommended but not required
- official transcripts from all institutions in which undergraduate and graduate work has been taken

The above items are to be submitted to the Graduate Office. When an applicant's admission folder is complete, it will be forwarded to the department chair. The Departmental Graduate Committee will make a recommendation for acceptance. Students who are accepted will be assigned a program committee at the time of acceptance. A thesis advising committee will be assigned after the student begins the program of study.

## MASTER OF SCIENCE IN BIOLOGICAL SCIENCES

Biological Sciences: Anesthesia and Biological Sciences: Health Sciences Specialization are for students enrolled in anesthesia programs or allied health fields. Dr. Rollin is program coordinator for Anesthesia and Health Sciences.

The Professional Education Program is for biology and science teachers and all others who wish to expand their background in the broad area of biology or who wish to specialize in a particular aspect of this discipline. Students who as undergraduates majored in areas other than biology may also pursue a master's degree in this program.

The planned program of graduate study will be developed by the students and their adviser and will be based upon the student's undergraduate record and educational needs. Thesis and non-thesis programs are available to students in all programs. Non-thesis programs will require a comprehensive examination.

## Biological Sciences: Anesthesia

 (30-33 cr.)Professional Education ( 6 cr .):
ED 511 Principles of Curriculum Development
EDL 513 Supervision
Major Field Requirements (20-21 cr.):
BIO 400 Seminar in Biology
BIO 418 Human Anatomy, Physiology, Pathophysiology
BIO 518 Applied Physiology
BIO 528 Pharmacology
CHEM 450 Basic Organic and Biological Chemistry
Biology Elective (choose from BIO 411 Cellular Physiology and Metabolism, 416 Immunology, 490 Studies in Biology, or 540 Topics in Advanced Biology)

Research (4-6 cr.):
BIO 598 Research in Biology
or
ED 517 Evaluation
and
Plan A: BIO 599 Thesis
or
Plan B: BIO 490 Studies in Biology and comprehensive exam

Note to prospective Anesthesia students: The student must be a licensed registered nurse and satisfactorily complete the program of study in Nurse Anesthesia at an affiliated hospital-based school of nurse anesthesia which includes 1000 hours of clinical practicum. Admission to this program is contingent upon admission to one of the following affiliated schools:

New Britain School of Nurse Anesthesia, New Britain, CT: Hanumanthiah Balakrishna, M.D. chief of anesthesia, and Joan Dobbins, M.S., CRNA, program director.

Hospital of St. Raphael, New Haven, CT: Philip J. Noto, M.D., medical director, School of Anesthesia; and Judy Thompson, M.S., CRNA, program director.

Memorial Hospital of Rhode Island, Pawtucket, R.I.: Fred T. Perry, M.D., medical director, School of Anesthesia; and Mark Foster, M.A., CRNA, program director.

| Biological Sciences: Health Sciences Specialization (30-31 cr.) |  |
| :---: | :---: |
| Professional Education (6 cr.): |  |
| ED 511 | Principles of Curriculum Development |
| EDL 513 | Supervision |
| Major Field Requirements (18-19 cr.): |  |
| BIO 400 | Seminar in Biology |
| BIO 412 | Human Physiology |
| BIO 413 | Human Physiology |
|  | Laboratory |
| BIO 518 | Applied Physiology |
| BIO 528 | Pharmacology |
| CHEM 450 | Basic Organic and Biological Chemistry |
| Biology Elective (choose from BIO 411 |  |
| Cellular Physiology and Metabolism, |  |
| 416 Immunology, 462 Developmental |  |
| Studies in Biology, 495 Molecular |  |
| Biology, or 540 Topics in Advanced |  |

Research ( 6 cr .):
BIO 598 Research in Biology
or
ED 517
Evaluation
and
BIO 599 Thesis

## Professional Education Program

(Teachers and others interested in a master's degree with a professional education component) ( 30 cr .)

Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
Elective(s) as approved by the adviser
Biology Requirements (12-18 cr.):
BIO 400 Seminar in Biology
BIO 540 Topics in Advanced Biology
Biology electives as approved by the
faculty adviser
Research (3-6 cr.):
Plan A: BIO 598 Research in Biology and
BIO 599 Thesis ( 3 cr .) or BIO 599 ( 6 cr .)
Plan B: BIO 598 Research in Biology and comprehensive exam.

## CERTIFICATION IN BIOLOGY FOR SECONDARY EDUCATION

The Department of Biological Sciences also evaluates undergraduate and graduate preparation of applicants to the biology certification program in secondary education. This evaluation is done through interviews and/or review of transcripts of prospective candidates who have been admitted to the graduate program. Transcripts are forwarded to the department chair by the School of Education and Professional Studies. The chair of Biological Sciences or a departmental designate will make recommendations for courses to be completed in the biological area of the student's program. Admission to the professional program is contingent on recommendation by the Department of Biological Sciences in addition to completion of other requirements.

## CHEMISTRY

## Faculty

John Mantzaris (Chair, Copernicus 438), James V. Arena, Thomas R. Burkholder, Guy Crundwell, Carol A. Jones, Timothy D. Shine, Robert C. Troy, Barry L.

Westcott, Jr. (Dept. phone: 832-2675)

## Department Overview

The Department of Chemistry offers the Master of Science in Natural Sciences for certified secondary school teachers of chemistry and for other people whose science background qualifies them for admission to graduate study in chemistry. Certification programs for liberal arts graduates who wish to teach chemistry in high school and courses for students who wish to increase their knowledge of chemistry and/or general requirements are also offered.

Each candidate for the M.S. degree program will be required to complete appropriate undergraduate courses if the undergraduate degree program shows deficiencies. All programs include a minimum of thirty credits of graduate study.

For details of the program, see Natural Sciences major on page 35 of this catalog.

## COMMUNICATION

## Faculty

Andrew Moemeka (Chair, Marcus White 204), Robert Fischbach, Glynis Hiebner, Li-ning Huang, Yanan Ju, Serafin MendezMendez, Christopher Pudlinski, Karen Ritzenhoff, Benjamin Sevitch, Cornelius Benjamin Tyson, Cindy White (Dept. phone: 832-2690)

## Department Overview

The Master of Science in Organizational Communication prepares individuals for leadership positions in business and industry. It provides experiences enabling the graduate to: (1) expand and develop the body of theory and practice of communication in organizations; (2) meet local, national and international needs for highquality communication managers, policy analysts and researchers in industry, government, universities and other regional and international organizations; (3) develop, analyze and evaluate communication strategies for corporate problem-solving and decision-making including corporate development and for corporate contact with investors, customers and employees; (4) track and assist the development of organizational and managerial communication in a high-technology, high-speed management, information society.

## Program

The Master of Science in Organizational Communication consists of thirty-six (36) credits distributed between a common core, communication core and directed electives. Students should complete a planned program of graduate study with their adviser as soon as possible upon their acceptance to the graduate program.

The common core covers managerial processes ( 15 cr .):
BUS 500 The Role of Management in Contemporary Society
BUS 510 Accounting and Control
IT 500 Industrial Applications of Computers
IT 502 Human Relations and Behavior in Complex Organizations
COMM 503 Research Methods in Communication

The communication core covers communication theory ( 9 cr ):
COMM 501 Theories of Human
Communication Within an Organizational Context
COMM 502 Theories of Communication and Information Management
COMM 504 Organizational Communication Audits

Prerequisite undergraduate courses for the core include Accounting I and Organizational Communication.

Students select an additional 12 cr . from the following directed electives or other courses as approved by the faculty adviser: COMM 512 Communication and Change
COMM 522 Corporate Communication
COMM 543 Intercultural Communication
COMM 544 Strategies in Negotiation and Conflict Resolution
COMM 551 Policy Issues in Organizational and Managerial Communication
COMM 562 Communication and HighSpeed Management
COMM 585 Special Topics
COMM 599 Thesis/Special Project
IT 464 Continuous Process Improvement
IT 564 Quality Systems Management
To complete degree requirements, students have the option of a thesis (Plan A) or a comprehensive examination (Plan B) comprised of a written exam followed by an oral exam. Programs will be designed
jointly by the departmental advisers and the students to provide the greatest educational and career opportunities.

## Admission

Students seeking admission to the M.S. in Organizational Communication program must present an undergraduate average of B (3.0). Students with an undergraduate GPA of 2.7 through 2.99 , or who have been out of school for five years and possess significant professional experience, may apply to be considered for provisional acceptance.

Students who meet the above requirements should submit an Application for Graduate Admission, official copies of transcripts and their application fee directly to the Graduate Office. A current resume, a writing sample comprised of 500 to 1,000 words which expresses their goals for graduate study and future professional aspirations, and three (3) letters of recommendation should be sent directly to the Chair of the Department of Communication. No action will be taken until all of the above materials have been received.

## COMPUTER SCIENCE

At the present time, the Department of Computer Science does not offer a graduate program. However, an M.S. degree program in computer information technology (CIT) is being proposed for licensure. Check with the appropriate dean for current information.

Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## CRIMINOLOGY

 AND CRIMINAL JUSTICE
## Faculty

Susan E. Pease (Chair, DiLoreto 208), Tim
Bakken, Stephen Cox, Ronald Fernandez,

Trevor Johnson, Debra L. Stanley,
Raymond Tafrate (Dept. phone: 832-3005)

## Overview

The graduate program in criminal justice consists of a total of 30 credits with a requirement of five core courses which cover the theories of crime, the function of law and control of behavior, and the structure and function of criminal justice organizations. Research methods and statistics are required, and students are expected to engage in independent research or a field of study experience upon completion of 21 graduate credits. Students choose 9 hours of elective courses in consultation with an assigned adviser.

Admission to the criminal justice program is based upon:

1. A bachelor's degree in any field from a regionally-accredited institution of higher education
2. A minimum GPA of 3.00 on a 4.00 scale
3. One undergraduate course in research methods with a grade of "C" or better
4. One undergraduate course in elementary statistics with a grade of "C" or better
5. A formal, typed application essay which focuses on academic and work history, reasons for pursuing graduate study in criminal justice, and future career goals
Students who do not meet these requirements may request consideration for admission with special requirements.

## Program <br> MASTER OF SCIENCE IN <br> CRIMINAL JUSTICE <br> Core Courses ( 18 cr .):

CJ 501 Proseminar on the Nature of Crime
CJ $510 \quad$ Proseminar on Law and Social Control
CJ 520
CJ 598

STAT 453 Applied Statistical Inference (Prereq.: STAT 104)

Capstone ( 3 cr .):
Students must choose one course from the following:
CJ 599 Thesis (Prereq.: Completion of 21 cr . of approved study and permission of adviser)
CJ 536 Field Studies in Criminal Justice (Admission to program and permission of criminal justice program director)

Specialization (9 cr.):
Students select three elective courses in consultation with an adviser.

## Administration of Justice

CJ 570 Leadership and Supervision of Criminal Justice Organizations
CJ 575 Organizational Development and Evaluation of Criminal Justice Organizations
One course from the following:
PS 446 The Budgetary Process
CRSC 450 Drugs and Society
CJ 580 Public Policy in the Criminal Justice System

## Correctional Programming

CJ 525 Program Planning and Evaluation
Two courses from the following:
CJ 530 Profile of the Offender
CJ 535 Correctional Counseling
SPED 578 The Juvenile Offender as an Exceptional Learner

## DESIGN (GRAPHIC/ INFORMATION)

At the present time, the Department of Design does not offer a graduate program. However, an M.A. degree in information design is being proposed for licensure. Contact Susan G. Vial (chair, Maloney Hall 139, 832-2557) for further information.

Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## ECONOMICS

The Department of Economics does not offer a graduate program at the present time. Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## ENGLISH

## Faculty

Loftus Jestin (Chair, Willard 303A), Stuart Barnett, Gregory Belanger, Richard L. Bonaccorso, Anthony Cannella, John D. Conway, Dorothy Cook, Wayne Cook, Robert Dunne, Christine Doyle-Stott, Gilbert Gigliotti, Susan Gilmore, Thomas Hazuka, Jon R. Hegglund, John A. Heitner, Beverly A. Johnson, Kathryn Kelly, Barry H. Leeds, Denise M. Lynch, Kevin M. Lynch, Donald P. McDonough, Melissa A. Mentzer, Mary Anne Nunn, Andrea G. Osburne, Rae C. Schipke, Diane P. Shugert, Gerald J. Tullai, G.J. Weinberger, Jill Knight Weinberger, Leyla Zidani-Eroglu (Dept. phone: 832-2740)

## Department Overview

The Department of English offers graduate study leading to Certification in English; a Concentration in English for certified elementary school teachers; adult-level certification in TESOL; K - 12 certification in TESOL; a Master of Science Degree in Teaching English to Speakers of Other Languages (TESOL); a Master of Science degree in English; a Master of Arts degree in English; and a sixth-year certificate.

## Admission Requirements

Elementary education majors who wish to concentrate in English must have at least eighteen undergraduate credits of course work in English. To qualify for the master of science or master of arts degree programs (excluding TESOL), an applicant must have an undergraduate degree in English or thirty credits in English. Additional undergraduate credit will be required of those who lack prerequisites or their equivalent. To qualify for the Master of Science degree program in TESOL, an applicant must have completed 3 cr . of
study in a second language (non-native speakers of English may use English to satisfy this requirement). Students lacking this background may be admitted provisionally, but will be required to complete the 3 cr . of a second language study before graduation from the program.

Students in the degree programs will be assigned an English Department adviser appropriate to their areas of study. Before degree candidates register for course work they should read the program brochure appropriate to their programs. Degreetrack students should consult with their assigned advisers at the start of their programs and should file a planned program before completing 15 cr . of graduate course work. M.S. and M.A. English students should consult "Graduate Programs in English;" TESOL candidates should consult "Pre-Professional and In-Service Programs in Teaching English to Speakers of Other Languages." Additional information may be obtained from the adviser and in this catalog under General Information.

## Programs

Certification in English is a non-degree program offered to persons with a bachelor's degree (normally in English) whose undergraduate course work does not meet State of Connecticut certification requirements for secondary English teachers. Courses taken to complete certification requirements may not be used to complete the English Department's M.S. or M.A. degree programs. A minimum of 6 credits in English at CCSU is required before student teaching.

Certification in TESOL is a non-degree program offered to persons with a bachelor's degree. Certification may be obtained for adult-level ESL or for the K-12 level.

The Master of Science degree in Teaching English to Speakers of Other Languages (TESOL) is a plan of study especially designed for those students with an interest in language and linguistics who wish to work with non-English speaking students here or abroad.

The Master of Arts degree in English is offered to students who wish to devote their program exclusively to the advanced study of English and American literature. The Master of Arts diploma specifies a graduate degree in English, a prerequisite for further graduate work in English.

The Master of Science degree in English is offered to students who wish to
pursue advanced study of English and American literature, with the possibility of focusing on a particular literary genre or on literary periods. Those who elect this degree program are required to take six credits of education courses outside the Department of English.

The requirements for each program are as follows.

## MASTER OF SCIENCE IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TESOL)

This program offers Plan A ( 33 credits plus a thesis) and Plan B ( 36 credits and a comprehensive examination).

TESOL Specialization ( 21 cr .):
ENG 400 Linguistic Analysis
ENG 496 TESOL Methods
ENG 497 Second Language Acquisition
ENG 512 Modern Syntax
ENG 513 Modern Phonology
ENG 515 An Introduction to Sociolinguistics
One course from:
ENG 498 TESOL Practicum
ENG 431 The History of the English Language
ENG 533 Second Language Composition
ENG 535 Second Language Testing
Research ( 3 cr .):
ENG 598 Research in English (TESOL section)

Professional Education (6 cr.):
EDF 500 Contemporary Educational Issues

One elective selected from among the following ( 3 cr .):
EDT 490 Instructional Computing
ED 511 Principles of Curriculum Development
EDF 516 School and Society
EDF 522 Comparative Education
EDF 530 Multicultural Education
EDF 583 Sociological Foundations of Education
ML510 Bilingual Bicultural Education
RDG 591 Developmental Reading in Primary Grades
RDG 593 Developmental Reading in Secondary Schools
SPED 506 Foundations of Language for the Exceptional Child

EDF 521
EDF 525
EDF 538 The Politics of Education
EDSC 556 Instructional Theory and Practice
RDG 592 Middle School Level Literacy Development

All planned programs and course sequences must be approved by a TESOL adviser prior to registration.

Plan A students take English 599 Thesis plus one general elective. Plan B students take two general electives. General electives are graduate course offerings as approved by the student's adviser from Anthropology, English or another Modern Language, Geography, History, Humanities, Political Science or other relevant fields.

It is expected that a degree candidate will have control of the English language beyond mere communicative adequacy. It shall be the joint decision of the TESOL faculty whether a degree candidate's control of spoken and/or written English is appropriate to the profession. The faculty will recommend various remedies for any candidate deemed deficient.

## MASTER OF ARTS IN ENGLISH

( 30 cr .)
Plan A (Thesis)
English electives as approved by the faculty adviser ( 18 cr .)
ENG 500 and 501 Seminar in American
and Seminar in British Literature (6)
ENG 598 Research in English ${ }^{*}$ (3)
ENG 599 Thesis (3)
Plan B (Comprehensive Examination)
English electives as approved by the faculty adviser (21)
ENG 500 and 501 Seminar in American
and Seminar in British Literature (6)
ENG 598 Research in English (literature section) ${ }^{*}$ (3)

## MASTER OF SCIENCE IN ENGLISH

(Generally for elementary and secondary school teachers)
New Program ( $\mathbf{3 6}$ cr.)
All students must take the Comprehensive Examination, which will include at least five questions in literature and two questions on material derived from professional courses offered through the English Department.

Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
Elective, as approved by the adviser
Professional Course work, English Department ( 6 cr .):
Two electives, as approved by the faculty adviser

English Major (18-21 cr.):
English electives as approved by the faculty adviser
ENG 500 or ENG 501, Seminar in American or Seminar in British Literature

Research (3 cr.):
ENG 598 Research in English (Lit. section)*
*To be completed during the first semester of graduate study.

## GEOGRAPHY

## Faculty

John Harmon (Chair, DiLoreto 208), Richard Benfield, Peter Kwaku Kyem, Susan Millar, Timothy Rickard, Xiaoping Shen, James Snaden, Brian Sommers
(Dept. phone: 860/832-2785)

## Department Overview

Central Connecticut State University has the oldest and largest graduate program in Geography in the state of Connecticut. The graduate program was initiated in 1962 with a Master of Science in Social Science for in-service teachers who desired to complete the requirements for their permanent teaching certificates. However, the program's emphasis has changed since state approval was granted in 1976 to offer a Master of Science in Geography. Since that time, students have used the latter degree in the pursuit of a variety of career goals.

Geography is the science of location. The geography faculty teaches students how to use effectively maps and air photos, gather information about places, and make computer analyses. Students use this knowledge to learn about how people use the land in different places, and what impacts humans.

The Department of Geography has fully equipped cartography, air photo interpretation and microcomputer laboratories
available for student use. The microcomputer lab includes a network of IBM PCcompatible computers, to include an extensive software collection along with digitizers and plotters for automated cartography, computer graphics and geographic information systems. We can access a VAX mainframe computer from terminals. CCSU has a map depository for the Defense Mapping Agency and the U.S. Geological Survey, with close to 30,000 sheets in our collection. The department also receives planning reports, maps and documents from cities, towns and regions throughout the Northeast.

In addition the Department of Geography provides internships and part-time employment for students in a variety of town, regional, state and private planning agencies and offers consulting services, workshops and short courses as part of its outreach program.

## Programs

## GOALS AND OBJECTIVES

The M.S. in Social Science with a concentration in geography continues to meet the needs of Connecticut's teachers.

The M.S. in Geography has been used as a springboard by those interested in further graduate study. Several graduates have gone on to Ph.D. programs at major universities. However, most graduate students are interested in using the M.S. in Geography as a terminal degree which will prepare them for careers in several technical areas.

## ADMISSIONS STANDARDS

The M.S. degree programs are available to all individuals who meet the admissions requirements. The Graduate Record Examination is not an admission requirement. An undergraduate major or minor in geography is desirable but not required of applicants. However, those with deficient academic preparation may be asked to complete up to four courses of remedial work at the undergraduate level. Details are available from the Department of Geography.

## PROGRAM OF STUDY

Students enrolled in the graduate program must comply with all requirements in the current graduate catalog.
M.S. in Social Science with a Concentration in Geography. This program requires 30 credits of course work, distributed as follows: two professional edu-
cation courses, one general education elective course, and seven geography courses. Geography 598 is required of all students.
M.S. in Geography. Students pursuing this degree may select Plan A, which requires 30 credits, including a thesis. The 30 cr . are distributed as follows: 24 or 27 cr. in geography (which must include GEOG 598 and 599) and one or two elective courses in other disciplines. Thesis guidelines are available from the appropriate dean's office. Some students select Plan C, in which a special project is completed instead of a thesis. The 30 cr . required are the same as in Plan A, except that GEOG 595 is substituted for GEOG 599.

Program Specializations - Students enrolled in the M.S. in Geography program may specialize in any of the following areas:

- urban and regional planning
- environmental protection
- travel and tourism
- computer mapping or geographic information systems
Each graduate student's planned program of graduate study is custom-designed to provide the best possible preparation for the career selected, and can include practical work experience to apply classroom theory.


## CERTIFICATION

Graduate study in geography does not lead to teacher certification. Those who wish to teach geography should pursue the certification program in secondary social studies.

## ADVISEMENT

Contact the Chair in DiLoreto 208
(860/832-2785), or write to the:
Department of Geography
Central Connecticut State University New Britain, CT 06050 U.S.A.

## HISTORY

## Faculty

Alfred Richard (Chair, DiLoreto 208), Abner Baker, Jay Bergman, Stanislaus Blejwas, Gloria Emeagwali, Victor Geraci, Marie Guarino, Katherine Hermes, Elias Kapetanopoulos, Norton Mezvinsky, Heather Munro Prescott, Glenn Sunshine, Matthew Warshauer, Louise Williams, Robert Wolff (Dept. phone: 832-2800)

## Department Overview

The Department of History provides an M.A. degree in History, and an M.S. program for certified teachers and for liberal arts graduates who have completed teacher certification requirements. The Department, in cooperation with other departments in the social science areas, offers various programs for teachers, and presents courses for the general education of graduate students in other fields of specialization.

Admission to the degree programs in the Department requires the prerequisite of an undergraduate history major or its equivalent, generally interpreted as 30 credits in history and closely related fields. A graduate student lacking this prerequisite will be required to take courses for undergraduate credit to make up any deficiency.

Each student undertaking a major or a concentration in History will be assigned to a graduate adviser who will approve the student's planned program of graduate study.

## Programs

## MASTER OF ARTS IN HISTORY

(30 s. h., including a thesis)
Three 500-level History courses ( 9 cr.)
Three additional History courses (includ-
ing HIST 495 unless this or a similar
course was taken at the undergraduate
level) ( 9 cr .)
HIST 599, Thesis ( 6 cr.)
Electives in related fields ( 6 cr .)
Candidates will be required to demonstrate the ability to translate material in their field in one foreign language, except in those cases where, upon the request of a candidate in U.S. history, a substitute skill or subject is approved by the Department. Candidates must make application in the Department to take the language examination. Deadlines are October 10, for the fall examination; March 10, for the spring.

The fields of concentration available in the M.A. Program are the United States to 1876, the United States since 1860, and Modern Europe.

## MASTER OF SCIENCE IN HISTORY

## (Certified Secondary Teachers)

The fields of concentration are:
The United States to 1876
The United States since 1860
Ancient-Medieval Europe

Early Modern Europe (Renaissance to 1815)

Late Modern Europe (since 1789)
East Asia (China, Japan, Korea)
Latin America
Plan A (30 cr. including thesis)
General Education ( 3 cr .):
Elective other than History as approved by the faculty adviser

Professional Education ( 6 cr ):
EDF 500 Contemporary Educational Issues
Elective as approved by the adviser
History courses or seminars ( 15 cr .):
Department offerings as approved by the faculty adviser, of which 9 cr . must be in one of the fields listed above, and 6 cr. must be in courses on the 500-level

HIST 599 Thesis
Plan B (30 cr. including comprehensive examination)
General Education (3 cr.):
Elective other than History as approved by the faculty adviser

Professional Education ( 6 cr .):
EDF 500 Contemporary Educational Issues
Elective as approved by the adviser
History courses or seminars ( 18 cr .):
Department offerings as approved by the faculty adviser of which 9 cr . must be in one of the fields listed above, and 6 cr. must be in courses on the 500level
HIST 598 Research in History
Plan C (36 cr., including HIST 593)
General Education (3 cr.):
Elective other than History as approved by the adviser

Professional Education ( 6 cr .):
EDF 500 Contemporary Educational Issues
Elective as approved by the adviser
History courses or seminars ( 21 cr .):
Department offerings as approved by the
faculty adviser of which 12 cr . must be in one of the fields listed above including 6 cr . in courses on the 500 -level

HIST 593 Directed Study in History HIST 598 Research in History

## MASTER OF SCIENCE IN HISTORY

## (Certified Elementary Teachers)

Students in this specialization are required to follow Plan C which requires 36 credits including HIST 593 and HIST 598.

General Education (3 cr.):
Elective, other than History, as approved by the faculty adviser

Professional Education (6 cr.):
EDF 500 Contemporary Educational Issues
Elective as approved by the adviser
History courses ( 21 cr .):
In undergraduate and graduate work, combined, the candidate must have completed at least 33 cr . in History, of which at least 21 cr . are for graduate credit; undergraduate credit must include 6 cr . in European or World History, and 6 cr. in United States History. Of the graduate cr. at least 6 cr . must be in a one-year sequence of courses.

HIST 598 Research in History<br>HIST 593 Directed Study in History

## CERTIFICATION

The Department of History in cooperation with the School of Education and Professional Studies offers courses of study leading to secondary teacher certification in History and in History and Social Studies. Information about current Connecticut teacher certification requirements may be obtained from the Office of the Dean, School of Education and Professional Studies.

## POST-MASTER'S STUDY

Individually designed 30-credit programs of post-master's study are available for qualified students.

## MATHEMATICAL SCIENCES

## Faculty

William Driscoll (Chair, Marcus White 110), Stephen Bacon, Nelson Castaneda, Yuanqian Chen, Penelope Coe, Timothy

Craine, Robert Crouse, Katherine Gavin, Philip Halloran, Chun Jin, Dix Kelly, Daniel Larose, Stephen Lewis, Jeffrey McGowan, Daniel Miller, George B. Miller, Narasimhachari Padma, Melvin Pronga, Umaru Saleh, Angela Shaw, David Smith, Ann Marie Spinelli, Victor Sung, Frances Van Dyke, Charles Waiveris (Dept. phone: 832-2835)

## Department Overview

The Department of Mathematical Sciences offers programs leading to the Master of Science and Master of Arts degrees. Master of Arts candidates may specialize in Mathematics, Computer Science, Statistics, Actuarial Mathematics or Operations Research. Master of Science candidates may pursue a program for certified elementary or secondary school teachers. Students may also enroll in a program leading to certification to teach mathematics at the secondary level.

## Programs

MASTER OF SCIENCE IN MATHEMATICS FOR CERTIFIED ELEMENTARY SCHOOL TEACHERS
(Plans A, B and C are offered as options.)
General Education (3-9 cr.): Elective(s) as approved by faculty adviser

Professional Education ( $6-9 \mathrm{cr}$.):
EDF 500 Contemporary Educational Issues
Education elective(s) as approved by faculty adviser

Mathematics Specialization (12-18 cr., including at least 6 cr . of $500-\mathrm{level}$ courses):
Department offerings from the following: MATH 404, 431, 441, 442, 446, 449, 505, 531, 532, 580, STAT 453

Research (3-6 cr.):
MATH 598 and/or Thesis, MATH 599
Plan A (30 cr.) includes Research in Mathematics, MATH 598 ( 3 cr .) and Thesis, MATH 599 ( 3 cr .); or Thesis, MATH 599 ( 6 cr .) and $12-15 \mathrm{cr}$. in courses in the Mathematics Specialization.

Plan B (30 cr.) includes Research in Mathematics, MATH 598 ( 3 cr ) ; 12-18 cr. in courses in the Mathematics Specialization and a Comprehensive Examination.

Plan C (33 cr.) has the same General Education, Professional Education and Mathematics Specialization requirements as Plan $B$, except that in place of the Comprehensive Examination, the student must complete an additional 3 cr. course, MATH 590, Special Project in Mathematics.

## MASTER OF SCIENCE IN MATHEMATICS FOR CERTIFIED SECONDARY SCHOOL TEACHERS

(Plans A, B and C are offered as options)
General Education (0-9 cr.):
Elective(s) as approved by faculty adviser*
Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
Education elective(s) as approved by faculty adviser

Mathematics Major ( 15 cr . including at least 6 cr . of 500 -level courses):
Department offerings chosen from four of the following five groups:
Group I (Algebra): MATH 466, 469, 473, 515, 516
Group II (Geometry and Topology): MATH 483, 525
Group III (Analysis): MATH 463, 486, 491, 495, 520
Group IV (Applied and Computer): MATH 471, 472, 477, 478, 479 and CS 407, 410, 460, 462, 463, 464, 465, $473,481,485,490,498$
Group V (General): MATH 404, 421, 431, 468, 540, 543, 580 and STAT 453, 475
Research (3-6 cr.):
MATH 598 and/or Thesis, MATH 599
Plan A (30 cr.) includes Research in Mathematics 598 ( 3 cr.) and Thesis 599 ( 3 cr.); or Thesis 599 ( 6 cr .) and 12-18 cr. in courses in the Mathematics Major.

Plan B ( 30 cr.) includes Research in Mathematics 598 ( 3 cr .); 12-21 cr. in courses in the Mathematics Major and a Comprehensive Examination.

Plan C (33 cr.) has the same General Education, Professional Education and Mathematics Specialization requirements as Plan $B$, except that in place of the Comprehensive Examination, the student must complete an additional 3 credit course, MATH 590, Special Project in Mathematics.
*The CS courses in Group IV may be applied to the General Education area.

Note: Once a graduate student has elected one of the three plans ( $\mathrm{A}, \mathrm{B}$ or C ), any change to one of the other two plans must be made prior to the completion of 21 graduate cr. and requires the approval of the student's adviser and the appropriate dean.

## MASTER OF ARTS IN MATHEMATICS

This program is designed for those students who wish to expand their knowledge of mathematics beyond the level of undergraduate study, either as preparation for advanced graduate study or to increase their knowledge of mathematics for teaching, or to combine a knowledge of higher mathematics with related mathematical sciences and computer science for a career in industry.

Applicants to the Master of Arts program are expected to have completed the equivalent of MATH 122, 221, 222, 228 and 366 in addition to any necessary prerequisites for courses required in the planned program of graduate study.

## M.A. Program in Mathematics

( 30 cr .)
Requirements ( 18 cr ):
MATH 483 General Topology**
MATH 486 Complex Variables**
MATH 515 Abstract Algebra I
MATH 516 Abstract Algebra II
MATH 495 Principles of Real Analysis I ${ }^{* *}$
MATH 520 Principles of Analysis II
Electives as approved by faculty adviser (12-21 cr.)

Comprehensive Examination
M.A. Program in Mathematics with Specialization in Computer Science ( 30 cr.) The student will choose a specialization in Computer Programming Techniques and Numerical Methods or Computer Systems and Software Engineering. The student and faculty adviser will work out an appropriate plan of study within the framework of the following requirements.

Requirements:
Basic Mathematics Courses ( 12 cr .) -
Three (3) of MATH 495, 515, 516 and 520 ; and one (1) of MATH $483^{* *}, 486$ and STAT 451.

Electives appropriate to the area of specialization as approved by the faculty adviser (18 cr.)

## Comprehensive Examination

**A student may be exempted from MATH 483 and/or MATH 486 and/or MATH 495 if he/she has taken an equivalent course as an undergraduate. In such cases, the required course will be replaced by an appropriate department offering.

## M.A. Program in Mathematics with Spe-

 cialization in Statistics, Actuarial Mathematics or Operations Research (Plans A, B and C are offered as options.)The student will choose a specialization in one of the following areas of mathematical science: Statistics, Actuarial Mathematics or Operations Research. The student and faculty adviser will then work out an appropriate plan of study within the framework of the following requirements.

## Requirements

One of the following two-semester sequences ( 6 cr .):
Statistics Specialization: STAT 467 and 475
Actuarial Specialization: ACTL 444 and 480
Operations Research Specialization: STAT 451 and MATH 470

Three courses chosen from the courses listed above or the following ( 9 cr .): MATH 477, 495, 520, 473

Electives appropriate to the area of specialization (12-15 cr.)

Plan A: Thesis, MATH 599 ( 6 cr.) with 27 cr . of course work
Plan B: Comprehensive Exam with 30 cr. of course work
Plan C: Special Project in Mathematics, MATH 590 ( 3 cr .) with 30 cr . of course work

## MODERN

 LANGUAGES
## Faculty

Martha Wallach (Chair, Davidson 212), Paloma Lapuerta Amigo, Louis Auld, Gloria Caliendo, Edward Force, Antonio

García-Lozada, Paul Karpuk, Cheng Sing Lien, Gustavo Mejía, Ángela Morales, Maria Passaro, Carmela Pesca-Cupolo, Marie-Claire Rohinsky, Samuel Schulman, Shizuko Tomoda, Lilián Uribe (Dept. phone: 832-2875)

## Department Overview

The Modern Languages Department offers Master of Science and Master of Arts degree programs for teachers and other qualified persons wishing to pursue language and literature work on the graduate level. Its offerings are also available to nondegree candidates possessing the prerequisites for any given course.

Students who specialize in a modern language will develop with their adviser a program of study which takes into consideration their educational background and degree of competency in the language.

Students interested in a program leading to certification to teach language in the elementary and secondary schools should first consult the Office of the Dean of Education and Professional Studies.

Information about the MLA Foreign Language Proficiency Tests may be obtained from the Modern Languages Department and the Educational Testing Service, Princeton, New Jersey 08540.

## Graduate Certification in

 French, German, Italian and SpanishStudents seeking certification to teach foreign language must:

- apply to the Graduate Office as a nondegree graduate student seeking certification. Application, along with transcripts, is forwarded to the Modern Languages Department for review. Determination is made for Plan of Study;
- have an interview with the departmental committee to assess oral competency and gain acceptance into Professional Program; recommendations are made by committee to the School of Education and Professional Studies;
- complete the equivalent of an undergraduate major ( 36 credits), professional core requirements and student teaching block. Students with insufficient undergraduate preparation must make up deficiencies by taking at least two courses at the graduate level. These courses do not count toward a graduate degree.


## Programs <br> MASTER OF SCIENCE IN SPANISH FOR CERTIFIED TEACHERS

Elementary or secondary school teachers electing a specialization in Spanish are expected to have a baccalaureate degree, with at least 24 credits of the language in college or equivalent preparation, before being admitted to this program.

Before admission to candidacy for the degree, students must contact the Department for evaluation of their competence in listening comprehension, speaking, reading, and writing in the chosen language.

Plan A (30 cr. including thesis)
Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
Additional course(s) as approved by the faculty adviser

Spanish Specialization (15-18 cr.):
Departmental offerings as approved by adviser

Research ( 6 cr .):
Spanish 598 and 599 (Thesis)
Plan B (30 cr. and comprehensive examination)
Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
Additional course(s) as approved by the faculty adviser

Spanish Specialization (18-21 cr.):
Departmental offerings as approved by adviser

Research ( 3 cr .):
Spanish 598
Research in Spanish Studies

## MASTER OF ARTS IN MODERN LANGUAGE

Applicants for this degree program should have a baccalaureate degree with a minimum of 24 cr . preparation in each language in which graduate work will be undertaken. Only French or Spanish may be chosen as the language of specialization. With approval of the adviser, candidates with sufficient background in a second language may be permitted to include up to two appropriate courses at the 300 -level and above in this language in their program. Certified teachers whose oral and
proficiency skills are of sufficient caliber may include up to 6 cr . in professional education in their program.

Before being admitted to candidacy, candidates must contact the Department for evaluation of their graduate-level competence in speaking, listening comprehension, reading and writing in each language to be included in the program.

30 cr . in a planned program of graduate study including:

Specialization (12-15 cr.):
Courses in language, literature and culture as approved by adviser

Electives (12-15 cr.):
Courses as approved by adviser
Research/Capstone (3-6 cr.):
Plan A ( 6 cr.): Research (FR 598 or SPAN 598) and Thesis (FR 599 or SPAN 599)

Plan B (3 cr.): Research (FR 598 or SPAN 598) and Comprehensive examination

Note: Plan A - 30 cr. including Thesis; Plan B-30 cr. including comprehensive examination

## MUSIC

## Faculty

Linda Laurent (Chair, Welte 124), Daniel D'Addio, Robert Glarner, Carl Knox, Helen Myers, N. Carlotta Parr, Pamela Perry, Julie Ribchinsky (Dept. phone: 832-2912)

## Department Overview

The Music Department offers a variety of programs in music education for the graduate student by qualified faculty of diverse training and expertise. In addition to the faculty listed above the department has an outstanding part-time faculty of professional musicians, many from the Hartford and New Haven symphonies, who teach applied music and related subjects.

The Summer Music Institute (SMI) offers graduate courses in music education with both resident and guest faculty members. A brochure of the SMI program is available each year in March (860-832-2912).

Programs of study in music education include an M.S. degree, certification pro-
gram, and the post-master's planned program.

## Programs MASTER OF SCIENCE IN MUSIC EDUCATION

The M.S. in Music Education is designed to provide the certified music teacher with professional training beyond the baccalaureate degree in music history/ theory, performance and music education. Entrance examinations in musicianship and music education are required for acceptance. The student in the M.S. in Music Education program may select Plan A (33 cr. including a thesis), Plan B ( 30 cr . and comprehensive examinations), or Plan C ( 33 cr . including a culminating project.)

## Requirements

General Education ( $0-6 \mathrm{cr}$.):
Elected with adviser's approval
Professional Education (3-9 cr.):
EDF 500 Contemporary Educational Issues
Up to 6 additional cr. may be elected with adviser's approval.

Music (15-27 cr.):
MUS 470 Music Structure and Style
MUS 509 Historical Perspectives in Music
MUS 504 Principles and Foundations of Music Education
MUS 510 Current Issues in Music Education
MUS 598 Research in Music
Up to 12 cr . of adviser-approved electives in music and music education

Culminating Projects ( $0-3 \mathrm{cr}$ ):
Plan A: MUS 599 Thesis
Plan B: Comprehensive Exam
Plan C: MUS 500 Project in Music or MUS 597 Recital

## CERTIFICATION IN MUSIC EDUCATION

A student who holds a bachelor's degree but who is not certified in music education may apply for acceptance into the graduate certification program. Upon satisfactory completion of a musicianship exam and audition, the student will consult with the Music Department chair in order to establish a planned program for certification. Course work used to gain certification may not be used toward a graduate degree pro-
gram. Students must meet all requirements for admission to the Professional Program in the School of Education and Professional Studies. For information on admission to the Professional Program, see page 41.

## POST-MASTER'S STUDY IN MUSIC EDUCATION

Music educators with a master's degree may apply for acceptance into post-master's study. Upon satisfactory completion of a musicianship exam, students will be assigned an adviser to assist designing a 30 -credit planned program.

NATURAL SCIENCES

## Faculty

Faculties of the departments of Chemistry and Physics and Earth Sciences (Dept. phone: 832-2930)

## Program

Core Requirements:
SCI 500 Science and the Citizen
Either Track I or Track II

## Track I

Specialization (12-24 cr.):
Courses in either Chemistry or Earth Sciences or Physics as approved by adviser

Cognate ( $0-12 \mathrm{cr}$.):
Courses in a related field or fields as approved by adviser

Research/Capstone (3-9 cr.):
Research (CHEM 598 Research in Chemistry, ESCI 598 Research in Earth Science or PHYS 598 Research in Physics) and/or Thesis (CHEM 599, PHYS 599 or ESCI 599)

## Track II

General Education (0-9 cr.):
Electives other than science as approved by adviser

Professional Education ( $6-9 \mathrm{cr}$ ):
EDF 500 Contemporary Educational Issues
Electives as approved by adviser

Specialization (15-21 cr.):
Science courses as approved by adviser
Research (3-6 cr.):
SCI 598 Research in Science
Education
Plan C: SCI 595 Special Project in Science Education
Plan A: SCI 599 Thesis
Note:
Plan A: 30 cr., including 3-6 credits of Thesis
Plan B: 30 cr . and a comprehensive exam
Plan C: 33 cr., including SCI 595

## PHILOSOPHY

The Department of Philosophy does not offer a graduate program at the present time. Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## PHYSICS AND EARTH SCIENCES

## Faculty

Ali A. Antar (Chair, Copernicus 509), Charles Baskerville, Marsha Bednarski, Sandra Burns, Celia Chung Chow, Charles Dimmick, Kristine Larsen, Peter LeMaire, Steven B. Newman, Thomas Roman, Nanjundiah Sadanand, Luisito Tongson (Dept. phone: 832-2930)

## Department Overview

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, and a $400-\mathrm{kv}$ Van de Graaff linear accelerator. The fully equipped weather center includes a National Weather Service Facsimile System, Internet capability, two rooftop satellite data retrieval systems and a fully operational color Doppler weather radar monitoring system.

In addition to teaching, the faculty pursue many areas of interest including atomic collisions; solid state; general relativity, astrophysics; ground water pollution; public planetarium productions; lunar, planetary and deep sky observing; weather forecasting and analysis, and climatology of thunderstorm and hurricane activity in Connecticut; science education, particle physics, applied holography, and general relativity. Wherever possible, students enrolled in programs are encouraged to join with the faculty in their ongoing studies in these and other areas.

The Department offers a Master of Science in Natural Sciences. For details of the program, see the Natural Sciences major on page 35 of this catalog.

## POLITICAL SCIENCE

The Department of Political Science does not offer a graduate program, but an agreement between the University of Connecticut and Central Connecticut State University makes it possible for qualified undergraduate students at CCSU to enroll in up to four graduate-level courses in UConn's M.P.A. program and later apply these credits toward the M.P.A. Part-time students who have a bachelor's degree may take up to three courses at the graduate level before applying for the M.P.A. program. UConn M.P.A. students may take approved courses at CCSU's campus. There is some exchange of faculty between the two schools. Questions about the specifics of the cooperative program should be addressed to the M.P.A. director at UConn or to the chair of the Political Science Department at CCSU.

CCSU courses that have been approved for credit toward the M.P.A. are the following:
PS 446 The Budgetary Process
PS 447 Administrative Law
PS 448 The Politics of Human Services
Outside of the M.P.A. program, courses numbered 400 or higher which are offered by the department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## PSYCHOLOGY

## Faculty

Marc Goldstein (Chair, Marcus White 212), Carol Shaw Austad, Laura Bowman, Adolfo Chavarro, Paul Chu, James Conway, Joanne DiPlacido, Francisco Donis, Douglas Engwall, Carol Ford, Steven Horowitz, Laura Levine, Charles Mate-Kole, Lauren Perdue, Robert Stowe, Suad Vaillant, Bradley Waite (Dept. phone: 832-3100)

## Department Overview

The Department of Psychology offers the Master of Arts in Psychology with options for a General Psychology program or a specialization in Community Psychology. The specialization in Community Psychology emphasizes primary prevention. The department also offers courses to meet general elective requirements of graduate students in other disciplines, and courses for liberal arts graduates who are preparing for teacher certification.

Each student in the M. A. program will be assigned an adviser who will assist the student in developing an approved program.

## Programs <br> MASTER OF ARTS IN <br> PSYCHOLOGY

The M.A. program in Psychology can be designed to prepare students for a career in the field of human services or as preparation for further graduate study. The current program requires 36 credits of course work including a thesis. A common core of 18 cr . is required for all students. Students also must elect either the General Psychology program option or the specialization in Community Psychology.

The General Psychology program is planned with the assistance of a graduate adviser.

The focus of the specialization in Community Psychology is on primary prevention, where students are trained to be active practitioners in the prevention field. The specialization is designed to be taken sequentially in six semesters. Both the General Psychology and the Community Psychology options are primarily intended for part-time students.

The Psychology Department may be contacted for full information concerning these programs. For admission, a B.A.
degree with a minimum of 18 cr . in psychology or sociology is preferred; courses in statistics and research methods are required. A minimum undergraduate grade point average of 2.75 and three letters of recommendation are required.

MA Program ( $36 \mathrm{~s} . \mathrm{h}$., including thesis)
Common Core for all M.A. students (18 cr.):
PSY 512 Seminar in Developmental Psychology
PSY 545 Introduction to Clinical Psychology
PSY 550 Introduction to Community Psychology
PSY 596 Psychological Research: Design and Analysis I
PSY 597 Psychological Research: Design and Analysis II
PSY 599 Thesis
General Psychology Program (36 cr.)
Common Core ( 18 cr .)
Directed electives as approved by adviser (18 cr.)

Specialization in Community Psychology ( 36 cr.)
Common Core ( 18 cr .)
PSY 551 Primary Prevention
PSY 553 Developing Prevention Programs
PSY 595 Internship in Prevention Applications
Directed electives as approved by adviser ( 9 cr .)

## SCIENCE AND SCIENCE EDUCATION

## Faculty

Sandra F. Burns (Coordinator, Physics and Earth Sciences Dept., Copernicus 533, 832-2934); Advisers: Marsha Bednarski (Physics and Earth Sciences Dept., 832-2943), Leeds Carluccio (Biological Sciences Dept., 832-2646)

## Overview

Science and Science Education are interdepartmental programs for certified teachers and prospective teachers in elementary and secondary schools. Science courses may also
be applied to meet the general education requirements of other MS degree programs.

## Programs

Programs are designed for elementary teachers or secondary school science teachers who wish to specialize in science education. Each planned program is developed on an individual basis according to goals identified by the student and the adviser.

## MASTER OF SCIENCE IN NATURAL SCIENCE FOR CERTIFIED ELEMENTARY AND SECONDARY SCHOOL TEACHERS <br> General Education (up to 9 s. h.) <br> Electives other than science as approved by adviser

Professional Education (6-9 s. h.):
EDF 500 Contemporary Educational Issues
Education elective(s) as approved by adviser

Science (15-21 s. h.):
Department offerings as approved by adviser
SCI 500 Science and the Citizen
Research (3-6 s. h.):
SCI 598 Research in Science Education
SCI 595 Special Project in Science Education (for Plan C)
SCI 599 Thesis (for Plan A)
Plan A: 30 credits, including thesis
Plan B: 30 credits and comprehensive exam
Plan C: 33 credits, including
SCI 595

## POST-MASTER'S STUDY

Thirty-credit planned programs of postmaster's study are available for elementary teachers and secondary school science teachers.

## SOCIAL SCIENCE

## Faculty

Alfred Richard (Program Coordinator, History Dept., phone: 832-2812)

## Overview

The Social Science programs are based upon the prerequisite of an undergraduate major in the social sciences, one of the social science disciplines, or the equivalent. The graduate student who lacks this prerequisite may be required to complete additional undergraduate courses.

The Master of Science in Social Science is designed for teachers desiring to specialize in teaching social studies, including history. The areas included are Economics, Geography, History, Political Science and Sociology-Anthropology. In recommending a program of study, the student's adviser will consider the student's undergraduate record and individual interests.

## Programs

MASTER OF SCIENCE IN SOCIAL SCIENCE FOR CERTIFIED ELEMENTARY SCHOOL TEACHERS
General Education (3-9 cr.):
Electives other than social science approved by adviser

Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
Elective(s) as approved by the adviser
Specialization (12-18 cr.):
Social science courses approved by adviser. Concentration to be selected in consultation with adviser.

Research/Special Project ( 6 cr .):
GEOG 598, HIST 598 or ED 598
HIST 593, Directed Study in History

## MASTER OF SCIENCE IN SOCIAL SCIENCE FOR CERTIFIED SECONDARY SCHOOL TEACHERS <br> General Education (3 cr.): <br> Elective approved by adviser

Professional Education (6 cr.):
EDF 500 Contemporary Educational Issues
Elective approved by adviser
Social Science Major ( 21 cr .):
Social sciences courses approved by adviser, distributed among not fewer than two nor more than three disciplines, with a minimum of 6 cr . in each of two disciplines. Six credits must be in courses at the 500 level.

Research/Special Project ( 6 cr.): GEOG 598, HIST 598, or ED 598 HIST 593, Directed Study in History

Note: All MS in Social Science programs require 36 credits, including a special project (HIST 593).

## THEATRE

The Department of Theatre does not offer a graduate program at the present time. Courses numbered 400 or higher which are offered by the department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## SCHOOL OF ARTS AND SCIENCES CENTERS

The Center for Social Research (DiLoreto 200) performs applied social research for municipalities and non-profit and community organizations within the central Connecticut region. The Center offers students and faculty the opportunity to apply their academic experience to real-world environments through cooperative ventures with governmental and other nonprofit or public interest institutions. The Center also houses the Social Sciences Computing Laboratory.

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 and 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 middle, junior high and high school science teachers. Partners in Science and the Summer Science Transition Program present interdisciplinary explorations of sci-
ence in Saturday morning workshops and summer residency programs for middle school students. Science faculty and students work with middle and secondary school teachers on topics to enhance precollege science preparation and encourage students to pursue careers in science.

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.

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 and a scanner, as well as web-capable computers for interactive learning.

The Polish Studies Center (DiLoreto 208-23) was established in an effort 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 Polish Studies 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 Godlewski Evening of Polish Culture, educational materials for teachers, movies, exhibits and scholarship aid for Polish-American students and for students pursuing Polish Studies.

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 and a multimedia projector.

The Weather Center 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 com-
munity as well as faculty and student research in the atmospheric sciences.

The Writing Center (Willard 305)
helps students to improve their writing skills. Personnel give workshops on the taking of essay examinations and preparation of the research paper, as well as work with students and others individually who seek to become more proficient writers.

John J. Hampton, Dean<br>George Claffey, Associate to the Dean<br>Sharon R. Braverman, Assistant to the Dean<br>Phone: (860) 832-3205

The goal of the MBA is a broad degree that prepares individuals for general management positions in corporations, non-profit organizations, government agencies and other organizations. Candidates identify the central issues in managing organizations, uncover opportunities and needs for organizational success, analyze markets and business plans from multiple perspectives, and integrate data and information and convert it into knowledge. The required core courses in the disciplines of accounting, finance, management and marketing provides a global perspective for all students.

Application to the MBA program requires a special form available in the office of the Director of Graduate Business Programs in the School of Business, Maria Sanford Hall, Room 102. All applications, transcripts, letters of recommendation and GMAT reports should be sent to the attention of: Director, Graduate Business Programs, Central Connecticut State University, 1615 Stanley Street, New Britain, CT 06050. A $\$ 40$ application fee (checks made payable to CCSU) must also accompany the application. Questions pertaining to the MBA should be referred to the Director at 860-832-3210.

Applicants to the MBA should hold a four-year bachelor's degree, have a GPA of 2.7 or higher, and score 500 or higher on the GMAT. In addition to official transcripts and score reports, applicants must provide a current resume, two letters of recommendation and a statement of how admission to the degree will assist the individual in their career plans.
International applicants must also provide evidence of English proficiency (usually a TOEFL of 550 or higher). Suggested deadlines for admission are May 1 for fall classes and October 1 for spring classes. Applicants are expected to be current in computer software and hardware usage.

Graduate assistantships are generally available for full-time MBA students within the School of Business. Information regarding these assistantships can be obtained by contacting the Director.

# MASTER OF BUSINESS ADMINISTRATION 

## Faculty

Contact George F. Claffey (MBA Director, Maria Sanford 102, 832-3210) for further information.

## Mission Statement

The mission of the School of Business is to prepare professionally-oriented students for success in the global marketplace and to create mutually-beneficial relationships with the business and other communities that support Central Connecticut State University.

## Overview

The Master of Business Administration (MBA) is a professional degree providing a broad-based education for people who aspire to be leaders in the global arenas of business. This program provides academic rigor and pragmatic relevance, affording the opportunity to explore theory and practice and to develop a global perspective. It is designed to provide knowledgeable, ethical, and socially responsive leadership in the global marketplace. Graduates become ambassadors to the world, knowledgeable and understanding of world cultures, ideas and people.

Candidates for the Master of Business Administration complete 33 credits of graduate course work. The program includes a 12 credit International Core, a Concentration of 12 credits and an Integrative Experience of 9 credits. Prerequisite course work in financial/managerial accounting, micro/macroeconomics, managerial finance, management organization and theory, fundamentals of marketing, and statistics/probability may be waived based on prior education. Applicants are expected to have completed the equivalent of a second course in a foreign language either as part of their undergraduate program or before program completion.

The International Core consists of course work in international accounting, international financial management,
international management and international marketing.

## Admissions Requirements

A separate application is required for the MBA program. Forms are available in the School of Business Offices.

MBA program applicants must meet general admission and academic requirements as described in the Graduate Catalog and the School of Business. Academic evaluation for admission to the program is based primarily on the applicant's undergraduate record and the score on the Graduate Management Admissions Test (GMAT). Information about the GMAT may be obtained on campus in the Career Services Office, Student Development Center in Willard Hall.

Program applicants must also submit an essay stating how acceptance into the program relates to the applicant's career objectives. Upon entering the program, applicants must have word processing and spreadsheet computer proficiency.

The program is designed for part-time or full-time study.

## Programs

Prerequisite Undergraduate Core
May be waived based on prior education
Financial/Managerial Accounting
Principles of Economics (macro/micro)
Managerial Finance
Management and Organization Theory
Fundamentals of Marketing
Statistics/Probability

## International Core Courses

A common core of 12 cr .:
BUS 531 Accounting Information in a Global Environment
BUS 541 International Financial Management
BUS 551 Management for Global Operations
BUS 571 Market Planning for a Global Environment

## Concentration

12 cr . of approved graduate course work selected in consultation with adviser based on student interests and qualifications

## Directed Electives

6 cr. of approved graduate course work selected in consultation with adviser

## Integrative Experience

All students must successfully complete an integrative experience.

## BUS 591 Global Strategy

## BUSINESS EDUCATION

## Faculty

Contact the Department of Management Information Systems (Maria Sanford 102), George F. Claffey, Faye Cohen (Dept. phone: 832-3210)

## Departmental Overview

The graduate program in Business Education serves both experienced business education teachers and students who wish to complete teacher certification requirements in business education. Requirements for business education teacher certification must be completed before a student may matriculate into a master's or post-master's degree program.

Note: Course offerings are dependent on enrollment. Master's courses are generally offered once every two years.)

## Programs

CERTIFICATION PROGRAM IN BUSINESS EDUCATION
The objective of graduate certification in Business Education is to certify individuals to teach business education subjects in Connecticut's public junior and senior high schools. Candidates plan Business Education certification programs with advisers from the School of Education and the Management Information Systems Department. Certification requirements include the following:

- Undergraduate degree in a business major or equivalent academic background
- A minimum of 12 credits in Business Education including:
BE 410 Office Education Methods

BE 450 Office Systems Application Software and Records Management
BE 524 Organization and Administration of Business and Marketing Education
BE 530 Teaching Accounting, Basic Business, and Marketing Education

- Additional business courses based on content and recency of previous academic work as assigned by adviser
- Other Requirements:

Successful completion of Keyboarding
Proficiency Examination
WP 204 Introduction to Word Processing or equivalent
500 hours of office work experience within five years immediately preceding program completion.

## MASTER OF SCIENCE DEGREE IN

 BUSINESS EDUCATION ( 30 cr .)A thesis option (Plan A) and a comprehensive examination option (Plan B) are available.

General Education (0-9 cr.):
Electives other than from Business Education as approved by faculty adviser

Professional Education (6-9 cr.):
EDF 500 Contemporary Educational Issues
SPED graduate course as approved by adviser
Elective as approved by adviser
Business Education Specialization
(15-21 cr.):
BE 501 Current Problems in Business Education
BE 598 Research in Business Education
Electives as approved by faculty adviser
Thesis (Plan A only, 3 cr .):
BE 599 Thesis

Richard I. Arends, Dean<br>Roger Zieger, Associate Dean<br>Ronald J. Moss, Assistant Dean<br>Mary Pat Hager, Associate Counselor<br>Phone: (860) 832-2100

The School of Education and Professional Studies has graduate programs that lead to teacher certification in the State of Connecticut and advanced programs in the Departments of Educational Leadership, Health and Human Service Professions, Physical Education and Health Fitness Studies, Reading and Language Arts, Special Education, and Teacher Education. The mission of the School of Education and Professional Studies, to prepare professionals for service in our communities, is expressed in programs for individuals who are liberally educated and who are in command of the requisite professional knowledge to practice effectively in their chosen field.

Academic programs in the School of Education and Professional Studies are accredited by the American Association of Marriage and Family Therapy (AAMFT), Connecticut State Department of Education (CSDE), National League of Nursing (NLN), New England Association of Schools and Colleges (NEASC), and the National Council for the Accreditation of Teacher Education (NCATE). In addition, the School of Education and Professional Studies is a member of the Holmes Partnership, a network of universities and schools created to provide "high quality professional development and significant school renewal;" a member of the Urban Network to Improve Teacher Education (UNITE); a member of AACTE; and an active participant on the Teacher Education Council of State Colleges and Universities (TECSCU).

Currently, the School operates three centers (see page 53) and a network of professional development schools. Over the past five years, faculty in the School of Education and Professional Studies and from affiliated schools have established a network of Professional Development Schools (PDS). These schools are public schools that provide exemplary clinical sites for teacher candidates, enhance pupil learning, and provide sites for action research.

Below is an overview of graduate programs and the departments where they are located.

## Educational Leadership

- Master of Science in Educational Leadership
- Sixth Year Certificate: Intermediate Administrator or Supervisor
- Master of Science in Leadership and Pedagogy
- Master of Science in Technology/ Educational Media


## Health and Human Services

- Master of Science in Counselor Education with specializations in:

School Counseling
Community/Rehabilitation Counseling
Student Development Higher Education

- Master of Science in Marriage and Family Therapy


## Physical Education and Health Fitness Studies

- Master of Science in Physical Education


## Reading and Language Arts

- Master of Science in Reading
- Master of Science in Reading: Remedial Language Arts Teacher
- Sixth-Year Certificate: Reading and Language Arts Consultant


## Special Education

- Master of Science in Special Education


## Teacher Education

- Master of Science in Early Childhood Education
- Master of Science in Elementary Education
- Master of Science in Education Foundations
- Master of Science in Secondary Education/Foundation


## Post-Baccalaureate Work in Teacher Education

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
- Secondary Education in the following subjects: Biology, Business, Chemistry, Earth Sciences, English, French, General Science, German, Italian, Mathematics, Physics, Social Studies and Spanish
- NK-12 Education in the following subjects: Art, Music, TESOL, Special Education, Technology Education Post-baccalaureate students are considered graduate students and so must apply to the Graduate Office for admission.

They should subsequently apply for admission to the Professional Program by completing an application package for the Professional Program. 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) 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 at CCSU.

While the application packets differ from program to program, post-baccalaureate students must meet the 2.70 grade point average requirement.

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 1100 with a score of no less than 450 in either the verbal or math subtests from test administrations on or after April 1, 1995;
- a student has an American College Test $(\mathrm{ACT})^{*}$ 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 state change

Once the application packet is completed, it will be reviewed by the Assistant Dean, and grade point average of all attempted college work requirements will be verified. The packet will then be forwarded to the appropriate department for review and evaluation. Once the department has completed its evaluation, the application packet and the department's recommendation are returned to the Assistant Dean for his review. 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 Graduate School as a post-baccalaureate student will precede the School of Education and Professional Studies' Professional Program evaluation and admission decision.

Program Planning. Post-baccalaureate students must meet all course and laboratory 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 appropriate dean. Students are responsible to insure that their "Program of Study" meets 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, a course 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, middle level 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 (3.00) grade point average. 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.

## Appeals Process for All Students and Programs in Education

Students who fail to be admitted because of a grade point average below 2.70, may, upon receipt of the rejection letter, meet with the assistant dean of Education and Professional Studies to discuss their situations and possible options.

## 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 through the assistant dean. Questions concerning certification that cannot be answered by your department can be addressed to the assistant dean.

- Postgraduate certification students obtain the certification application from the Office of the Dean and return the completed application to the same office.

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 CCSU's program, date of program completion, social security num-
ber, current name and address, and any particulars concerning the other state's information requirements.

## EDUCATIONAL LEADERSHIP

## Faculty

Anthony Rigazio-DiGilio (Chair, Barnard 260), Farough Abed, Karen Beyard, Carol J. Carter, Penelope Lisi, Christine Shin, Olusegun Sogunro, Barry Sponder, Aldrige A. Vaillant (Dept. phone: 832-2130)

## Departmental Overview

The Department of Educational Leadership seeks to prepare well-educated and competent practitioners who are capable of improving the quality of education for Connecticut's children. The Department values interdisciplinary collaboration as a means of fulfilling its goal; as such, faculty associated with the Center for Multicultural Research and Education, Educational Technology, and Educational Leadership work together to design programs which will prepare professional educators with the skills and dispositions needed to create learning environments where all learners will be successful. 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 of Science in Pedagogy and Leadership. Non-degree programs leading to certification only are not available in this department.

## Programs

## MASTER OF SCIENCE IN

EDUCATIONAL LEADERSHIP
With the assistance of their adviser, students will select a concentration area from one of two stands: Educational Leadership or Curriculum Leadership. All students will select either Plan A (thesis) or Plan B (comprehensive examination).

The admission standard for the Educational Leadership M.S. program includes either a 3.00 undergraduate GPA or a 2.70 GPA with a 3.00 upper-level GPA.

## Strand I - Educational Leadership

( $\mathbf{3 0} \mathbf{~ c r . ) : ~ G r a d u a t e s ~ a r e ~ p r e p a r e d ~ t o ~ a s s u m e ~}$ leadership positions within public and private schools at the level of teacher.

## Strand II - Curriculum Leadership

 ( $\mathbf{3 0} \mathbf{c r}$.): Graduates are prepared to provide specific leadership skills to public and private schools in the area of curriculum renewal.
## Computer Prerequisite

A computer prerequisite (EDT 490, Instructional Computing) or its equivalent, which may not be counted for credit in the master's degree program, must be completed prior to the completion of 24 graduate credits.

Core Requirements ( 18 cr .):
EDF 500 Contemporary Educational Issues or adviser-approved option in Educational Foundations (EDF 516, 521, 525, 583)
ED 511 Principles of Curriculum Development
EDL 513 Supervision
ED 517 Evaluation
ED 540 Educational Motivation and the Learning Process
ED 598 Research in Education
Strand Requirements and Electives ( 12 cr .)
Strand I - Educational Leadership
Required courses ( 6 cr .):
EDL 514 Administration
EDL 555 Leadership for Culturally Diverse Schools

Elective courses ( 6 cr .):
Students select adviser-approved elective courses to complete their graduate program

Strand II - Curriculum Leadership Required courses ( 6 cr.):
EDL 551 Curriculum Leadership EDL 555 Leadership for Culturally Diverse Schools

Elective courses ( 6 cr .):
Students select adviser-approved elective courses to complete their graduate program

## SIXTH-YEAR CERTIFICATE IN EDUCATIONAL LEADERSHIP

The sixth-year certificate program meets the needs of educators who seek to acquire 1) advanced career and professional development, and 2) the leadership skills and credentials necessary to function effectively in school settings under the Intermediate Administrator/Supervisor Certificate. Graduates of the program who are certified as intermediate administrators or supervisors will be eligible for such positions as elementary or secondary principal/assistant principal, program coordinator, department head, and assistant superintendent, or for positions on the staffs of central offices, regional educational agencies, and the state Department of Education.

## Admissions Requirements

Admission to this program is limited and highly competitive. In addition to meeting the general requirements, admission to the sixth-year certificate program will be based on an evaluation of all materials submitted including the following criteria:

- possess a master's degree from a regionally accredited institution of higher education
- attained a 3.30 minimum post-baccalaureate cumulative grade-point average (GPA) on a four-point scale or its equivalent
- have a minimum of three years of teaching experience and possess, or be eligible for, a Connecticut teaching certificate
- submit two letters from school administrators supporting the application and concentrating on such areas as strengths and weaknesses, interpersonal skills, intellectual ability and leadership potential
- be interviewed by a team of faculty members. Provisional admission for one semester may be granted to applicants who are not able to be interviewed prior to the start of the semester
- submit a formal, typed application essay which focuses on 1) the reasons that led the candidate to the area of school leadership, and 2) future career goals

All applications and supporting materials for admission to the program for the following academic year must be received by the Graduate Office by April 1. The applicant's essay, supporting letters, interview and pro-
fessional experience are all significant factors in the admissions review process.

## Program of Study

The sixth-year certificate in Educational Leadership, including certification for the Intermediate Administrator/Supervisor, requires a minimum of 30 credits. Requirements include a professional core of 21-24 cr., 6-9 cr. of adviser-approved electives and a qualifying examination required prior to enrollment in EDL 690 and EDL 691. In addition, there are 15 cr . of prerequisites to this program, of which up to 9 cr. may be applied to meeting the electives component of the program.

Prerequisites ( 15 cr .):
A prerequisite course not already completed as part of another degree program may be counted toward fulfillment of the required 9 cr .
ED 511 Principles of Curriculum Development
EDL 513 Supervision
EDL 514 Administration
ED 540 Educational Motivation and the Learning Process
ED 598 Research in Education
Professional Core (21-24 cr.):
EDL 617 Personnel and Program
EDL 634 Seminar in Curriculum Development
EDL 635 Seminar in Supervision
EDL 636 Dynamics of Educational Leadership
EDL 690 Internship in Educational Leadership I: Theory and Practice
EDL 691 Internship in Educational Leadership II: Research and Practice
EDF 687 Seminar in Educational Policy Studies

Electives (6-9 cr. of adviser-approved electives; may apply up to 9 cr. of prerequisites to this requirement)

## MASTER OF SCIENCE IN <br> PEDAGOGY AND LEADERSHIP

Plan C (34cr.)
The Master's in Pedagogy and Leadership is an extension of the Cross-Endorsement certification programs in Elementary and Middle School level. It is a Plan C program. See Teacher Education section of this cata-
$\log$ for a complete description of the course of study leading to this master's degree.

Core (18 cr.):
EDTE 530 Internship in Pedagogy and Leadership I
ED 530 Advanced Seminar in Leadership and Learning Communities (taken twice)
ED 535 Integrating Curriculum Development with Educational Technology
ED 545 Integration of Methods of Research and Assessment

Directed Elective (3 cr.):
EDF 500 Contemporary Educational Issues
or
EDF 516 School and Society
Specialization ( 9 cr .):
Students select three courses for 9 cr . in one of six designated specializations.
Diversity and Urban Issues: EDEL 509, 531, EDF 522, 530, EDL 555, RDG 586
Leadership: ED 515, EDF 538, EDL 513, 514, 555, EDSC 505
Curriculum: ED 511, EDEL 508, EDF 524, EDSC 586, a content area course in language arts, math, science, social studies
Pedagogical Studies: ED 540, EDEL 529 or EDSC 556, EDF 521 or 525
Basic Literacy: RDG 585, 589, 590 or 591 or 592
Clinical Literacy: RDG 590, 594, 595
Capstone ( 4 cr .):
EDTE 531 Internship in Pedagogy and Leadership II

## MASTER OF SCIENCE, EDUCATIONAL TECHNOLOGY

The Master of Science in Educational Technology offers study plans to meet the needs of professionals who wish to increase their knowledge and experience in this field. Computer-based instruction, instructional design, interactive multimedia, networking and distance learning are examined within the program's requirements. Students pursue an applied curriculum which includes a balanced approach to theory and applied experience. Plan A (thesis) or Plan C (special project) may be selected in consultation with the adviser.

Core courses ( 21 cr .):
EDT 500 Instructional Design and Evaluation I
EDT 501 Message Design and Production
EDT 511 Topics in Educational Technology
EDT 512 Computer-based Instruction
EDT 521 Interactive Multimedia for Instruction I
EDT 522 Instructional Design and Evaluation II
EDT 531 Interactive Multimedia for Instruction II
EDT 532 Distance Learning and Networking

Professional Education (3 cr.):
EDF 500 Contemporary Educational Issues
or
COMM 502 Theories of Communication and Information Management (for non-educators)

Research and Capstone Requirements
( 6 cr .):
Plan A: 33 cr., including EDF 500 or COMM 502, ED 598 and EDT 597, Final Project
Plan B: 33 cr., including EDF 500 or COMM 502, ED 598 and EDT 597, Final Project

Computer Prerequisite:
Certification to use the VAX and the MAC Lab

Special Service Course (undergraduate and graduate):
EDT 490 Instructional Computing
Courses offered for school library media specialists:
EDT 560 Evaluation, Acquisition and Organization of Media Materials
EDT 561 Structuring and Accessing Information
EDT 562 Developing, Operating and Leading Media Facilities

Note: Students interested in a School Library Media Specialist cross-endorsement should contact the Connecticut State Department of Education Certification Office.

# HEALTH AND <br> HUMAN <br> SERVICE <br> PROFESSIONS 

## Faculty

Judith Hriceniak (Chair, Barnard 230), Linda Barile, Ralph Cohen, H. Jane Fried, Margaret Levvis, James Malley, Nancy Organek, Judith Rosenberg, Daniel
Wiener, Mary Jane Williams (Dept. phone: 832-2154)

## Department Overview

The Department of Health and Human Service Professions offers both the BSN (Bachelor of Science in Nursing) degree for registered nurses and the Master of Science degree in Counseling.

## Counseling

The Master of Science degree in Counseling prepares graduates to work as counselors in schools, family agencies, higher education or rehabilitation settings. Students acquire theoretical understanding of the counseling profession, practical skills and experience in professional settings.

## Prerequisites

Program prerequisites, which may not be counted for credit in the master's degree program, must be completed prior to enrollment in the core counseling courses. The prerequisites are:
SPED 501 Education of the Exceptional Learner (required for School Counseling only)
PSY 470 Theories of Personality (required for School Counseling, Higher Education, Rehabilitation Counseling)
PSY 512 Seminar in Developmental Psychology (required for School Counseling, Higher Education, Rehabilitation Counseling)
PSY 526 Psychology of Learning (or equivalent) (required for School Counseling only)

## Counseling Core Courses

The program includes core courses which provide the foundation for counseling. All students must complete the core courses
with at least a B before they are eligible to apply for degree candidacy. Courses in the counseling core generally will not be considered for transfer into the program. The Counseling core includes:
CNSL 500 The Dynamics of Group Behavior
CNSL 501 Theories and Techniques in Counseling
CNSL 503 Supervised Counseling Practicum

## Field Experience

The supervised practicum and internship are considered to be the most critical experience elements in the program. The ninecredit Counseling core must be completed before applying for the field experience.
Students must maintain a grade of B or better in every fieldwork course in order to continue in the program.

## Admission and Programs

The admission standard for the Counselor Education program requires a minimum of 2.70 GPA with a 3.00 upper-level GPA.
In addition applicants must meet degree candidacy requirements. Students admitted to the Counseling program may select one of four specialization areas:

## SCHOOL COUNSELING (51 cr.)

Graduates are prepared for positions as counselors in public and private schools. The program is designed to meet the certification requirements of the State of Connecticut and the Council for Accreditation of Counseling and Related Educational Programs.

Professional Courses ( 9 cr .):
EDF 500 Contemporary Educational Issues
ED 598 Research in Education
ED 599 Thesis
or
CNSL 595 Applied Research in Counseling

Specialized Courses ( 27 cr ):
CNSL 507 Methods in Group Facilitation
CNSL 520 Guidance Principles, Organization and Administration
CNSL 521 Career Counseling and Development
CNSL 522 Appraisal Procedures in Counseling
CNSL 524 Consulting in the Schools
CNSL 525 Multi-Cultural Counseling

CNSL 526 Developmental Guidance and Counseling
CNSL 591 Supervised School Guidance Internship (two semesters for non-teachers)
MFT 541 Introduction to Theories of Family Systems

## STUDENT DEVELOPMENT

IN HIGHER EDUCATION ( 36 cr .)
Graduates are prepared to function in a variety of settings in higher education including student centers, residence halls, counseling centers and student affairs offices.

Professional Courses (9 cr.):
EDF 500 Contemporary Educational Issues
ED 598 Research in Education
ED 599 Thesis
or
CNSL 595 Applied Research in Counseling

Specialized Courses ( 15 cr .):
CNSL 530 Student Development in Higher Education
CNSL 531 Student Services in Higher Education
CNSL 532 Program Design in Student Services
CNSL 592 Supervised Internship in Higher Education (two semesters)

## Elective Courses:

Students select courses with approval from their adviser.

## COMMUNITY/REHABILITATION COUNSELING ( 42 cr .)

The Rehabilitation Counseling Program provides the academic background for students to pursue licensing and a variety of advanced certifications in professional counseling. Graduates are prepared to work with individuals with emotional, mental, social and physical challenges in a variety of community and rehabilitation agencies.
The program is designed to meet the academic requirements of the American Association for Rehabilitation Counseling.

Professional Courses ( 9 cr ):
CNSL 504 Professional Studies in Counseling
PSY 598 Research in Psychology
ED 599 Thesis
or

CNSL 595 Applied Research in Counseling

Specialized Courses ( 21 cr .):
CNSL 507 Methods in Group Facilitation
CNSL 521 Career Counseling and Development
CNSL 560 Introduction to Rehabilitation Counseling
CNSL 561 Advanced Rehabilitation Counseling
CNSL 562 Case Management in Rehabilitation Counseling
CNSL 563 Medical Aspects of Rehabilitation Counseling
CNSL 568 Alcohol and Drug Counseling
CNSL 594 Supervised Clinical Practice - Rehabilitation (two semesters)

Elective Courses:
Students select courses with approval from their adviser.

## POST MASTER'S STUDY

Candidates who complete the master's degree can continue their education at Central Connecticut State University by registering for a post-master's planned program in Counseling.

## Marriage and Family Therapy*

The Marriage and Family Therapy program's intensive 51-credit specialization is designed to provide students with a solid theoretical background as a foundation for intensive clinical training in systemic approaches to human problems. The curriculum is designed to meet the academic requirements for Connecticut Licensure for Marital and Family Therapists and AAMFT Clinical Membership.

Clinical placements and intensive faculty supervision emphasize the development of effective therapeutic skills to meet the challenges of the new climate in health care service delivery. Emphasis is also placed on the development of the "person of the therapist." A key theme of the program is respect for diversity of people and lifestyles in families. The program has been awarded accreditation by AAMFT's Commission on Accreditation for MFT Education.

The practicum is a two-semester, 12-hour-per-week supervised clinical placement during the Second Year. Students learn basic clinical skills and begin working with clients. Students process their experi-
ences in a small group format with a faculty supervisor.

The internship is a 12 -month ( 3 semester), 25 -hour-per-week intensive clinical placement following the practicum experience which allows students to conduct marital and family therapy under supervision of an AAMFT Approved Supervisor. Interns conduct 500 hours of therapy with individuals, couples and families; 250 hours must be with couples and families. Interns receive a minimum of 100 hours of individual and group supervision with a minimum of 50 hours of supervision using actual clinical material (ie., audio and videotapes) for intensive review.

* An M.S. degree program in marriage and family therapy is being proposed for licensure. Check with the Department of Health and Human Service Professions (832-2154) for current information.

Prerequisites (12 cr.):
PSY 512 Seminar in Developmental Psychology
CNSL 500 The Dynamics of Group Behavior
CNSL 501 Theories and Techniques in Counseling

Marriage and Family Therapy Specialization (51 cr.) - thesis optional:
CNSL 504 Professional Studies in Counseling
MFT 541 Introduction to Theories of Family Systems
MFT 543 The Family Life Cycle
MFT 544 Families in Context: Gender and Cultural Dimensions
MFT 551 Structural/Strategic \& Behavioral Family Therapies
MFT 552 Experiential, Intergenerational and Psychodynamic Family Therapies
MFT 554 Couples Therapy
MFT 555 Dysfunctional Family Processes
MFT 556 Systemic Perspectives on Mental Illness
MFT 557 Action Methods in Marital and Family Therapy
MFT 583 Marriage and Family Therapy Practicum I
MFT 584 Marriage and Family Therapy Practicum II
MFT 585 Marriage and Family Therapy Internship
PSY 598 Research in Psychology Elective required ( 3 cr .)

## Nursing

At the present time, the Department of Health and Human Service Professions does not offer a graduate program in nursing. However, an M.S. degree program in nursing is being proposed for licensure. Check with the Department of Health and Human Service Professions (832-2154) for current information.

Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included on planned programs of graduate study if approved by the student's adviser and the appropriate dean.

## Special Opportunities

Graduate assistantships are available. Upon acceptance to a graduate program, students are eligible to apply for assistantships. Preference in awarding assistantships is given to students who have completed the core counseling courses. Funding for student help is available from time to time. Check with the department.

## PHYSICAL

 EDUCATION AND HEALTH FITNESS STUDIES
## Faculty

Jack Olcott (Chair, Kaiser 114), Antone Capitao, Catherine Fellows, Frank Frangione, David Harackiewicz, Eliane Mauerberg-deCastro, Judith Bourell Miller, Victoria Morley, Susan Smith, Robert Trichka, John Webster (Dept. phone: 832-2155)

## Department Overview

The Department of Physical Education and Health Fitness Studies offers courses leading to a Master of Science Degree in Physical Education for certified teachers and professionals in allied fields of exercise science, health fitness and athletic training. Also available is course work leading to Connecticut teacher certification in physical education.

## Programs

The graduate program of Physical Education is designed to: (1) increase the com-
petency of teachers of physical education and (2) provide valuable subject matter for professionals in exercise science and health fitness.

An undergraduate program in physical education from an accredited institution of higher education is preferred for admission to the master's degree program. This undergraduate program should be the equivalent of the undergraduate program at CCSU.

## MASTER OF SCIENCE IN PHYSICAL EDUCATION

Two plans are offered in Physical Education: Plan A includes a thesis; Plan B includes a written comprehensive examination. Both plans require at least 30 credits of graduate study.

MS students complete courses in four areas: General Education (3-6 credits of courses other than Education or Physical Education as approved by the faculty adviser); Professional Education (3-6 cr. of Education courses other than Physical Education as approved by the faculty adviser, including EDF 500, Contemporary Educational Issues); Specialization ( $15-18 \mathrm{cr}$. of department offerings as approved by the faculty adviser); and Research including PE 598, Research in Physical Education as a requirement for all plans, and for Plan A only, PE 599, Thesis in Physical Education.

## POST-BACCALAUREATE PROGRAM FOR CERTIFICATION IN PHYSICAL EDUCATION

Students who already hold a bachelor's degree may pursue teacher certification in Physical Education through our post-baccalaureate program. This program prepares students for NK-12 teacher certification and does not result in a master's degree. For information on admission to this program, see page 41.

## POST-MASTER'S STUDY

A 30 -credit planned program of post-master's study is available for the professional physical educator who wishes to expand or update knowledge of physical education and the related fields of exercise science and health fitness.

## READING AND LANGUAGE ARTS

## Faculty

Barry Davies (Chair, Barnard 245), Helen Abadiano, Gail Cueto (joint appointment), Catherine Kurkjian, David Monti, Patti Lynn O’Brien (Dept. phone: 832-2175)

## Department Overview

The Department of Reading and Language Arts offers a Master of Science degree program and a sixth-year certificate. Master of Science degree and sixth-year certificate programs include courses leading to certification that enable the student to obtain knowledge of the reading process and to develop knowledge and skills in the developmental, clinical and administrative aspects of teaching reading and teaching language arts. The Master of Science degree and sixth-year programs without certification include courses structured to equip the student with the knowledge of procedures and materials to enhance the teaching of reading and the teaching of language arts in regular classrooms.

## Programs

## MASTER OF SCIENCE DEGREE PROGRAMS IN READING

A student admitted to any program offered by the Department of Reading and Language Arts must meet as early as possible with the assigned adviser to complete a planned program of graduate study. The sample programs below are recommended only. The official planned program of graduate study is designed by the student and the adviser.

Admission: The Department of Reading and Language Arts follows the admission guidelines established by the Graduate Office. The requirements for formal admission to the Master of Science degree program in Reading and Language Arts are explained in the department admissions packet distributed by the Graduate Office at the time of application. These requirements include the following: a) letters of recommendation; b) application essay, c) department interview; d) certification and experience qualifications.

Planned Program of Graduate Study: Following admission, students must meet with their assigned adviser to complete a planned program of graduate study.

Degree Candidacy: Students must meet with their adviser following completion of nine graduate credits in order to make application for degree candidacy. For certification program applicants degree candidacy and formal admission must be completed before registering for the first course in the clinical sequence (RDG 594).

Clinical Experience: Students registering for the clinical experience (RDG 596) must make formal application to the Department of Reading and Language Arts. Application forms are available from the department.

## MASTER OF SCIENCE IN READING CERTIFICATION PROGRAM

The Master of Science in Reading degree is designed to increase knowledge and to improve skills of teachers in the area of reading. Also, the program includes courses which will enable students to develop those skills in the corrective and remedial processes of reading and language arts necessary for certification by the state of Connecticut as a remedial reading and language arts teacher. The student's planned program of graduate study is developed by the student and the adviser. This program may fulfill or partially fulfill state of Connecticut certification requirements. The student's planned program of graduate study should include the following.

Research (3-6 cr.):
Plan A (30 cr.): ED 599 Thesis
Plan B ( 30 cr .): ED 598 Research in
Education and comprehensive exam
Professional Education (3-6 cr.):
EDF 500 Contemporary Educational Issues

Reading Specialization (18-24 cr.):
RDG 585 Reading in Content Area
RDG 589 Creative Language Arts
RDG 590 Current Trends in Developmental Reading K-12
Clinical Sequence:
RDG 594 Diagnosis of Reading Difficulties
RDG 595 Remedial and Corrective Techniques in Reading
RDG 596 Clinical Practices in Reading

## MASTER OF SCIENCE IN <br> READING - NON-CERTIFICATION PROGRAM

Students not interested in pursuing certification as a remedial reading and remedial
language arts teacher may design a planned program of graduate study with an adviser leading to a master's degree with a concentrate in reading. A Reading-Math concentrate is also available.

The Master of Science in Reading degree non-certification program is designed to increase the knowledge and improve the skills of classroom teachers in the area of reading and language arts. The program will assist the student to become a more effective teacher in the areas of reading, writing, listening and speaking. Also, the program may include courses related to literature for children and the teaching of mathematics. The student's planned program of graduate study should include the following.

Research (3-6 cr.):
Plan A ( 30 cr .): ED 599 Thesis
Plan B ( 30 cr .): ED 598 Research in Education and comprehensive exam

Professional Education (3-6 cr.):
EDF 500 Contemporary Educational Issues

Area of Specialization (18-24 cr.):

Reading and Language Arts Concentrate:
RDG 585 Reading in Content Area
RDG 591 Developmental Reading in Primary Grades
or
RDG 592 Middle School Level Literacy Development
RDG 588 Teaching Children's Literature
RDG 589 Creative Language Arts
RDG 598 Seminar in Reading Research
Electives in Reading and Language Arts
Reading-Math Concentrate: Selected courses from the following (minimum of 9 cr . in reading and 9 cr . in Mathematics):
RDG 585 Reading in Content Area
RDG 591 Developmental Reading in Primary Grades
or
RDG 592 Middle School Level Literacy Development
RDG 589 Creative Language Arts
RDG 598 Seminar in Reading Research
MATH 431 Techniques in Diagnosis and Remediation for the Teaching of Mathematics - K-12
MATH 531 Basic Concepts of Elementary School Mathematics I

MATH 532 Basic Concepts of Elementary School Mathematics II
MATH 580 Directed Study in Mathematics

## SIXTH-YEAR CERTIFICATE

The Sixth-Year Certificate in Reading program leads to the award of the professional certificate. This program may include course work required for endorsement as a Reading and Language Arts Consultant in the state of Connecticut. The certificationtrack program provides opportunities for the student to examine reading and language arts from a perspective beyond classroom teaching. The student's planned program of graduate study is developed by the student and the adviser.

Admission: The Department of Reading and Language Arts has established requirements for admission to the sixthyear certificate program. Those requirements are explained in the department admissions packet distributed by the Graduate Office.

Planned Program of Graduate Study: Following admission, students must meet with their assigned adviser to complete a planned program of graduate study.

Degree Candidacy: Students should meet with their adviser following the completion of nine credits of the planned program of graduate study to apply for degree candidacy.

Clinical/Research Experience: Students registering for the Practicum for Reading and Language Arts Consultants (RDG 696) and the research seminar (RDG 698) must make formal application to the Department of Reading and Language Arts. Application forms are available from the department.

Program Requirements: Course requirements will be based on the student's needs in terms of fulfilling professional and personal goals. A minimum of 15 credits of 600-level courses are required in both the certification track and the non-certification track programs for the certificate:

## Reading/Language Arts Consultant Certification Track

RDG 696 Practicum for Reading and Language Arts Consultants (6 cr.)
RDG 698 Research Seminar (3 cr.)
Related Area of Study (6 cr.)

Area of Specialization (15 cr.)
RDG 588 Teaching Children's Literature
RDG 692 Specialized Diagnosis \& Remedial Techniques
RDG 694 Organization, Administration and Supervision of Reading Programs
Reading and Language Arts Elective (3 cr.)
Electives (0-3 cr.)
Non-Certification Track
Research ( 3 cr .):
RDG 698 Research Seminar
Related Area of Study ( 6 cr.)
Area of Specialization ( $15-18 \mathrm{cr}$ ):
RDG 680 Current Trends and Issues in Reading and Language Arts

Electives (3-6 cr.)

## SPECIAL <br> EDUCATION

## Faculty

Mitchell Beck (Chair, Barnard 223), Virginia Dethy (on leave), F. William Fischer, Laura Boynton Hauerwas, Mae Williams, Michael Williams (joint appointment) (Dept. phone: 832-2400)

## Department Overview

The Department of Special Education offers programs leading to either a Master of Science degree or certification in Special Education.

The master's program is open to both regular and special educators. Students holding certificates in areas other than special education take introductory course work in specific areas of exceptionality and more advanced course work covering a wide range of topics relevant to special education. Students having initial or provisional certification in special education take course work designed to broaden and/or deepen their knowledge of the field.

A separate, non-degree program is available for graduate students who are interested in obtaining certification in comprehensive special education. The certificate includes the areas of learning dis-
abilities, emotional disturbance, mental retardation and physical disabilities.
Programs
MASTER OF SCIENCE PROGRAM FOR
STUDENTS WITH CERTIFICATION IN
SPECIAL EDUCATION
General Education ( 3 cr ):
Elective

| Professional Education ( 6 cr .): |  |
| :--- | :--- |
| EDF 500 | Contemporary Educational |
|  | Issues |
| SPED 566 | Pupil Personnel Services in <br>  <br>  <br> Special Education |

Specialization (12-18 cr.):
SPED 577 Integrative Seminar
Electives - Students usually take 15 cr. of advanced-level course work in special education. Up to 6 cr . of related course work from other departments may be included at the adviser's discretion.

Research (3-6 cr.):
ED 598 Research in Education (Required for Plan $A$ and $B$ )
ED 599 Thesis (Required for Plan A only)

MASTER OF SCIENCE PROGRAM FOR STUDENTS WITH CERTIFICATION IN OTHER AREAS OF EDUCATION
Professional Education ( 12 cr .):
EDF 500 Contemporary Educational Issues
ED 598 Research in Education
SPED 566 Pupil Personnel Services in Special Education
SPED 577 Integrative Seminar
Specialization ( 15 cr ) :
Choose 6 credits from:
SPED 430 Characteristics and Education of Individuals with Behavioral/ Emotional Disorders
SPED 432 Characteristics and Education of Individuals with Learning Disabilities
SPED 434 Characteristics and Education of Individuals with Developmental Disabilities

Choose at least 9 credits from:
SPED 506 Foundations of Language for the Exceptional Child
SPED 510 Inclusive Education

SPED 530 The Family, the School and the Handicapped Child
SPED 536 Introduction to the Autistic Child
SPED 560 Crisis Intervention in the Schools
SPED 578 The Juvenile Offender as an Exceptional Learner
SPED 580 The Special Education Teacher as Consultant
SPED 590 Early Intervention for Infants, Toddlers and Preschoolers with Special Needs

Elective (3 cr.):
Students choose an additional course with
their adviser to complete 30 credits.
Note: Completion of this degree does not provide certification in special education

## POST-BACCALAUREATE PROGRAM FOR CERTIFICATION IN SPECIAL EDUCATION

Students who already hold a bachelor's degree may pursue teacher certification in Special Education through our post-baccalaureate program. This program prepares students for $1-12$ teacher certification and does not result in a master's degree. For information on admission to this program, see page 41.

## CERTIFICATION REQUIREMENTS

Professional Requirements ( 9 cr .):
30 hours of verified field experience with regular education students; 10 hours of verified field experience with exceptional learners.
EDTE 315 Principles of Learning
SPED 315 Introduction to Educating Learners with Exceptionalities
RDG 315 Introduction to Literacy
One of the following:
MATH 213 Structure of Mathematics II: 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 cr .):
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

Notes:

1. It is the student's responsibility to consult the adviser on a regular basis since program policies and procedures are subject to change.
2. Students must be sure to consider prerequisite requirements before registering for courses. Numerical listing does not necessarily indicate correct sequence.
3. In addition to maintaining a 3.0 overall average, students must maintain a B- (2.7) average in special education courses to be recommended for certification.
4. Admission to the professional program is a prerequisite for SPED 433-SPED 439.

## TEACHER EDUCATION

## Faculty

Paulette Lemma (Chair, Barnard 277), Elizabeth Aaronsohn, Ronnie Casella, Gail Cueto (joint appointment), Basanti DeyChakraborty, Margaret Ferrara, Nancy Hoffman, Maxine Howell, Lawrence Klein, Daniel Mulcahy, Karen Riem, Susan Seider, Carole Shmurak, Claudia Shuster (Dept. phone: 832-2415)

## Department Overview

The Department of Teacher Education is committed to the initial preparation and continuing professional education of those involved in early childhood, elementary,
middle level and secondary education. Accordingly, the department offers programs leading to a Master of Science degree in the following areas: Early Childhood Education, Educational Foundations, Elementary Education and Secondary Education. The Department of Teacher Education also has a Master of Science program in Pedagogy and Leadership offered jointly with the Department of Educational Leadership. The Department offers Post-Baccalaureate Teaching Certificate programs in elementary, middle level and secondary education that are both part-time and full-time, and a 30 -credit planned program of post-master's study in early childhood and elementary education.

## Programs <br> MASTER OF SCIENCE IN EARLY CHILDHOOD EDUCATION <br> Coordinator: Susan Seider

This program is designed for early childhood educators wishing to pursue graduate study which extends their knowledge of the theory and practice of early childhood education. The program consists of a number of core requirements, directed electives, and the opportunity to develop research skills in the field.

The student's planned program of graduate study must include the following:

Core Requirements:
EDEC 550 Communication and the Young Child
EDEC 551 Programs and Curricula in Early Childhood Education I
EDEC 552 Programs and Curricula in Early Childhood Education II
EDEC 553 Family, School and Community Partnerships in Early Childhood Education
EDEC 554 Observation and Assessment in Early Childhood Education

Directed Electives ( 9 cr .):
As approved by adviser
History, Philosophy and Sociology of
Education (3 cr. chosen from the following):
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 521 History of Educational Ideas
EDF 525 History of American Education

EDF 583
Sociological Foundations of Education

Multicultural/International Perspectives on Education ( 3 cr . chosen from the following):
EDEL 509 Education and the Development of Cultural Understanding
EDEL 531 Education in the Inner City
EDF 522 Comparative Education
EDF 530 Multicultural Education
Research:
ED 598 Research in Education
Note:
Plan A - 33 cr ., including 3-6 cr. of Thesis (replaces 3-6 cr. of electives)
Plan B-33 cr. including comprehensive examination
Plan C-33 cr. including Action Research Project (EDEL 591 and 592 which replace 6 cr . of electives)

## MASTER OF SCIENCE IN EDUCATIONAL FOUNDATIONS/SECONDARY EDUCATION <br> Coordinators: Lawrence Klein, Carole Shmurak

This program is designed to offer teachers and other educators the opportunity to pursue graduate studies in the foundations of education or a combination of foundations and secondary education. There are, accordingly, two strands from which a choice is made. Strand 1 is centered on the theme of policy studies in American education. Strand 2 employs an approach to the study of curriculum and instruction in secondary education which integrates both theory and practice.

Strand 1: Concentration in Educational Foundations and Policy Studies
Core ( 15 cr .):
EDF 500 Contemporary Educational Issues
EDF 521 History of Educational Ideas
EDF 522 Comparative Education
EDF 525 History of American Education
EDF 538 The Politics of Education

Electives (9-12 cr.):
EDF 516 School and Society
EDF 583 Sociological Foundations of Education

EDF 597 Supervised Readings in History and Philosophy of Education
or
other electives as approved by adviser
Research (3-6 cr.):
Plan A: ED 598 Research in Education and ED 599 Thesis
or
Plan B: ED 598 Research in Education and comprehensive exam

## Strand 2: Concentration in Secondary

Curriculum, Foundational and Instructional Issues
Core ( 18 cr .):
EDSC 505 Innovations in Secondary Education
EDSC 556 Instructional Theory and Practice
EDSC 586 Seminar in Secondary Education
EDF 500 Contemporary Educational Issues
EDF 524 Foundations of Contemporary Theories of Curriculum
One of the following:
EDF 522 Comparative Education
EDF 525 History of American Education
EDF 538 The Politics of Education
Electives (6-9 cr.):
ED 511 Principles of Curriculum Development
ED 517 Evaluation
or
other electives as approved by adviser
Research (3-6 cr.):
Plan A: ED 598 Research in Education and ED 599 Thesis or
Plan B: ED 598 Research in Education and comprehensive exam

## MASTER OF SCIENCE IN ELEMENTARY EDUCATION <br> Coordinator: Susan Seider

This program is designed for elementary education teachers wishing to pursue graduate study which extends their knowledge of the theory and practice of elementary education. The program consists of a number of professional courses, core requirements, directed electives, and the opportunity to develop research skills in the field.

## Core Courses ( 12 cr .):

EDEL 529 Analysis of Teaching
EDEL 508 Current Trends in Elementary School Curriculum
and
Choice of one of the following courses providing a multicultural/international perspective of education:
EDF 530 Multicultural Education
EDEL 531 Education in the Inner City
EDF 522 Comparative Education
EDEL 509 Education and the Development of Cultural Understanding
and
One subject matter methods course from among appropriate offerings in reading, language arts, children's literature, math, science, social studies, art, music and educational technology.

Professional Education Courses ( 9 cr .):
ED 517 Evaluation
ED 598 Research in Education
Choice of one course from the following courses in history, philosophy or sociology of education as approved by the graduate adviser:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 521 History of Educational Ideas
EDF 525 History of American
Education
EDF 583 Sociological Foundations of Education

Electives ( 9 cr ., of which 6 cr . must be in courses offered through the Department of Teacher Education.)

Note: A maximum of 6 cr . in 400-level courses may be taken with the approval of the graduate adviser.

Students choose a capstone requirement:
Plan A: Thesis (ED 599 in lieu of one or two electives)
Plan B: Comprehensive Examination
Plan C: Action Research (EDEL 591, 592
which replace 6 cr . of electives)

## Post-Master's Study

A 30-credit planned program of post-master's study is available in Elementary Education and Early Childhood Education. Programs are planned with a faculty adviser on an individual basis to meet the
professional development aspirations of the student.

## POST-BACCALAUREATE TEACHER CERTIFICATION PROGRAMS

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
- 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
Information on admission to the postbaccalaureate programs can be found on page 41.

Students have options of varying lengths to complete their certification program of study. They are as follows.

Option 1: This option involves part- or full-time study extended over a number of years in any certification field. Each student will, together with an adviser, put together a planned program of graduate study which would satisfy all certification requirements. Each planned program is individualized, based on the student's previous college course work and state certification requirements.

Option 2: This is a full-time, summer through summer ( 4 semester) option in either elementary education or elementary education with an urban strand, or middle level education. Students in these programs take courses and field experiences in a cohort group and in a specific sequence that begins in one summer and concludes in the following summer. Credits earned may be used towards a master's degree.* An additional admissions process is required by the Department of Teacher Education. Students seeking admission to one of the Option 2 programs should submit their application to the Graduate Office no later than March 15.

## SUMMER THROUGH SUMMER POSTBACCALAUREATE CERTIFICATION PROGRAM IN ELEMENTARY EDUCATION

$51 \mathrm{cr} ., 21$ of which are applicable to a Master of Science in Elementary Education

* Indicates course that carries graduate credit toward a Master of Science Degree in Education.

First Summer ( 10 cr .):
EDTE 420 Field Experience
Practicum
EDTE 510 Methods of Inquiry into
Pedagogy and Leadership
in Diverse Communities
(field experience
required)*
RDG 315 Introduction to Literacy
EDT 490 Instructional Computing
ED 430 Topic Seminar in Leader-
ship and Learning
Communities*
Fall (16 cr.):
EDTE 315 Principles of Learning
(field experience required)
SPED 315 Introduction to Educating
Learners with
Exceptionalities
RDG 412 Literacy in the Elementary School
SCI 555 Teaching of Science in the Elementary School
ED $430 \quad$ Topic Seminar in Leadership and Learning
Communities*
MATH 412 Elementary Mathematical
Methods

Spring (13 cr.):
EDEL 430 Elementary Education Student Teaching
ED $430 \quad$ Topic Seminar in Leader-
ship and Learning
Communities*
EDEL 422 Elementary Education
General Methods
Second Summer (12 cr.):
EDF 415 Educational Foundations
FA 490 Integrating the Fine Arts
for the Young Learner*
ED 545 Integration of Methods of
Research and Assessment*
SUMMER THROUGH SUMMER POST-
BACCALAUREATE CERTIFICATION
PROGRAM IN MIDDLE LEVEL
EDUCATION
52 cr., 18-21 of which are applicable to a
Master of Science in Education

* Indicates course that carries graduate
credit toward a Master of Science Degree
in Education.

First Summer ( 10 cr .):

| EDTE 420 | Field Experience <br> Practicum |
| :--- | :--- |
| EDTE 510 | Methods of Inquiry into <br> Pedagogy and Leadership <br> in Diverse Communities <br> (field experience |
|  | required)* |
| RDG 315 | Introduction to Literacy |
| EDT 490 | Instructional Computing* |
| ED 430 | Topic Seminar in Leader- <br> ship and Learning <br> Communities |

Fall ( 17 cr .):
EDTE 315
$\begin{array}{ll}\text { SPED } 315 & \begin{array}{l}\text { Introduction to Educating } \\ \text { Learners with } \\ \text { Exceptionalities } \\ \text { Literacy Across the Mid- } \\ \text { de Level Curriculum }\end{array} \\ \text { RDG 414 } & \begin{array}{l}\text { dentent Area Methods Course (depending }\end{array}\end{array}$

| on subject matter area) |  |
| :--- | :--- |
| EDM 414 | Overview of Middle Level <br>  <br> ED 430 <br>  <br>  <br>  <br>  <br>  <br> Programs and Practices <br> Topic Seminar in Leader- <br> ship and Learning <br> Communities* |

Spring (13 cr.)
EDM $430 \quad \begin{aligned} & \text { Middle Level Student } \\ & \\ & \text { Teaching }\end{aligned}$
ED $430 \quad$ Topic Seminar in Leadership and Learning
Communities*
EDM $424 \quad$ Methods for Middle Level Teaching

Second Summer ( 12 cr .):
EDF 415 Educational Foundations
ED 545 Integration of Methods of
Research and Assessment*
Elective towards masters degree*

SUMMER THROUGH SUMMER POSTBACCALAUREATE CERTIFICATION PROGRAM IN ELEMENTARY EDUCATION: URBAN STRAND
51-54 cr., 21 of which are applicable to a Master of Science in Education

* Indicates course that carries graduate credit toward a Master of Science Degree in Education.

This program targets teaching in urban settings and is planned to respond to the presence of a highly diverse multicultural society and to issues and challenges of equity and diversity. Teacher candidates in the urban program have the added option of completing a cross endorsement in bilingual education. The urban strand elementary education program has requirements and experiences that distinguish it from other programs.

First Summer ( 12 cr .):
EDT 210 Introduction to Educational Technology
RDG 315 Introduction to Literacy
EDTE $420 \quad$ Field Experience
Practicum
EDTE $510 \quad$ Methods of Inquiry into
Pedagogy and Leadership in Diverse Communities (required field experience) ${ }^{*}$
EDF $510 \quad$ The Social, Political and Cultural Context of Urban Schools*
ED 530
Advanced Seminar in Leadership \& Learning Communities*

Fall (17 cr.):
EDTE 315 Principles of Learning
SPED 315 Introduction to Educating Learners with Exceptionalities
MATH 412 Elementary Mathematical Methods
SCI 412 Learning and Curriculum Studies in Science
RDG 586 Literacy Instruction for Diverse Populations I* Developing Instructional Materials
ED 530

Spring ( 13 cr ):
EDEL 422 Elementary Education General Methods
EDEL 430 Elementary Education Student Teaching
ED 530 Advanced Seminar in Leadership \& Learning Communities*

Second Summer (9-12 cr.):
EDF 415 Educational Foundations
Graduate course in Anthropology, Psychology, Sociology, Educational Leadership, Reading \& Language Arts or Teacher Education that focuses on diverse cultures or inner cities
(approval of adviser required)
Bilingual Education or Graduate Course Elective (optional)

## CROSS-ENDORSEMENT CERTIFICATION PROGRAMS

Students who already have earned an initial certificate may choose a program leading to a cross endorsement in elementary or middle level education. These are fulltime, year-long, field-intensive programs which include a school-based internship. Students take courses and field experiences in a cohort group in consecutive summer, fall and spring semesters, and in a specific sequence. Students in these programs earn credits toward a Master of Science degree in Pedagogy and Leadership. An additional admissions process is required by the Department of Teacher Education.

These programs are subject to State Department of Education and Department of Higher Education approval. Cross endorsements are reviewed and authorized only by the Bureau of Certification and Professional Development through official, individual transcript evaluations. The programs of study are as follows.

## CROSS-ENDORSEMENT CERTIFICATION PROGRAM IN ELEMENTARY EDUCATION

( 34 cr., 23 of which are applicable to a Master's of Science in Education)

Summer (3 cr.):
MATH 531 Basic Concepts of Elementary School Mathematics I ${ }^{*}$

Fall (14 cr.):
ED 530 Advanced Seminar in Leadership and Learning Communities*

| EDTE 530 | Internship in Pedagogy <br> and Leadership I* |
| :--- | :--- |
| RDG 412 | Literacy in the Elementary <br> School |
| SCI 412 | Learning and Curriculum <br> FA 412 <br> EDEL 422Studies in Science |
| Fine Arts Across the <br> Curriculum <br> Elementary Education <br> General Methods |  |

Spring ( 17 cr ):
ED 530 Advanced Seminar in Leadership and Learning Communities*
EDTE 531

ED 545

ED 535
Internship in Pedagogy and Leadership II $^{*}$
Integration of Methods of Research and Assessment*
Integrating Curriculum Development with Educational Technology*

Note: It is recommended that students take 3 credits or more of content area methods course in the summer session, prior to the fall semester.

## CROSS-ENDORSEMENT CERTIFICATION PROGRAM IN MIDDLE LEVEL EDUCATION

( 34 cr., 23 of which are applicable to a Master's of Science in Education)

Summer (3 cr.):
Content Area Methods Course (depending on subject matter area)

Fall (17 cr.):
ED 530
Advanced Seminar in Leadership and Learning Communities*
EDTE 530 Internship in Pedagogy and Leadership I*
RDG 414 Literacy Across the Middle Level Curriculum
EDM $414 \quad$ Overview of Middle Level Programs and Practices
ED 535 Integrating Curriculum Development with Educational Technology*

Spring ( 14 cr .):
ED 530 Advanced Seminar in Leadership and Learning Communities*
EDTE 531 Internship in Pedagogy and Leadership II ${ }^{*}$
EDM 424 Methods for Middle Level Teaching

ED 545

Note: It is recommended that students take 3 credits or more of content area methods course in the summer session, prior to the fall semester.

## MASTER OF SCIENCE PROGRAM IN PEDAGOGY AND LEADERSHIP (34 cr. - Plan C)

Students wishing to complete the Master's of Pedagogy and Leadership need to begin bỳ completing a cross endorsement course of study in either elementary or middle level education. During the cross endorsement program students take 18 cr . toward the master's.

Core (18 cr.):
EDTE 530 Internship in Pedagogy and Leadership I
ED 530 Advanced Seminar in Leadership and Learning Communities ( 1 cr . taken 2 times)
ED 535 Integrating Curriculum Development with Educational Technology Integration of Methods of Research and Assessment

Capstone (4 cr.):
EDTE 531 Internship in Pedagogy and Leadership II

To complete the master's students take 12 additional credits.

Directed Elective ( 3 cr .):
EDF 500 Contemporary Educational Issues
or
EDF 516 School and Society

Specialization (9 cr.):
Students select three courses for 9 cr . in one of six designated specializations.
Diversity and Urban Issues: EDEL 509 and 531, EDF 522 and 530, EDL 555, RDG 586
Leadership: ED 515, EDF 538, EDL 513, 514 and 555, EDSC 505
Curriculum: ED 511, EDEL 508, EDF 524, EDSC 586, a content area course in language arts, math, science, social studies
Pedagogical Studies: ED 540, EDEL 529 or EDSC 556, EDF 521 or 525

Basic Literacy: RDG 585, 589 and RDG 590 or 591 or 592
Clinical Literacy: RDG 590, 594 and 595

## OFFICE OF CLINICAL AND LABORATORY EXPERIENCES Student Teaching <br> M. Ferrara, Acting Director

All students in elementary, middle level and secondary education programs who are seeking initial certification by the State of Connecticut are required to complete student teaching. Prospective student teachers must complete a student teaching application form which is available in the office of the Office of Clinical and Laboratory Experiences. To student teach in the fall semester, applications must be submitted by March 1 in the preceding spring semester. Applications to student teach in the spring semester must be submitted by October 1 of the preceding fall semester. Students must include their letter of acceptance to the professional program of the School of Education and Professional Studies with their application for student teaching.

Student teaching courses (EDEC 430, EDEL 430, EDM 430, and EDSC 414, 415, 420,429 and 435) may not be taken or repeated without permission of the Director of Clinical and Laboratory Experiences, as well as the chairs of the student's major department and teacher education.

## 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, computerbased instruction and other technological delivery systems.

Zdzislaw B. Kremens, Interim Dean<br>Olusegun Odesina, Associate Dean<br>Peter Vernesoni, Assistant Dean<br>Karen Coale Tracey, Graduate Coordinator<br>Phone: (860) 832-1800<br>Fax: (860) 832-1804<br>Web address: http://wwwst/ccsu.ctstateu.edu

The School of Technology provides a broad range of educational and career enhancement opportunities in technological disciplines through a balance of theory and application that enhances individual's contributions to the global marketplace. Our students/clients develop the knowledge and confidence needed to meet today's modern challenges as members of engineering, technical management and educational teams.

The School of Technology has maintained state-of-the-art technical laboratories. Students are provided the opportunity to develop an understanding of tools, materials and instrumentation related to their technical specialization.

## ENGINEERING TECHNOLOGY

At the present time, the Department of Engineering Technology does not offer a graduate program. However, an M.S. degree program in manufacturing and civil engineering technology is being proposed for licensure. Check with the appropriate dean for current information.

Courses numbered 400 or higher which are offered by the Department and listed elsewhere in this catalog may be included in planned programs of graduate study offered by other departments if approved by the student's adviser and the appropriate dean.

## INDUSTRIAL TECHNICAL MANAGEMENT

## Faculty

Paul J. Resetarits, Chair, Industrial Technology (Resetarits@ccsu.edu); Graduate

Advisers: William Davison, James
DeLaura, Edward Maydock, Peter
Vernesoni (Dept. Office: 236 N. Coperni-
cus Hall; Dept. phone: 832-1830)

## Overview

The Master of Science in Industrial Technical Management provides students with academic experiences that enable them to develop, shape, change and effectively direct productivity in industrial and technical environments. Core program requirements focus on managerial responsibility, human relations and communication processes in organizations, financial analysis, applied research and use of the computer as an industrial tool. Directed electives may include internal marketing strategies, product research and control and development of technical skills, as well as total quality system management. Graduate study plans in technology are individually designed by faculty advisers to prepare responsible professionals in the field. The needs and interests of students with established careers as technical managers in corporations are considered, as well as those individuals who aspire to leadership positions in the industrial sector.

## Program

The Master of Science in Industrial Technical Management consists of three different plans. A is 30 credits with a thesis, $B$ is 36 credits with comprehensive exams and C is 30 credits with a research project.
a. All three plans have a core curriculum ( 15 cr .) as follows:
IT 500 Industrial Applications of Computers
IT 502 Human Relations and Behavior in Complex Organizations
IT 510 Industrial Planning and Control
Project Management Accounting and Control
b. Directed electives. Plans A and C require 9 credits. Plan $B$ requires 18 credits. These are courses in technology at the 400 -, 500- and 600-level as approved by a faculty adviser. This allows the student flexibility to develop a specialization.

## Specializations

Some examples could include, but are not limited to, Construction Management, Computer Applications, Electronics, Environmental and Occupational Safety, Graphic Communication, Manufacturing Processes, Quality Management and Robotics and Automation.
c. All three plans have capstone course requirements of 3-6 credits.
Plan A: IT 598 (Research in Technology) and IT 597 (Thesis)
Plan B: IT 598 (Research in Technology) and comprehensive exam
Plan C: IT 598 (Research in Technology) and IT 595 (Applied Research Topic in Technology)

## Technical Prerequisites

It is expected that M.S. in Industrial Technical Management students possess technical prerequisites for their planned programs of graduate study. Students who do not meet the necessary requirements may be requested to complete prerequisites before enrolling in courses.

## TECHNOLOGY EDUCATION

## Faculty

Michael J. Williams (Interim Chair; williamsm@ccsu.edu), George Ku, John Larkin, Peter Rodrigues, William Tracey, John Wright (Dept. phone: 832-1850)

## Department Overview

The graduate programs in Technology Education are designed to meet the needs of teachers who have completed an undergraduate program in technology education. However, individuals with technical or engineering degrees who are interested in teaching in higher education would benefit by completing a graduate degree in technology education. In addition, elementary educators interested in integrating educational disciplines (especially the integration of mathematics, science, technology and social science) would find a graduate degree in technology education very suitable. The programs provide a maximum amount of flexibility so students, in consultation with
their adviser, may plan a program of study uniquely fitted to their needs.

The Department of Technology Education offers graduate programs in the following area.

## Master of Science in Technology

 EducationWith the guidance of an adviser, students select from the following plans: Plan A (30 cr. including a thesis); Plan B ( 30 cr . and comprehensive examination), or Plan C (30 cr. including a special project).

## Post-Master's Study

The student must have an appropriate master's degree and consult with a TE graduate adviser to plan a program of advanced study.

## Teacher Certification

Provision is also made for college graduates who need a limited number of additional courses to meet certification requirements for teaching technology education in the schools of Connecticut. All students apply to the Graduate Office.
Once the student is accepted into the certification program, an adviser will be assigned who will assist in planning a program of graduate and undergraduate studies which incorporate certification requirements of the state of Connecticut.

## Programs

## MASTER OF SCIENCE IN

 TECHNOLOGY EDUCATIONThe program is a balance of liberal arts, research, and professional and technology education courses leading to a Master of Science in Technology Education degree. A minimum of 30 credits of study in approved graduate courses is required. The program is designed for flexibility in meeting the needs of the individual students. Programs of study are individualized through electives and independent study.

The primary purpose of the program is to develop the personal competencies of technology education instructors so that they may successfully progress in their chosen field. Specifically, graduates of the program will:

- exhibit an acceptable degree of professional competencies and proficiency essential for meeting educational and social challenges
- update their technical competencies and understandings in their major area of concentration
- analyze and evaluate recent issues in their field, such as curriculum innovations and strategies for program improvement and/or implementation
- explain how the relationship between their field and the academic disciplines affects the development of their students
- identify and research problems in education and use the results for professional improvement
- further their interest in and potential for educational leadership or other service in or outside their area of concentration Many of the graduate students pursuing a master's degree in Technology Education are employed as technology education instructors in secondary schools; instructors/supervisors in industry education programs; instructors in technical schools; instructors/supervisors in government agencies; and technology education instructors in overseas dependent schools.


## Professional Education (6-9 cr.):

EDF 500 Contemporary Educational Issues
Electives as approved by the faculty adviser - students may specialize in instruction, curriculum development, administration/supervision, special education, or research.

Technology Education offerings approved by adviser (12-21 cr.)

Research (3-6 cr.):
TE 598 Research in Technology Education (required as part of first 12 cr . of the graduate program)
ED 599 Thesis (for Plan A)
TE 596 Special Project in Technology Education (for Plan C)
Comprehensive Examination (for Plan B)

## TECHNOLOGY EDUCATION CERTIFICATION PROGRAM FOR COLLEGE GRADUATES

This program provides certification courses for college graduates, regardless of major, to teach technology education. This program, comprised of technical and professional courses, is offered in the late afternoon and evenings. The number of courses required to complete the program is contingent
upon each student's previous industrial experience and formal degree work.

This program provides a unique opportunity for individuals seeking a career change. A minimum undergraduate cumulative grade point average of 2.7 is required for admission to this program or any graduate program. For additional information please contact the Chair, Department of Technology Education.

## DOCTOR OF PHILOSOPHY (Ph.D.) IN TECHNOLOGY MANAGEMENT

Central Connecticut, through the School of Technology, is participating as a charter member of a nine-university consortium offering the Ph.D. in Technology Management, which is conferred by Indiana State University.

The Doctor of Philosophy in Technology Management program is designed to prepare students for positions of leadership in the public and private sectors of society. At the conclusion of the program, graduates will have developed skills in research procedures, will have acquired expertise in instructional processes and will be able to provide service to the industrial and educational community.

The program maintains many of the traditional requirements characteristic of advanced graduate study, but is unique in using the resources of a consortium of nine universities linked together by alternative communication systems. These member universities have programs staffed by faculty with expertise in many areas of technology. Additionally, laboratories with specialized equipment are available to provide opportunities for research and study. Each university brings to the consortium a unique philosophical quality and extensive library holdings that add depth and quality to the program.

Alternative communication technology is used to deliver key components of the program, such as general technology core, and to link campuses to better serve students. This allows all members of the consortium
to capitalize on the efficient use of existing resources while maintaining quality.

The consortium Ph.D. in Technology Management is the responsibility of nine member universities, with Indiana State University being the degree-awarding university. Members of the consortium include Central Connecticut State University, Bowling Green State University, Eastern Michigan University, University of Wisconsin-Stout, Central Missouri State University, East Carolina University, North Carolina Agricultural @ Technical State University and Texas Southern University. For additional information, contact: Dr. James A. DeLaura
Ph.D. Program Coordinator School of Technology
Central Connecticut State University
New Britain, CT 06050
(860)832-1840
e-mail: delaura@ccsu.edu
You may also visit the Indiana State University web site for information regarding application, admission and specific program requirements at web.indstate.edu/ tech/acadprog/grad/cphd/descript.html.

## SCHOOL OF

 TECHNOLOGY
## CENTER

The Institute for Industrial and Engineering Technology, 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.

Designated as a Center for Excellence in International Education in 1986, the University has developed a wide variety of programs and initiatives that support this aspect of its mission. The continuing enrichment, expansion and refinement of the Master of Science in International Studies result from the institution's established commitment to global awareness. The four courses which comprise the program core are designed to deepen and extend knowledge of present and past world affairs, social perspectives and human nature, communication skills in multinational affairs, personal values and cultural traditions.

The balance of the master's program in international studies ( 15 credits) is individually designed by students and their faculty advisers to ensure that career plans and research interests are accommodated. If a student wishes to travel or work in a different country, these preferences may receive consideration within the program's scope. Another approach involves upper division and graduate course selection from a variety of disciplines, including modern languages, history, geography, political science, economics, anthropology, religion, communication and others, provided at the University to develop specializations with a global or theoretical orientation. Or, students may focus on an area of the world such as Africa, East Asia, Latin America, the Middle East and Eastern or Western Europe.

To ensure adequate preparation for a career or further study in international affairs, language competency related to the area of specialization is required. Mid-level reading, writing, speaking and comprehension skills may be demonstrated by examination or through appropriate course work.

## Faculty

International Studies Curriculum Coordinator: Joseph McKeon (832-2921)

[^0]East Asian Studies: Marie Guarino (Coordinator, History Dept.), Yanan Ju, Ki Hoon Kim, Cheng Sing Lien, Joseph McKeon, Paul Petterson, Nanjundiah Sadanand, Xiaoping Shen, Shizuko Tomoda, Shou-san Wang (Phone: 832-2813)

## European Union/West European Studies:

 Ronald Todd (Coordinator, Art Dept.), Stuart Barnett, George Claffey, Douglas Engwall, William Ferguson, Karen Franz, Maria Passaro, Paul Petterson, Donald Pomerantz, Paul Resetarits, Timothy Rickard, Marie-Claire Rohinsky, Donald Sanford, Martha Wallach (Phone: 832-2889)Latin American Studies: James N. Snaden (Coordinator, Geography Dept.), Walton Brown-Foster, George Claffey, Gail Cueto, Francisco Donis, Ronald Fernandez, Frank Gagliardi, Antonio Garcia-Lozado, Seraphin Mendez-Mendez, George B. Miller, Thomas Mione, Alfred C. Richard (Phone: 832-2799)

Middle Eastern Studies: Ali Antar (Coordinator, Physics and Earth Sciences Dept.), Fatemah Abdollahzadeh, Anthony Cannella, Ghassan El-Eid, Gloria Emeagwali, Norton Mezvinsky, Anastasios Papathanasis (Phone: 832-2932)

Slavic/East European Studies: Paul Karpuk (Coordinator, Modern Languages Dept.), Gavro Altman, Jay Bergman, Stanislaus Blejwas, Tad Foster, David Kideckel, Brian Sommers (Phone: 832-2883)

## Program Overview

A multidisciplinary program leading to the Master of Science in International Studies, for students who wish either to study a specific area of the world, such as Africa, East Asia, Latin America, the Middle East, Western Europe or Eastern Europe, or to develop a program with a global, theoretical or conceptual perspective, is offered through the International and Area Studies Committee.

## Program

30 or 33 cr. in International Studies (Plan A, Plan B or Plan C) as follows.

Common Core (12 cr.):
IS 570 Modern World Issues
IS 571 International Diversity and Integration
IS 572 Global Economic Integration
COMM 543 Intercultural Communication

Specialization ( 15 cr .):
Approved courses in one of African Studies, East Asian Studies, European Union/West European Studies, Latin American Studies, Middle Eastern Studies or Slavic/East European Studies; or approved courses to constitute a cohesive specialization with a global, theoretical or conceptual perspective.

## Research and Capstone Requirements

(3 or 6 cr.):
Plan A: IS 598 Research in International Studies and IS 599 Thesis in International Studies or
Plan B: IS 598 Research in International Studies and comprehensive exam or
Plan C: IS 598 Research in International Studies and IS 595 Special Project in International Studies

## Language Requirement

The program also requires competency in a language appropriate to the specialization. This requirement may be fulfilled either by an examination verifying midcompetency level in each of reading, writing, speaking and understanding or by successful completion of the equivalent 18 undergraduate credits.

Note: Provisionally certified teachers choosing this master of science degree program are also expected to complete EDF 500 and 522.

## Advisers

Initially, on acceptance to the program, students are assigned to the International Studies Curriculum Coordinator for advice. As soon as possible students will be assigned an adviser appropriate to their regional or thematic specialization. This adviser will normally serve as the faculty member supervising the advisee's IS 598 course and thesis, special project or comprehensive examination.

Note: Symbols referring to course cycling information are: $\mathrm{F}=$ Fall, S = Spring, SS = Summer Session, WS = Winter Session, IR = irregular, $(o)=$ odd year, $(e)=$ even year, no symbol = course offered both semesters of the academic year, [c] = computer-intensive course.

## ACCOUNTING

Note: Additional work will be required for graduate credit in 400 -level courses.
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.

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 and fiduciary tax returns, and probate accounting rules.

## AC 407 ADVANCED ACCOUNTING

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.: Senior standing. Advanced topics in contemporary accounting theory. Integrated review for students majoring in accounting.

## 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
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.

## ACTUARIAL SCIENCE

Note: Additional work will be required for graduate credit in 400 -level courses.

ACTL 400 REVIEW-SOA COURSE 100
Prereq.: MATH 222 and 228 (may be taken concurrently). Review and extension of the principles of calculus and linear algebra as related to the material on the Society of Actuaries (SOA) Course 100 Exam. S

ACTL 410 REVIEW-SOA COURSE 110
Prereq.: STAT 416. Review and extension of the principles of probability and statistics as related to the material covered on the SOA Course 110 Exam. F

## ACTL 420 REVIEW-SOA COURSE 120

Prereq.: STAT 216 or 416. Review and extension of the principles of applied statistics as related to material covered on the SOA Course 120 Exam. S

## ACTL 430 REVIEW-SOA COURSE 130

Prereq.: MATH 470. Review and extension of the principles of operations research as related to material covered on the SOA Course 130 Exam. $F(e)$

## ACTL 435 REVIEW-SOA COURSE 135

Prereq.: MATH 477. Review and extension of the principles of numerical analysis as related to material covered on the SOA Course 135 Exam. S

## ACTL 440 REVIEW-SOA COURSE 140

1Prereq.: MATH 335. Review and extension of the principles of theory of interest as related to material covered on the SOA Course 140 Exam. F(o)

## ACTL 444 ACTUARIAL MATHEMATICS TOPICS <br> 3

Prereq.: STAT 315. Topics chosen from survival distributions and life tables, life insurance, life annuities, net premiums, premium reserves and multiple life functions. F

ACTL 450 REVIEW-SOA COURSE $150 \quad 2$
Prereq.: ACTL 444. Review and extension of the principles of Actuarial Mathematics as related to material covered on the SOA Course 150 Exam. S

ACTL 480 TOPICS IN ACTUARIAL SCIENCE 1-3
Prereq.: Permission of instructor. Topics chosen from theory of interest, risk theory, demography and graduation. $S$

## 3 ANTHROPOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.

## ANTH 400 THE INDIVIDUAL IN CULTURE

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. S(o)

ANTH 422 NATIVE AMERICANS
3
Native American cultures, their distinct life ways and contemporary problems. F

## 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 movements, and the influence of global political economy on life in modern Africa. F(e)

## ANTH 426 PEOPLES AND CULTURES OF EASTERN EUROPE

A survey of culture in the nations of Eastern Europe concentrating on their contemporary aspects. $S(e)$

## ANTH 428 CULTURES OF LATIN AMERICA

Prereq.: ANTH 140 or 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. $F$

## ANTH 430 THEORIES OF CULTURE

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. F

## ANTH 433 INDEPENDENT STUDIES IN ANTHROPOLOGY

Prereq.: Senior standing and permission of department chair. Directed independent studies 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

3
A study of 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. F

ANTH 444 REPRESENTING CULTURE
Prereq.: Permission of instructor. Examination of techniques for representing cross-cultural knowledge. Topics include the evaluation of ethnography, both traditional and emerging; textbooks; monographs; the visual, aural and electronic media; and journalistic and applied project reports. F

## ANTH 445 FOLKLORE AND MYTH

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. S(o)

ANTH 450 ARCHAEOLOGICAL FIELD SCHOOL
3-6
Provides instruction in survey techniques, mapping, scientific excavation, photographic and laboratory skills, and analysis. Field schools are operated in both historical and pre-historical archaeology. Enrollment is limited. Send letter of application to department. May be repeated. SS

## 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. IR

## ANTH 465 THE EVOLUTION OF HUMAN BEHAVIOR

Prereq.: ANTH 160 or permission of instructor. Examination of human behavior from the perspective of ethology including behavioral responses to our unique cultural environments. S(e)

## 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, war and diplomacy, and cultural extinction. $F(e)$

ANTH 475 TOPICS IN ANTHROPOLOGY
Examination of selected topics in Anthropology. IR

## ART

Note: Additional work will be required for graduate credit in 400-level courses.
ART 408 THE ART OF GREECE IN THE BRONZE AGE
Prereq.: ART 110 or 112 or 113 . 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.

## 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 for credit under the same topic more than once.

ART 410 GREEK ART 3
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. F

ART 411 ROMAN ART
3
Prereq: ART 110 or 112. Historical development of painting, sculpture and architecture from Romulus to Constantine. S

ART 412 ORIENTAL ART 3
Historical development of visual arts of Far Eastern societies. Includes architecture, painting, sculpture and minor arts of China, India, Japan and Korea. IR

ART 414 AMERICAN ART 3
Prereq.: ART 110,112 or 113. Historical development of painting, sculpture and architecture in America from the 17th century to the present.

ART 415 THE AFRICAN DIASPORA
3
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. IR

ART 416 MODERN ART 3
Prereq.: ART 110,112 or 113. Historical development of painting, sculpture and architecture from the late 19th century to the present.

## ART 418 RENAISSANCE ART 3

Prereq.: ART 110, 112 or 113 . Historical development of European painting, sculpture and architecture from 1400 to 1600 . IR

## ART 420 ISSUES IN CONTEMPORARY AMERICAN ART 3

Prereq.: ART 110, 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)

ART 421 DESIGN-ADVERTISING I 3
Prereq.: ART 120 or 130 . Selected topics in design and advertising, theory and practice. S

ART 424 ILLUSTRATION III 3
Prereq.: ART 324. Topics in the development of individual media techniques.
ART $430 \quad$ COLOR DRAWING
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. F

ART 431 LIFE DRAWING I
Prereq.: ART 130 or 435 . A structural approach to drawing the nude and clothed model with focus on gesture, proportion, and the figure in the environment. Majors only.

## ART 432 LIFE DRAWING II

Prereq.: ART 431 or permission of department chair. Majors only.
ART 435 ADVANCED DRAWING 3
Prereq.: Permission of instructor. Emphasis on development of an expressive use of line and value. Various materials used, including ink, pencil, conti crayon, chalk, wire, charcoal and others. Studio and seminar.

ART 441 INTAGLIO II
Prereq.: ART 341, graduate standing or permission of instructor. Continuation of Intaglio I. S

ART 443 SILKSCREEN II 3
Prereq.: ART 343, graduate standing or permission of instructor. Continuation of Silkscreen I. F

ART 444 LITHOGRAPHY II
3
Prereq.: ART 344, graduate standing or permission of instructor. Planographic painting techniques as a means of creative and artistic expression. $S$

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 various watercolor processes and 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. Employment and discussion of techniques and styles used historically and today.

## ART 460 CERAMICS III

Prereq.: ART 360. Advanced clay and glaze techniques.

## ART 462 ADVANCED SCULPTURE I

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

3Prereq.: ART 264 or 435 . Continuation of ART 264. Varied hand-crafts, materials and processes are explored as modes of artistic expression.

ART 465 STUDIO TOPICS 1-3
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
Prereq.: Art 120 or 366 or 435 . Course exploring the possibilities of materials and equipment in jewelry and metal work, with emphasis on design.

ART 468 CERAMICS IV
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
3
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, artists' ateliers, operas, and museums. Preparatory reading, discussion, critical analysis and concluding projects. SS

## ART 498 INDEPENDENT STUDY <br> 1-6

Prereq.: Open to graduate students, seniors and advanced juniors in Art. Formal application to Art Department chair following procedure approved by 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 offering or to go beyond that provided for in the program. Must be requested three weeks before new semester.

ART $500 \quad$ PROBLEMS IN ART EDUCATION
3
Prereq.: 9 credits of approved graduate study or approval of adviser. Required of all Art concentration and cross-certification graduate students. Designed to orient students to current issues surrounding the field of art education. The role of art teacher will be studied from the standpoint of professional growth, art organizations, administrative structures of schools and professional ethics. S [c]

## ART 550 ADVANCED PAINTING II <br> 3

Prereq.: ART 450 or 452 or equivalent. For the advanced student who wishes to concentrate more deeply in one or two of the media or technique areas with the intention of developing personal expression.

ART 551 ADVANCED PAINTING III
Prereq.: ART 550. Continuation of Art 550.

ART 560 ADVANCED CERAMICS II
Prereq.: ART 469. Various types of firings. Advanced techniques leading to professional studio potter.

ART 561 ADVANCED CERAMICS III
Prereq.: ART 560. Using self-designed clay and glaze to make a mini solo exhibition

ART 562 ADVANCED SCULPTURE II
Prereq.: ART 462 or equivalent. In-depth exploration of one or possibly two sculptural processes to be announced. IR

ART 563 ADVANCED SCULPTURE III
Prereq.: ART 562. Continuation of ART 562. IR

ART 566 JEWELRY—DESIGN II
Prereq.: ART 466. Continuation and extension of Art 466. IR
ART 576 INDEPENDENT STUDY IN ART AND/OR ART EDUCATION

1-6
Prereq.: Department chair's approval, and a minimum of 6 credits in the area selected for independent study. Maximum credits in any one studio area or in art education research is 12 . Maximum credits permitted during one semester is 6 . Course is only for advanced graduate students who have shown evidence of ability to complete satisfactorily graduate work in art or art education. The student does independent studio or research work of advanced nature and works with an assigned adviser for criticism.

ART 597 EXHIBITION RESEARCH (PLAN C)
Prereq.: 21 credits of approved graduate study or recommendation of student's graduate adviser. Student is expected to carry on research related to exhibition topic. Credit will be granted when the student's art exhibition is accepted by the exhibition committee.

## ART 598 RESEARCH IN ART EDUCATION

Prereq.: 9 credits of approved graduate study or recommendation of student's adviser. Designed to familiarize student with techniques and resources associated with research in the field of specialization. Opportunity for practical application will be provided. F [c]

ART 599 THESIS (PLAN A)
Prereq.: 21 credits of approved graduate study or recommendation of student's graduate adviser. Preparation of the thesis under the supervision of the thesis adviser. [c]

## BIOLOGY

Note: Additional work may be required for graduate credit in 400 -level courses.

BIO 400 SEMINAR IN BIOLOGY
1
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 122 and CHEM 122, or permission of instructor. 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. S (o)

BIO 405 ECOLOGY
Prereq.: Two organismic courses. Relation of plants and animals to their environment in both terrestrial and aquatic communities. Physical and biotic factors as they affect populations dynamics are considered. Three lectures and a three-hour laboratory per week. F [c]

B10 410 ECOLOGICAL PHYSIOLOGY
Prereq.: BIO 122 and 221 or 222 and CHEM 450-451 or 311. A phylogenetic study of physiology in which the diversity of physiological adaptations for various habitats is stressed. Three lectures and one 3 hour laboratory per week. F(e)

BIO 411 CELLULAR PHYSIOLOGY AND METABOLISM
Prereq.: BIO 122, CHEM 450-451 or 312. 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. [c]

## BIO 412 HUMAN PHYSIOLOGY

3
Prereq.: BIO 122 or equivalent, CHEM 450 and 451 or 311 or permission of instructor. Study of the human body and its reactions to internal and external environmental changes. Physiology of the musculoskeletal, nervous, circulation, respiration, excretion and endocrine systems is considered. Integrative mechanisms of the systems are emphasized. S [c]

BIO 413 HUMAN PHYSIOLOGY LABORATORY
Prereq. or Coreq.: BIO 412. Laboratory course to accompany BIO 412. One three-hour laboratory per week. $S$

## BIO 416 IMMUNOLOGY

Prereq.: Junior standing and permission of instructor. Introduction to the structure of the immune system, the immunoglobulins, antigen-antibody interactions, infection immunity, Iymphocytes, histocompatibility and genetic regulation. $S$

## BIO 417 IMMUNOLOGY LABORATORY

Prereq. or Coreq.: BIO 416. Introduction to the anatomy and histology of the immune system and an introduction to some immuno-chemical and immunodiagnostic laboratory techniques involving the principles of precipitation, agglutination and immunoelectrophoresis. One three-hour laboratory per week. S

## BIO 418 HUMAN ANATOMY, PHYSIOLOGY,

 PATHOPHYSIOLOGYPrereq.: 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 indepth 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 . SS

BIO 420 ORNITHOLOGY
Prereq.: BIO 122 or permission of instructor. Life histories, physical and physiological adaptations, 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. S(e)

## BIO 425 AQUATIC PLANT BIOLOGY

Prereq.: BIO 121 or equivalent. Ecology and classification of microalgae, macroalgae, and vascular plants from marine, estuarine, and freshwater environments. Laboratories and field trips include collection and identification of

## three-hour laboratory per week. F(e)

## BIO 434 ECOLOGY OF INLAND WATERS AND ESTUARIES

Prereq.: BIO 122 and CHEM 122 or equivalents. 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 threehour laboratory per week. Some Saturday field trips required. $F(o)$

## BIO 436 ENVIRONMENTAL RESOURCES AND MANAGEMENT

Prereq.: BIO 122, CHEM 122; or permission of instructor. 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. $S(e)$ [c]

BIO 438 AQUATIC POLLUTION
Prereq.: BIO 122 and 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. S(o)

## BIO 440 ORGANIC EVOLUTION

Prereq.: CHEM 450, 451 or BIO 306. A study of the historical development of evolutionary concepts, the evidence of evolution, and the mechanisms involved in race formation and speciation. The roles of gene mutation, chromosomal aberrations, selection and other evolutionary factors are discussed. Three lectures per week. IR

## BIO 444 PLANT TAXONOMY

Prereq.: BIO 121. Scientific approach to identification and classification of conifers, and flowering plants with emphasis on the latter. Field walks and plant collections required. Two lectures and one three-hour laboratory per week. IR

BIO 449 PLANT PHYSIOLOGY 3
Prereq.: BIO 121 and CHEM 121. Basic principles of plant function. Emphasis on the soil-plant-air continuum, phloem transport, photosynthesis and mechanisms of plant responses to the environment. IR

## BIO 450 INVESTIGATIONS IN PLANT PHYSIOLOGY 1

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, photosyn-
hour lab per week. IR
BIO 462 DEVELOPMENTAL BIOLOGY
Prereq.: BIO 306 or 411 or permission of instructor. Fundamental structural and functional aspects of development of organisms are studied. Emphasis on cellular differentiation and primary morphogenesis. IR

## BIO 468 ARTHROPOD BIOLOGY

Prereq.: BIO 122. Systematic approach to arthropods with emphasis on insects. Topics in morphology, physiology, evolution, land economics, importance of various groups are considered. Two lectures and one laboratory per week. S

## BIO 480 ANIMAL BEHAVIOR

4
Prereq.: BIO 122 and junior standing or permission of instructor. Adaptive functions, evolutionary history, control, and development of behavior in verte4 brates and invertebrates. Laboratories focus on techniques of observation, experimental design and data analysis. Three hours of lecture and three hours of laboratory per week. F(e)

BIO 481 COMPARATIVE ANATOMY 4
Prereq.: BIO 122. Representative types emphasizing comparative morphology of various organ systems. Laboratory work chiefly on dogfish, salamander and rabbit. Two lectures and two three-hour laboratories per week. IR

BIO 490 STUDIES IN BIOLOGY 1-4
Prereq.: Permission of the department chair and/or instructor. Selected studies in the biological sciences which are not offered presently in the curriculum of the department. Course may be repeated for different topics, but students may not take this course for credit under the same topic more than once. IR

## BIO 495 MOLECULAR BIOLOGY

4
Prereq.: BIO 306 or equivalent, permission of instructor. 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 three-hour laboratory per week. IR

## BIO 518 APPLIED PHYSIOLOGY

Prereq.: BIO 418. For students in anesthesia and health sciences; others require permission of anesthesia program coordinator. A continuation of BIO 418 with emphasis on organ system physiology and pathophysiology. Cardiac, renal and respiratory systems will be stressed. $S$

BIO 528 PHARMACOLOGY
Prereq.: BIO 418, CHEM 450. For students in anesthesia and health sciences; others require permission of anesthesia program coordinator. A comprehensive investigation into the pharmacological agents and their utilization with relevance to the health sciences. Special consideration given to pharmacodynamics.

BIO 540 TOPICS IN ADVANCED BIOLOGY
Prereq.: Permission of the faculty adviser. Selected topics in genetics, development, physiology, morphology, ecology, evolution, and systematics. Lectures, seminars, discussions, independent readings, reports and laboratory work as appropriate for the specific topic will be utilized. The course may be repeated once under a different specific topic. [c]

BIO 590 RESEARCH PROBLEM
Prereq.: Graduate status in M.A. (Plan B) and written permission of instructor and department chair. Individual student research under the supervision of one or more faculty members selected by the student and his/her adviser. Written and oral research report required.

## BIO 598 RESEARCH IN BIOLOGY

Prereq.: Permission of graduate adviser. Designed to familiarize student with techniques and resources associated with research in the specialization.
Opportunity for practical application will be provided. [c]
BIO 599 THESIS 3 or 6
Prereq.: BIO 598 or permission of the thesis adviser. Preparation of the thesis under the supervision of the thesis adviser.

## BUSINESS

Note: Additional work will be required for graduate credit in 400-level courses.
BUS 401 MARKETING IN CYBERSPACE
Prereq.: MIS 210, 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. IR

## BUS 500 THE ROLE OF MANAGEMENT IN CONTEMPORARY SOCIETY

3
Study of American industry in its social and political environment. Topics include the structural characteristics and philosophical foundations, ethics, and issues of social responsibility in American business and industry.

BUS 510 ACCOUNTING AND CONTROL
Prereq.: AC 211, 212 or BUS 530 or equivalent. The utilization of accounting data in the determination of management alternatives. Topics include analysis of financial reports and budgeting.

BUS 511

## CONTEMPORARY ISSUES IN

 INTERNATIONAL BUSINESSPrereq,: Admission to MBA program or permission of MBA director. General introduction to the field of international business with special emphasis on contemporary economic, political, regulatory, ethical and socio-cultural environments. IR [c]

BUS 522 LEGAL ASPECTS OF BUSINESS AND INDUSTRIAL ORGANIZATIONS
Prereq.: Admission to MBA program or permission of MBA director. Study of the effects of the legal system on managerial decisions. Topics include the legal framework of collective bargaining, anti-trust regulations, OSHA, affirmative action and other government laws and regulations. IR

BUS 530 FUNDAMENTALS OF FINANCIAL AND MANAGEMENT ACCOUNTING
Introduction to financial and management accounting, emphasizing the uses of accounting information for planning, controlling and decision-making activities. Topics include financial statements and their analysis, inventory systems, product costing, standard costs and budgeting.

## BUS 531 ACCOUNTING INFORMATION IN

## A GLOBAL ENVIRONMENT

Prereq.: Admission to MBA program or permission of MBA director. Linking the accounting system with the demands for financial information from managers and other professional employees. Examines the use of accounting information in management, marketing and finance within the global environment. Incorporates current software and technology. [c]

BUS 532 ACCOUNTING THEORY
Prereq.: AC 313 and admission to MBA program or permission of MBA director. Study of the conceptual framework of accounting principles, emphasizing recognition, measurement and financial reporting. Current issues facing accounting are explored. Historical and present-day standard setting processes examined.

BUS 533 TAX RESEARCH AND INTERNATIONAL TAX 3
Prereq.: AC 401 and admission to MBA program or permission of MBA director. Basic tax research course covering the Code, Regulations, Revenue Rulings and court cases. Introductory international tax topics will also be covered, including foreign tax credit, sourcing/allocation, foreign corporation taxation and currency transactions.

## BUS 534 BUDGETARY PLANNING AND CONTROL

 SYSTEMSPrereq.: AC 301 and admission to MBA program or permission of MBA director. Role of budgetary systems in an organization's planning and control activities. Topics include behavioral impact of budgets, responsibility centers, budget preparation and analyzing performance reports.

BUS 535 ADVANCED AUDITING
Prereq.: AC 445 and admission to MBA program or permission of MBA director. Advanced study of auditing standards, professional ethics, legal responsibility, procedures, principles and theory and practice. Emphasis is placed on understanding current trends in auditing.

## BUS 539 CURRENT TOPICS IN ACCOUNTING

Prereq.: Admission to MBA program or permission of MBA director.
Accounting and information management issues in multinational firms and/or different national markets. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits.

BUS 541 INTERNATIONAL FINANCIAL MANAGEMENT
Prereq.: Admission to MBA program or permission of MBA director. Basic understanding of the factors and skills necessary to manage exchange rate risk. Financial modeling and forecasting are utilized in strategic and operational planning and in the investment decision process.

BUS 542 MANAGERIAL FINANCE
Prereq.: Admission to MBA program or permission of MBA director. Comprehensive study of the application of accounting and investment principles to the financial function in the modern firm. Includes performance measures, budgeting and long-range planning. IR

BUS $549 \quad$ CURRENT TOPICS IN FINANCE 1-3
Prereq.: Admission to MBA program or permission of MBA director. Financial issues in multinational firms and/or international finance markets. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits.

## BUS 551 MANAGEMENT FOR GLOBAL OPERATIONS

Prereq.: Admission to MBA program or permission of MBA director. Focuses on managerial issues, problems and opportunities in the overall operations of businesses competing internationally. Analytic and experiential instructional techniques are utilized.

BUS 552 MANAGEMENT THEORY AND PRACTICE
Prereq.: Admission to MBA program or permission of MBA director. Critical study of management theories and applications necessary to manage a modern organization. Special emphasis will be placed on the complexities involved in planning, coordinating, controlling and directing functional areas within organizations. IR

## BUS 553 HUMAN RESOURCE MANAGEMENT

Prereq.: Admission to MBA program or permission of MBA director. Presentation of various management philosophies and policies concerning the utilization of this resource area; topics include the selection, development and motivation of personnel. IR

## BUS 554 ORGANIZATIONAL THEORY AND DEVELOPMENT

Prereq.: Admission to MBA program or permission of MBA director. Macro approach to the study of organizational and intergroup relations, problems and understanding of theory and techniques used in forecasting, analyzing and solving behavioral problems in organizations. IR

## BUS 555 MANAGEMENT SYSTEMS AND OPERATIONS

Prereq.: Admission to MBA program or permission of MBA director. Systemsoriented approach to operational decision-making appropriate to both manufacturing and service industries. The course focuses on analysis of problems and application of decision-making tools related to the planning and control functions. IR [c]

## BUS 559 CURRENT TOPICS IN MANAGEMENT

Prereq.: Admission to MBA program or permission of MBA director. Management and/or organizational behavior issues in multinational firms and/or different national markets. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of 6 credits. IR

## BUS 560 QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS

Prereq.: Admission to MBA program or permission of MBA director. Develop an understanding of the concepts and criteria for making business decisions. Emphasis on quantitative methods and the use of linear relationships. Advantages and limitations of quantitative techniques currently used in management situations will be discussed. On demand. [c]

## BUS 561 INTERNATIONAL MANAGEMENT

 INFORMATION SYSTEMSPrereq.: Admission to MBA program or permission of MBA director. Examination of the role of information technology in today's business environment. Includes both theoretical perspectives as well as case studies custom-developed from international enterprises. IR [c]

BUS 562 BUSINESS APPLICATIONS OF COMPUTERS
Prereq.: Admission to MBA program or permission of MBA director. Historical overview of the growth and use of computers in business and analysis of the current impact of computers on operation and planning. Includes an introduction to common end-user software applications. IR [c]

## BUS 569 CURRENT TOPICS IN MANAGEMENT INFORMATION SYSTEMS

1-3
Prereq.: Admission to MBA program or permission of MBA director. Management information systems and information technology issues. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits.

BUS 571 MARKET PLANNING FOR A GLOBAL ENVIRONMENT
Prereq.: Admission to MBA program or permission of MBA director. Determining the market potential of nations and regions for market planning and decision making. Research and analysis toward formulating entry, development and expansion strategies.

BUS 572 MARKETING MANAGEMENT AND STRATEGY 3
Prereq.: Admission to MBA program or permission of MBA director. Decision problems faced by marketing managers and how to resolve them with currently available tools. IR [c]

BUS 579 CURRENT TOPICS IN MARKETING 1-3
Prereq.: Admission to MBA program or permission of MBA director. Contemporary issues in areas such as market entry, multinational sourcing and distribution and market planning. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits. IR

BUS 581 PRODUCTION-DISTRIBUTION PROCESSES 3
Prereq,: Admission to MBA program and completion of International Core, or permission of MBA director. Processes of creating, producing, and distributing products. Integration of disciplines through organizational processes. IR

## BUS 582 ORGANIZATIONAL PERFORMANCE

Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Management of financial and non-financial resources. Financial reporting, analysis, and capital markets with topics such as efficiency, effectiveness, motivation, performance evaluation and incentive systems. IR

## BUS 583 ORGANIZATIONAL LEADERSHIP

Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Strategy (mission and goals) as linked to structure, human behavior, group processes, and motivation. Decision making processes and innovative methodologies, approaches and aids used to support these processes are stressed. IR

## BUS 584 GLOBAL BUSINESS ENVIRONMENT

Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Domestic and global environment from a general business perspective related to the legal environment, taxes and the impact of culture, cultural diversity and socialization. IR

## BUS 591 GLOBAL STRATEGY

Prereq.: Admission to MBA program or permission of MBA director. To be taken during the last semester of the student's planned program. Capstone course that integrates the major elements of functional areas of international business. Global operations are examined from a strategic perspective. IR

BUS 592 STRATEGIC PLANNING FOR BUSINESS
Prereq.: Admission to MBA program or permission of MBA director. This seminar will be a capstone experience for all students. Course shall include a comprehensive written project that integrates all major functional areas of business. Students will conduct independent research that will become the basis for the formal presentation of their project. IR

BUS 595 FIELD STUDIES IN INTERNATIONAL BUSINESS
Prereq.: Permission of MBA director. Integration of international core business courses in real-world settings. May be repeated for a maximum of six credits. IR

## BUS 598 <br> RESEARCH ANALYSIS AND PROBLEM-SOLVING TECHNIQUES IN MANAGEMENT

Prereq.: Admission to MBA program or permission of MBA director. Analysis of information requirements, data inputs, information communications in modern organizations and management use of information systems. IR

## BUSINESS EDUCATION

Note: Additional work will be required for graduate credit in 400-level courses.

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. S [c]

BE $450 \quad$ 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. F [c]

BE 501 CURRENT PROBLEMS IN BUSINESS EDUCATION
Prereq.: Completion of Business Education or Marketing Education certification programs. Designed for experienced teachers. Consideration given to such business education problems as objectives, relationship of vocational to general education, place of business education in the changing secondary school curriculum, work-experience programs, standards of achievement, vocational guidance for business occupations and effect of modern trends and developments. Required of all students taking master's degree in business or marketing education. IR

## BE 510 ADMINISTRATION AND SUPERVISION

 OF BUSINESS EDUCATION3
Designed for teachers and department chairs interested in examining practices and techniques which good administrators and supervisors will use to improve classroom instruction in business education. IR

## BE 524 ORGANIZATION AND ADMINISTRATION OF BUSINESS AND MARKETING EDUCATION

Prereq.: Permission of Business Education Coordinator. Designed to orient students to organization and administration of typical high school business and marketing education programs. Programs are explained in relation to current federal vocational acts. F

## BE 530 TEACHING ACCOUNTING, BASIC BUSINESS, AND MARKETING EDUCATION

Prereq.: AC 211, MIS 201, LAW 250, ECON 200, and BE 524 or equivalent. Methods of teaching accounting, basic business, and marketing subjects in secondary schools. Includes planning, materials and evaluation. $\mathrm{F}[\mathrm{c}]$

BE 571 TOPICS IN BUSINESS EDUCATION
In depth view of a topic or topics (including software) related to business education. May be repeated with different topics for a maximum of 6 credits. IR

## BE 598 RESEARCH IN BUSINESS EDUCATION

Prereq.: Completion of Business Education certification program. Designed to familiarize student with techniques and resources associated with research in business and marketing education. Opportunity for practical application will be provided. Required of all master's degree candidates. Course should be taken within first 15 credits of graduate study by all students not planning to write a thesis. Students planning to write a thesis should take course immediately preceding BE 599. IR

BE 599 THESIS 3
Prereq.: BE 598 and 21 credits of approved graduate study. Preparation of the thesis under the supervision of the thesis adviser.

## CHEMISTRY

Note: Additional work may be required for graduate credit in 400-level courses.

CHEM 406 ENVIRONMENTAL CHEMISTRY
Prereq.: CHEM 301, 311 or 450 and 451. Nature and properties of pollutants, their interaction with each other and the environment, preventive and remedial methods of control. Laboratory concerned with sampling and analysis of pollutants. Two lectures and one two-hour laboratory period per week. S

CHEM 432 CHEMISTRY SEMINAR
Prereq.: CHEM 312, 321. Participants will prepare written and oral presentations on topics of current interests in various fields of chemistry. May be taken a maximum of three times for credit. $S$

## 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 university library for reference. One two-hour lecture a week. S

CHEM 450 BASIC ORGANIC AND BIOLOGICAL CHEMISTRY
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 and aqueous media. S, SS

## CHEM 451 BASIC ORGANIC AND BIOCHEMISTRY

 LABORATORYCoreq.: CHEM 450. Experimental work to accompany CHEM 450. One laboratory period a week. $S$

CHEM 454 BIOCHEMISTRY
Prereq.: CHEM 312, BIO 122 or equivalent. General principles of biochemistry, chemical constituents of cells, metabolic pathways, energetics and biochemical regulators. Three lectures a week. S

CHEM 455 BIOCHEMISTRY LABORATORY
Coreq.: CHEM 454. Experimental work to accompany CHEM 454. One laboratory period a week. $S$

CHEM 456 TOXICOLOGY
Prereq.: BIO 122, CHEM 312. Classes of toxic chemicals, their biotransformation and mechanisms of toxicity in humans. Includes natural and man-made chemicals, methods of risk assessment, environmental and occupational regulatory standards. F

CHEM 460 PRINCIPLES OF INORGANIC CHEMISTRY
Coreq.: CHEM 322. Electronic structure and theories of bonding as they relate to the structures of inorganic compounds. Three lectures a week. [c] F

## CHEM 461 DESCRIPTIVE INORGANIC CHEMISTRY

Prereq.: CHEM 460. Study of inorganic reactions with emphasis on acid-base, substitution and oxidation-reduction reactions, including those of polymeric, bioinorganic, coordination and organometallic compounds. Three lectures a week. S [c]

## CHEM 462 INORGANIC CHEMISTRY LABORATORY

Coreq.: CHEM 460. Laboratory course to accompany or follow CHEM 460, concerned with the synthesis and characterization of inorganic compounds. One laboratory period a week. $S$ [c]

CHEM 485 TOPICS IN CHEMISTRY
Prereq.: Permission of instructor. Advanced treatment of chemistry topics in analytical chemistry, inorganic chemistry, organic chemistry and physical chemistry. May be repeated as topics are changed. Three lectures or two lectures and one two-hour laboratory period per week depending on topic.

## CHEM 590 TOPICS IN ADVANCED CHEMISTRY

Prereq.: Permission of instructor. Selected topics in analytical, biochemistry, inorganic, organic, and physical chemistry. May be taken once in each field of chemistry.

## CHEM 598 RESEARCH IN CHEMISTRY

Prereq.: CHEM 435 and permission of department chair. Seminar to familiarize student with techniques and resources for research in his/her specialization. Opportunity for practical application provided, each student making thorough literature search on assigned chemical problem and learning related experimental techniques.

CHEM 599 THESIS 3 or 6
Prereq.: CHEM 598; or CHEM 435 and permission of thesis adviser. Preparation of thesis under the supervision of the thesis adviser.

## CHINESE

Note: Additional work will be required for graduate credit in 400-level courses.

## CHIN 410 BUSINESS CHINESE I

Prereq.: CHIN 342 or 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)

## CHIN 411 BUSINESS CHINESE II

3
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)

CHIN 475 CLASSICAL CHINESE I
3
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

Note: Additional work will be required for graduate credit in 400-level courses.

## COMM 427 TELEVISION PROGRAMMING AND PRODUCTION

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. $S$

## 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. $S$

COMM 480 TELEVISION DOCUMENTARY PRODUCTION 3

Prereq.: COMM 428 or permission of instructor. 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 501 THEORIES OF HUMAN COMMUNICATION WITHIN AN ORGANIZATIONAL CONTEXT

Critical review of theoretical traditions in communication and information sciences with emphasis on major causal, systems, and rules approaches to the study of organizational and managerial communication. An examination of human communication from the perspective of the social and behavioral sciences, the natural sciences and the humanistic traditions. $F$

## COMM 502 THEORIES OF COMMUNICATION AND INFORMATION MANAGEMENT

 the information environment. Consideration of the psychological, sociological, organizational, and technological factors affecting the manager's use of information with emphasis on the major communication theories involved in matching people to computerized systems. SCOMM 503 RESEARCH METHODS IN COMMUNICATION
Study of research methods unique to the investigation of communication processes in organizations such as communication diaries, content analysis, network analysis, interaction profiles and penetration analysis to explore how people interact in the work environment and how that interaction affects organizational performance. $F$

COMM 504 ORGANIZATIONAL COMMUNICATION AUDITS
Study of information/communication flow and patterns, and formal/informal networks. Case studies of relational, environmental and structural communication problems form a basis for discussion. S

COMM 512 COMMUNICATION AND CHANGE
Examination and critical analysis of existing theories and paradigms of communication and development (social change) and evaluation of current approaches and methods to the use of communication (Interpersonal, Folk/Traditional, Group and Mass Media) for development/social change objectives. IR

COMM 522 CORPORATE COMMUNICATION
Communication of an organization with its investors, customers, and employees. Interpersonal communication, media campaigns and training programs are among the strategies examined. Focus will be on the use of media in public relations and corporate advertising processes and related theoretic and empirical research. $\mathrm{F}(\mathrm{e})$

COMM 543 INTERCULTURAL COMMUNICATION
Study and critical examination of theories regarding how communication in and between multinational organizations must be modified to cope with crosscultural differences. Such cross-cultural differences as those involved in conflict resolution, motivation and managerial styles and their communication implications may be considered. F (o)

COMM 544 STRATEGIES IN NEGOTIATION AND CONFLICT RESOLUTION
Study of the theories and empirical research regarding negotiation and conflict resolution strategies and appropriate communication patterns unique to each approach and their impact on an organization's effectiveness. $F(e)$

## COMM 562 COMMUNICATION AND HIGH-SPEED MANAGEMENT

Study of theory and empirical research which delineates the communication patterns necessary for the effective use of new high-speed management tools. Complex coordination patterns peculiar to processes of communication among managers and employees resulting from the application of these tools will be examined. S(o)

COMM 585 SPECIAL TOPICS
Study of selected topics in organizational and managerial communication. May be repeated once with different topic. IR

COMM 599 THESIS/ SPECIAL PROJECT
Prereq.: COMM 503 or 504 and permission of graduate chair and thesis adviser. Preparation of the thesis or special project under the supervision of the thesis adviser.

## COMPUTER INFORMATION TECHNOLOGY

CIT 599 INTEGRATIVE EXPERIENCE IN CIT
3
Prereq.: CIT core and specialization, or permission of instructor. Integrating experience in computer science, management information systems and technology. On demand. [c]

## COMPUTER SCIENCE

Note: Additional work will be required for graduate credit in 400-level courses.

## CS 407 ADVANCED TOPICS IN COMPUTER SCIENCE 1-3

Prereq.: CS 152 and 254 and permission of instructor. This course provides an opportunity to introduce into the curriculum topics of current 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
3
Prereq.: CS 355. 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 the system at various stages in its life cycle, the problems of security and privacy and the legal aspects of software development, including software protection and software liability. IR [c]

## CS 420

OBJECT-ORIENTED
PROGRAMMING SYSTEMS
3
Prereq.: CS 355. Introduction to the theory, concepts and application of object-oriented 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 system. IR [c]

## CS 423 COMPUTER GRAPHICS

Prereq.: CS 253. Wire frame and solid graphics in two and three dimensions, data structures for computer graphics, geometrical transformations in computer graphics, raster and vector display device technologies. F

CS 460 DATABASE CONCEPTS 3
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. IR [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. $S$ [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. IR [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, re-entrancy and recursion. IR [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. F [c]

## CS 473 SIMULATION TECHNIQUES

Prereq.: CS 152 or 213 , and STAT 215 or 315 . Basic principles of simulation methods using digital computers. Topics covered include random number generators, stochastic variate generators, computer models and simulation languages. IR [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. $S$ [c]

CS 483 THEORY OF COMPUTATION
Prereq.: MATH 218 and CS 463. 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. IR [c]

## CS 485 MICROPROCESSORS

Prereq.: CS 354. Basic techniques in the design and use of microprocessor software and hardware. Topics include microprocessors, instructions, software and hardware components, applications and future uses. IR [c]

## CS 486 INTRODUCTION TO VLSI

Prereq.: CS 385. Introduction to the physics, features and fabrications of Very Large Scale Integrated circuits. Emphasis on VLSI design and applications. Topics include design algorithms, contra-flow and fabrication techniques. IR [c]

## CS 490 COMPUTER COMMUNICATIONS NETWORKS AND DISTRIBUTED PROCESSING

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. Includes local networks and multi (micro) processor systems. IR [c]

CS 498 SENIOR PROJECT
Prereq.: CS major, senior standing, 21 credits toward major including one emphasis 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 and adviser. [c]

## CS 499 SEMINAR IN COMPUTER SCIENCE

3
Prereq.: CS major. Opportunity for student to explore topics of current interest not covered in normal curriculum. IR [c]

CS 501 FOUNDATIONS IN COMPUTER SCIENCE I
Prereq.: CS 152 or permission of instructor. Software design for structuring and manipulating data. Topics include tree structures, graphs, data abstraction and external sorting. $S$ [c]

CS 502 COMPUTING AND COMMUNICATIONS TECHNOLOGY
Prereq.: CS 501. Comprehensive coverage of the concepts of computer networking, and computer architecture and organization required to enable students to understand and efficiently utilize computing and communication resources. Development of distributed computer applications. S [c]

CS 530 ADVANCED SOFTWARE ENGINEERING
Prereq.: CS 410, 501, 502. Study of the software lifecycle including requirements analysis, specification, design, coding, testing and maintenance. Includes proofs of correctness and techniques of formal specification. $\mathrm{F}(\mathrm{o})$ [c]

## CS 550 TOPICS IN HUMAN-COMPUTER INTERACTION 3

Prereq.: CS 501, 502. Study of the design, evaluation and implementation of interactive computing systems for the joint performance of tasks by humans and machines, algorithms and programming of the interface, and engineering concerns and design tradeoffs. Topics include computer-supported cooperative work, modeling intelligence, multimedia systems and user interface design. IR [c]

## CS 570 TOPICS IN ARTIFICIAL INTELLIGENCE

Prereq.: CS 462, 501, 502. Topics include advanced techniques for symbolic processing, knowledge engineering and building problem solvers. IR [c]

CS 580 TOPICS IN DATABASE SYSTEMS AND APPLICATIONS
Prereq.: CS 501, 502. Database technology needed to develop and manage sophisticated database systems. Topics include design of database management systems, advanced database applications, hypermedia and object-oriented database management systems. IR [c]

CS 590

## TOPICS IN HIGH PERFORMANCE

 COMPUTING AND COMMUNICATIONSPrereq.: CS 481, 501, 502. Design, implementation and evaluation of high performance computing and communications technologies for the development of distributed multimedia systems. Topics include distributed systems, parallel computing, modern operating systems and network administration. IR [c]

## COUNSELOR EDUCATION

## CNSL 500 THE DYNAMICS OF GROUP BEHAVIOR

Prereq.: Admission to the graduate program and/or permission of department chair. Experiential approach to more effective interpersonal communication. Opportunity is offered for personal growth in awareness and understanding both of self and others, and in the communication of that self-awareness and understanding. The orientation of this course is educational. Students enrolled in this course may be observed by students in CNSL 507.

CNSL 501 THEORIES AND TECHNIQUES IN COUNSELING
Prereq.: CNSL 500 (may be taken concurrently). Investigation of theories and techniques in counseling, including research findings and skill development.

## CNSL 503 SUPERVISED COUNSELING PRACTICUM

6
Prereq.: CNSL 501. Supervised clinical experience designed to develop basic counseling skills with the integration of professional knowledge.

## CNSL 504 PROFESSIONAL STUDIES IN COUNSELING

Prereq.: Matriculation into the graduate program. Areas of study include: professional socialization and the role of the professional organizations, licensure or certification legislation, legal responsibilities and liabilities, ethics and family law, confidentiality, independent practice and inter-professional cooperation.

## CNSL 507 METHODS IN GROUP FACILITATION

Prereq.: CNSL 500 and 503. The impact of the facilitator's behavior on a group. Students will experience leading a group, observe different leadership styles and didactic presentations on group theory and leader interventions.

## CNSL 509 INDEPENDENT STUDY PROJECT

 IN COUNSELINGPrereq.: CNSL 503 and permission of department chair. Systematic study of problems of special interest in counseling. Students are guided in selection of topics for study. Can be taken more than once.

## CNSL 520 GUIDANCE PRINCIPLES, ORGANIZATION AND ADMINISTRATION

Prereq.: Admission into department. Introduction to principles of guidance in modern school and study of guidance services, practices, and basic concepts relating to organization and operation of guidance programs. S

## CNSL 521 CAREER COUNSELING AND DEVELOPMENT

Prereq.: CNSL 501. Approaches to career counseling and development as it relates to agency and school settings. Includes relevant career theories, a survey of instruments utilized in assessing interests, values and career decision-making abilities and relevant occupational information. F

## CNSL 522 APPRAISAL PROCEDURES IN COUNSELING

Prereq.: CNSL 501. Survey of standardized appraisal instruments utilized in assessing factors, such as aptitude intelligence, achievement and interest as it relates to human service agencies and school counseling. $S$

## CNSL 524 CONSULTING IN THE SCHOOLS

Prereq.: CNSL 503 or permission of department chair. Emphasis on the learning and practice of specific skills essential to consulting in the schools. The dynamics of child-parent relationships and their impact on consulting with parents will be included. F

CNSL 525 MULTI-CULTURAL COUNSELING
3
Study of the principles and techniques in counseling the multi-cultural student. Emphasis will be placed on the delivery of counseling services related to the particular needs and values of the multi-cultural student. S

## CNSL 526 DEVELOPMENTAL GUIDANCE

 AND COUNSELINGPrereq.: Admission to the graduate program and/or permission of department chair. Overview of developmental guidance and counseling, and the role and function of the school counselor on the elementary, middle/JHS and secondary levels. Includes the history, philosophy, trends, purposes, objectives and roles within the schools at each of the the three levels. $F$.

CNSL 530 STUDENT DEVELOPMENT IN HIGHER EDUCATION
Prereq.: Admission to the graduate program and/or permission of department chair. Overview of college student development, including characteristics of contemporary students will be presented. F

## CNSL 531 STUDENT SERVICES IN HIGHER EDUCATION 3

Prereq.: CNSL 530. Overview of student services in higher education including characteristics of special student populations will be presented. $S$

CNSL 532 PROGRAM DESIGN IN STUDENT SERVICES
Prereq.: CNSL 530. Design of experiential education for adults in higher education, including needs assessment, creation of developmental programs and learning communities and program implementation and evaluation. $S$

CNSL 560 INTRODUCTION TO REHABILITATION COUNSELING
Prereq.: Admission to department. Overview of the philosophy and practice of rehabilitation counseling. Emphasis on the rehabilitation client, types of disabilities and the life adjustment that disability entails. F

CNSL 561 ADVANCED REHABILITATION COUNSELING
Prereq.: CNSL 560 or permission of the department chair. Behavioral and dynamic principles underlying adjustment to disability and related adjustment issues for the family and community at large will be studied. S

## CNSL 562 CASE MANAGEMENT IN REHABILITATION COUNSELING

Prereq.: CNSL 561 or permission of department chair. Theories and techniques will be presented for working with clients who are involved in the rehabilitation process. Knowledge of case findings, rehabilitation, plan development, service delivery and coordination will be included. $S$

## CNSL 563 MEDICAL ASPECTS OF REHABILITATION COUNSELING

1Prereq.: CNSL 562 or permission of the department chair. The rehabilitation counselor's role as a member of the health care team will be studied. General characteristics of various disability groups and identification of the medical specialists who serve these groups will be presented. $S$

CNSL 568 ALCOHOL AND DRUG COUNSELING
Prereq.: CNSL 501 or permission of department chairperson. Basic assessment, intervention and treatment techniques in working with individuals and families affected by alcohol and other drug abuse.

CNSL 570 COUNSELING WOMEN
Prereq.: CNSL 501 or permission of department chair. Application of counseling theories and techniques as they relate to the issues in women's lives such as gender roles, family, and career planning.

CNSL 580 TOPICS IN COUNSELING 1-3
Prereq.: Degree candidacy or permission of instructor. Topics will vary each time the course is offered. Combination of lecture, discussion, inquiry sessions and student presentation. May be taken more than once for credit under different topics.

CNSL 591 SUPERVISED SCHOOL GUIDANCE INTERNSHIP 3
Prereq.: CNSL 503 and permission of instructor. Series of supervised experiences in the public school setting is provided. Required for school counseling certification.

## CNSL 592 SUPERVISED INTERNSHIP IN HIGHER EDUCATION <br> 3

Prereq.: CNSL 532 or permission of instructor. Professional experience to prepare persons to enter the student development field in higher education:
Emphasis on actual practical experience, student/faculty/administrative interaction, and the special concerns which affect the conduct of student development services.

## CNSL 594 SUPERVISED CLINICAL

PRACTICE—REHABILITATION
3
Prereq.: Permission of instructor. Supervised experience in community settings focusing on rehabilitation counseling.

## CNSL 595 APPLIED RESEARCH IN COUNSELING

Prereq.: ED 598 or PSY 598. Critical review of research in counseling. A research proposal and completed report is required. Should be taken concurrently with field work experience.

## CRIMINAL JUSTICE

Note: Additional work will be required for graduate credit in 400-level courses.

## CJ 501 PROSEMINAR ON THE NATURE OF CRIME

Societal, legal and cultural definitions of criminal behavior, theories of crime causation and society's reaction to violation of law. F

CJ $510 \quad$ PROSEMINAR ON LAW AND SOCIAL CONTROL
Law as a means of social control, including history and philosophy of law, the interrelationship between law and other social institutions, such as the economy and the polity, and the effects of law and criminal justice policies on the preservation and promotion of inequalities based on social class, race, gender and ethnic identity. S

## CJ 520 PROSEMINAR ON THE ADMINISTRATION OF JUSTICE

Critical analysis of the purpose and efficacy of those institutions which comprise the criminal justice system. Includes an exploration of discretion, ethics and cultural diversity in criminal justice. F

## CJ 525 PROGRAM PLANNING AND EVALUATION

Prereq.: CJ 501, 510 and 520. Planning and evaluating programs which encourage pro-social behavior of convicted offenders, with emphasis on programs in correctional institutions. Program areas include education, vocational training, substance abuse treatment, parenting and anger management. S

## CJ 530 PROFILE OF THE OFFENDER

Prereq.: CJ 501, 510 and 520. Study of those personality characteristics most associated with the criminal offender, such as sociopathy, poor impulse control, addictive personality and poor management of anger and aggression. S

## CJ 535 CORRECTIONAL COUNSELING

Prereq.: CJ 530. Overview of techniques of counseling as applied to the criminal/juvenile offender. Treatment issues focus on relapse prevention, group treatment, cognitive distortions and negative imagery. Also included are typologies and evaluation of risk levels. IR

## CJ 536 FIELD STUDIES IN CRIMINAL JUSTICE

Prereq.: Admission to program and permission of criminal justice program director. Supervised experiential learning within a criminal justice agency. Major research paper required, integrating theory with practice to include examination and evaluation of agency structure, processes, linkages and effectiveness within the context of a broader criminal justice system.

\section*{\section*{CJ 570 <br> <br> LEADERSHIP AND SUPERVISION OF <br> <br> LEADERSHIP AND SUPERVISION OF CRIMINAL JUSTICE ORGANIZATIONS}

3
Prereq.: CJ 501, 510 and 520. Analysis of contemporary principles, strategies and methods essential to effective management of criminal justice organizations. Topics include budgeting, organizing, decision making, communication and personnel management to include application to paramilitary organizations. S

## CJ 575

Prereq.: CJ 501, 510 and 520. Development, implementation and assessment of planned change in criminal justice organizations and system affiliates. Emphasis on the action research model, including assessment of organizational needs; determination of goals; program design, implementation and evaluation within the context of both paramilitary and non-paramilitary structures. S

CJ 580 PUBLIC POLICY IN THE CRIMINAL JUSTICE SYSTEM
Prereq.: CJ 501, 510 and 520. Survey of the major theoretical and empirical studies of public policy as they relate to criminal justice agencies, including 3 policy analysis models; typologies of policy outcomes; agenda setting; and policy formulation, implementation and impact. IR

## CJ 598 RESEARCH METHODS IN CRIMINAL JUSTICE

Prereq.: Admission to program. Examines methods of scientific inquiry as used in criminal justice. Topics include experimental and non-experimental design, survey research, evaluation research, scaling, sampling and coding. $S$

CJ 599 THESIS

3

Prereq.: Completion of 21 credits, including CJ 598, of approved graduate study and permission of adviser. Preparation of the thesis under the supervision of a thesis adviser. On demand.

## CRIMINOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.
CRM 475 CONTROLLING ANGER AND AGGRESSION 3
Prereq.: CRM 110 (previously CJ 110) or SOC 110 or PSY 239, and CRM 222 (previously CJ 222) or SOC 222 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. IR

## CRIMINOLOGY/SOCIOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.

Note: CRSC courses may be applied to either the sociology program or the criminology and criminal justice program, but not to both programs.

CRSC 439 JUVENILE DELINQUENCY
3 Previously CJSC 439. Prereq.: CRM 110 (previously CJ 110) or SOC 110. 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.

CRSC 450 DRUGS AND SOCIETY
3
Previously CJSC 450. Selected social issues relating to illegal drug use, including international and national drug trafficking, money laundering, drug enforcement, drug-related crime, prevention strategies and legalization. IR

## 3 DESIGN (GRAPHIC/INFORMATION)

Note: Additional work will be required for graduate credit in 400-level courses.

## DES 419 HISTORY OF DESIGN <br> 3

Previously ART 419. Prereq.: ART 110. History and philosophy of design function and aesthetics. Topics include graphic design, industrial design and architectural design. $S$

DES 436 GRAPHIC/INFORMATION DESIGN III
Previously ART 436. Prereq.: DES 322 (previously ART 322), ART 224. 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
Previously ART 437. Prereq.: DES 322 (previously ART 322) and permission of instructor. Internship with professional graphic/information design organization. [c]

DES 438 GRAPHIC/INFORMATION DESIGN IV
Previously ART 438. Prereq.: DES 436 (previously ART 436). Continuation of DES 436. 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

Previously ART 439. Prereq.: DES 322 (previously ART 322), successful Central Design portfolio review, and permission of instructor. 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. F [ c ]

## DES 498 INDEPENDENT STUDY IN GRAPHIC/ INFORMATION DESIGN

1-3
Prereq.: Permission of instructor. Special independent work to meet individual interest in areas not covered by regular curriculum. May include interdisciplinary information design projects. May be repeated for a maximum of six credits. On demand. [c]

## DES 499 COMPUTER APPLICATIONS FOR GRAPHIC/ INFORMATION DESIGN

Previously ART 499. Prereq.: DES 322 (previously ART 322) or permission of instructor. 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]

DES 501 GRAPHIC/INFORMATION DESIGN THEORY I 3
Previously ART 501. Critical analysis of the purpose and evolution of graphic information design theory, integrity and computer application. Includes problem solving. $\mathrm{F}[\mathrm{c}$ ]

## DES 502 GRAPHIC/INFORMATION DESIGN THEORY II 3

Previously ART 502. Prereq.: DES 501 (previously ART 501). Continuation of DES 501. Additional theory and applications. Technology, economic and ethical issues will be explored. $S$ [c]

## DES 503 GRAPHIC/INFORMATION DESIGN PRACTICE I

Previously ART 503. Prereq.: DES 502 (previously ART 502). Applied design research and practice in graphic/information. Emphasis on creativity, practical problem solving, technical proficiency and presentation. F [c]

## DES 504 GRAPHIC/INFORMATION DESIGN PRACTICE II 3

Previously ART 504. Prereq.: DES 503 (previously ART 503). Continuation of DES 503. Additional research and practice, portfolios and presentation development. S [c]

## DES 599 DESIGN THESIS

3
Prereq.: DES 503 (previously ART 503), completion of 21 credits of planned program of graduate study, and approval of Design Thesis Committee. Preparation of the thesis under the supervision of thesis adviser. Thesis application must be made in the semester prior to the intended registration. On demand.

## EARTH SCIENCES

Note: Additional work will be required for graduate credit in 400-level courses.

## ESCI 421 THE STRATIGRAPHIC RECORD

4
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. F (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 a week. F(e)

## 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 a week. Field work by arrangement. S(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. Three lectures and one two-hour laboratory recitation per week. F

## 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 and their usefulness, cross-sectional analysis, tilt of pressure systems, quasi-geostrophic theory, performance characteristics of NWS prediction models. Three lecture hours and a two-hour laboratory per week. S(e)

## ESCI 450 ENVIRONMENTAL GEOLOGY

Prereq.: Permission of department chair or instructor. Geologic factors that control or influence human habitat and land use potential. Earthquakes, landslides, floods, groundwater seepage, cave collapse and similar processes are briefly discussed. Attention is focused on causes of major landscape changes in urban areas during the last 25 years and on methods of preventing, avoiding or compensating for geologic hazards. S(e)

ESCI 452 INDEPENDENT STUDY IN EARTH SCIENCE 1-4
Prereq.: Approved plan of study by 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 a limit of 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. $F(e)$

## 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. S(o)

## ESCI 490 TOPICS IN EARTH SCIENCE

Selected studies in earth science 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.

## ESCI 502 PLANETARIUM WORKSHOP

Prereq.: In-service experience in teaching earth science or permission of the department chair. Planetarium operation and curriculum study at the elementary and secondary school level. Students will create integrated planetarium experiences and present them to visiting elementary and secondary school classes. Students interested in public programming are encouraged to concentrate in this area. IR

## ESCI 518 TOPICS IN ASTRONOMY

Prereq.: Prior permission of instructor. Topics will vary each time course is offered. Combination of lecture, discussion, and student seminar presentations. May be taken more than once for credit under different topics.

## ESCI 519 TOPICS IN GEOLOGY

Prereq.: Prior permission of instructor. Topics will vary each time course is offered. Combination of lecture, discussion, and student seminar presentations. May be taken more than once for credit under different topics.

## ESCI 598 RESEARCH IN EARTH SCIENCE

Prereq.: Permission of department chair. Course on theory and practice of conducting research in astronomy, geology, meteorology. Includes study of professional literature, evaluation of data-gathering techniques. Application of statistical methods to data; formulation of multiple working hypotheses and verification of hypotheses. Classic problems in earth sciences are studied.

## ESCI 599 THESIS <br> 3

Prereq.: ESCI 598 and permission of the thesis adviser. Preparation of the thesis under the supervision of the thesis adviser.

## ECONOMICS

Note: Additional work will be required for graduate credit in 400-level courses.

## ECON 420 URBAN ECONOMICS

3
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.

## ECON 433 ECONOMIC DEVELOPMENT OF 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 between the three nations, as well as between East Asia and other parts of the world.

## ECON 435 ECONOMIC DEVELOPMENT

3
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.

## ECON 440 COMPARATIVE ECONOMIC SYSTEMS

Prereq.: ECON 200, 201. Analysis of 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.

## ECON 455 PUBLIC FINANCE

3
Prereq.: ECON 200, 201. Analysis of federal revenues and expenditures, including an examination of federal budget concepts, fiscal policy, cost-effectiveness analysis, tax efficiency and equity and debt management problems.

ECON 460 ECONOMIC FORECASTING
Prereq.: ECON 200, 201 and STAT 104 or equivalent. Theory and use of such forecasting techniques as simple and multiple regression, seasonal adjustment,

3 economic indicators, input-output and macroeconomic models. Emphasis will be given to economic applications and the use of the computer.

## ECON 462 INDUSTRIAL ORGANIZATION

3
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.

ECON 465 GOVERNMENT AND BUSINESS
Prereq.: ECON 200, 201. Role of government in the mixed economy with special emphasis on antitrust laws, regulations and deregulation, social legislation and public enterprise.

ECON 470 MANAGERIAL ECONOMICS
Prereq.: ECON 201. Application of economic theory and quantitative methods to managerial decision-making problems. Topics include decision analysis, forecasting, demand analysis, production and cost analysis, linear programming, break-even analysis and capital theory and budgeting.

ECON 475 HISTORY OF ECONOMIC THOUGHT 3
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. S(o)

ECON 498 ADVANCED TOPICS IN ECONOMICS
1
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 for different topics for a total of 6 credits.

## ECON 499 INDEPENDENT STUDY IN ECONOMICS <br> 3 or 6

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

See also Education - Early Childhood, Education - Elementary, Education - Middle Level, Education - Secondary, Education - Teacher Education, Educational Foundations, Educational Leadership, Educational
3 Technology, Reading, Special Education, Technology Education and Voca-tional-Technical Education.

Note: Additional work will be required for graduate credit in 400-level courses.
ED 430 TOPIC 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
Prereq.: Permission of department chair. Individual research open only to advanced students and experienced teachers. Systematic study of problem of special interest. Students in either elementary or secondary field are guided in problem selection, data gathering, analysis and interpretation and drawing conclusions. IR

ED 501 PROBE IN EDUCATION
3 Prereq.: Permission of faculty adviser. In-service experience designed to meet the specific needs of school personnel.

ED 511 PRINCIPLES OF CURRICULUM DEVELOPMENT
Examination of selected programs including stated objectives, organizational patterns, curriculum materials and instructional strategies. This examination will utilize various models of decision making.

## ED 515

SCHOOL LAW
Teachers study legal bases of chosen profession and develop more adequate understanding of federal, state and local laws applicable to teachers and pupils of public school. Primary emphasis is placed on Connecticut statutes and judicial interpretations.

ED 517
EVALUATION
Introduction to the fundamental principles of measurement and evaluation. Emphasis will be placed on the construction of classroom achievement tests, analyzing test results and on interpreting standardized test scores.

## ED 518 TEACHER EFFECTIVENESS TRAINING

Analysis of teacher effectiveness training processes including Thomas Gordon's Teacher Effectiveness Training and other contemporary approaches. This course focuses on interpersonal communication skills and their effects on human relationships among teachers, students, parents, and colleagues. Communication skills that encourage students to become self-directed learners are analyzed. Problem-solving skills are identified and practiced so that conflicts will be resolved in ways that are acceptable to both the teachers and the students. Teachers acquire specific techniques to communicate their needs clearly and directly without creating and escalating confrontations. Value collisions in conflicts are also studied to increase understanding of interpersonal communication. F

## ED 530 ADVANCED SEMINAR IN LEADERSHIP AND LEARNING COMMUNITIES

Prereq.: Admission to either the full-year Post-Baccalaureate certification program or Professional Program for a Cross Endorsement. Current issues in teacher leadership. Focus on how school organizations and school reform develop, and the role teachers play in restructuring and supporting learning communities. May be repeated for a maximum of 4 credits.

## ED 535 INTEGRATING CURRICULUM DEVELOPMENT WITH EDUCATIONAL TECHNOLOGY

6Prereq.: Admission to either the full-year Post-Baccalaureate certification program or Professional Program for a dual certification. Development, modification, production and evaluation of curriculum will be analyzed through interpreting theory and integrating educational technology to enhance learning. $S$

## ED 540 EDUCATIONAL MOTIVATION AND THE LEARNING PROCESS

3Multidisciplinary approach to understanding of underachievement and resistance to learning. Emphasis on innovative ways of effecting learning by means of sociological, psychological and educational advances in practice and theory.

## ED 545

INTEGRATION OF METHODS OF RESEARCH AND ASSESSMENT
Prereq.: Admission to either the full-year Post-Baccalaureate certification program or Professional Program for a dual certification. Examination of traditional and alternative assessment strategies to promote learning. Techniques for analyzing and evaluating qualitative and quantitative research studies and developing skills to design, implement and assess action research projects specific to the internship and school site. $S$

## ED 550 GENDER AND EDUCATION

Examination of the experiences of females and males in American schools, including the effects of classroom interaction, curriculum and educational policies. Emphasis on action research for gender equity and the role of women in educational leadership positions. $S$ evaluate completed studies. Additional objectives may be presented by the instructor of the course.

ED 599 THESIS
Prereq.: ED 598 and permission of thesis adviser. Preparation of the thesis under the supervision of the thesis adviser.

## 3 EDUCATION - EARLY CHILDHOOD

Note: Additional work will be required for graduate credit in 400-level courses.

## EDEC 413 PRINCIPLES OF EARLY CHILDHOOD

 EDUCATIONPrereq.: 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. Not for credit in graduate degree programs.

## EDEC 423 METHODS AND CURRICULUM FOR

 THE EARLY YEARSPrereq.: 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 other 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

Prereq.: Permission of the Director of Clinical and Laboratory 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 is required. Not for credit in graduate degree programs.

EDEC 550 COMMUNICATION AND THE YOUNG CHILD
Prereq.: Matriculation in the M.S. program. Exploration of young children's language development, including language/thought connections, symbolic representation through art and early writing, and the "sense of story" development. The relationship of play to communication, stage appropriate children's literature, and home/school partnerships are also addressed. $\mathrm{F}(\mathrm{e})$

## EDEC 551 PROGRAMS AND CURRICULA IN EARLY CHILDHOOD EDUCATION I

Prereq.: Matriculation in the M.S. program. Analysis of contemporary early childhood program models and practices including their historical and philosophical foundations. Includes an examination of criteria for establishing and evaluating contemporary early childhood programs. On-site observations and interaction with young children required. F

## EDEC 552 PROGRAMS AND AND CURRICULA IN EARLY CHILDHOOD EDUCATION II

Prereq.: EDEC 551 and matriculation in the M.S. program. Study of the implementation of developmentally appropriate curricula for children, ages three to eight. Emphasis on integrated curricula, learning centers, effective management, and active parent involvement. On-site observations and interaction with young children required. S

EDEC 553 FAMILY, SCHOOL AND COMMUNITY PARTNERSHIPS IN EARLY CHILDHOOD EDUCATION
Prereq.: Matriculation in the M.S. program. In-depth exploration of impact of family and community on the education of young children. Study of school-child-family relationships which foster healthy development. Examina-
tion of comprehensive community and governmental support systems for children and families. $S$

## EDEC 554 OBSERVATION AND ASSESSMENT IN EARLY CHILDHOOD EDUCATION

Prereq.: Matriculation in M.S. program. Study of appropriate assessment of young children's development and progress and their relationship to childcentered curricula and home-school communication. Strategies for assessing children's cognitive/language, social/emotional, and psycho-motor development, play assessment and student portfolios are also included. F (o)

## EDEC 585

## ISSUES, TRENDS, RESEARCH IN

EARLY CHILDHOOD EDUCATION
Prereq.: Admission into the M.S., Early Childhood program. Seminar focusing on the current status of early childhood education at local, state, and national levels. Analysis of current research. Individual pursuit of ideas/questions, small group projects and tutorial dialogue with professor. IR

## EDUCATION — ELEMENTARY

Note: Additional work will be required for graduate credit in 400 -level courses.

## EDEL 412 STUDENT TEACHING: ELEMENTARY (GRADUATE CERTIFICATION)

Prereq.: Admission to the professional program in graduate certification. Special application required. Students pursuing teacher certification demonstrate their ability to conduct learning activities and to work effectively with children. Emphasis on Connecticut teaching competencies in classroom and field experiences. Not to be credited toward the master's degree.

## EDEL 422 ELEMENTARY EDUCATION GENERAL METHODS 3

 Prereq.: Admission to the Professional Program and 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. Not for credit in graduate degree programs.
## EDEL 430 ELEMENTARY EDUCATION STUDENT TEACHING 9

Prereq.: Permission of the Director of Clinical and Laboratory 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 is required. Taken concurrently with Cluster 6 courses. Not for credit in graduate degree programs.

## EDEL 480 BILINGUAL EDUCATION: PROGRAM DESIGN, CURRICULA METHODS AND MATERIALS

Prereq.: Have native or near-native fluency in one of the following languages: Spanish, Portuguese, Italian, or Polish. Analysis of a variety of bilingual programs and curriculum models. Observation and practice of bilingual teaching methods. Study and development of bilingual materials. IR

## EDEL 485 APPROACHES TO DISCIPLINE IN ELEMENTARY EDUCATION (K-8)

Examination of the purposes, processes and strategies of varied approaches to discipline in elementary education, kindergarten through grade eight. S

## EDEL 508

## CURRENT TRENDS IN

## ELEMENTARY SCHOOL CURRICULUM

3
Prereq.: Matriculation into M.S. program in Education. Current trends in Elementary School Curriculum, with emphasis on issues, models and processes. Local and state projects will be examined. Not applicable to provisional, Intermediate Administrator/ Supervisor certification.

## EDEL 509 EDUCATION AND THE DEVELOPMENT OF CULTURAL UNDERSTANDING

Prereq.: Matriculation into M.S. program in Education. Study of attitudes, values and expectations of educators as related to cultural diversity. Strategies presented to develop respect of students for cultural pluralism. Research related to the reduction of racial, ethnic and sex stereotyping and biases is surveyed. S

EDEL 529
ANALYSIS OF TEACHING
Prereq.: Admission to M.S., Elementary Education. Analysis of instructional practices and their effects on learners. Diverse perspectives are analyzed: selected conceptual frameworks, effective teaching literature and research and "wisdom of practice." S

## EDEL 531 EDUCATION IN THE INNER CITY

Materials, methods and curricular models for education and education programs in the urban context will be examined and analyzed. Emphasis will be placed on application to the public school classroom. F

## EDEL 591 DESIGNING ACTION RESEARCH IN ELEMENTARY AND EARLY CHILDHOOD EDUCATION

Prereq.: Matriculation in either Elementary major (M.S.) or Early Childhood major (M.S.), completion of 21 credits in planned program including ED 598, Plan C designation, and a 3.00 GPA . Students design action research projects having implications for the education of young learners in their own professional settings. Course outcomes include individual proposals specifying problem statement, theoretical framework, resource review, local context description, strategy and evaluation design. $F$

## EDEL 592 IMPLEMENTING AND DOCUMENTING ACTION RESEARCH IN ELEMENTARY AND EARLY CHILDHOOD EDUCATION

Prereq.: EDEL 591, and a 3.00 GPA. Students implement strategies proposed in EDEL 591. The final report documents findings and conclusions drawn from collected data and personal insights into their intervention. Presentation supplements the written report. S.

## EDUCATION - MIDDLE LEVEL

## EDM 414 OVERVIEW OF MIDDLE LEVEL PROGRAMS

 AND PRACTICESPrereq.: 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 . Not for credit in graduate degree programs.

## 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. Not for credit in graduate degree programs.

EDM 430 MIDDLE LEVEL STUDENT TEACHING 9
Prereq.: Permission of the Director of Clinical and Laboratory 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 is required. Taken concurrently with Cluster 6 courses. Not for credit in graduate degree programs.

## EDUCATION - SECONDARY

Note: Additional work will be required for graduate credit in 400 -level courses.

## EDSC 414 PRELIMINARY STUDENT TEACHING

 (TECHNOLOGY EDUCATION)Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of Clinical and Laboratory 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 Clinical and Laboratory Experiences. In accordance with public school schedule, students spend approximately a 16 -week period in first semester of senior year in public secondary school; one period of eight weeks in middle or junior high school and second period of eight weeks in senior high school, usually in different communities. The Technology Education major demonstrates the ability to organize and conduct school learning activities and to work effectively with adolescent youth in programs of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations.

## EDSC 420 STUDENT TEACHING- <br> MUSIC EDUCATION (K THROUGH 12)

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of Clinical and Laboratory Experiences. One half semester is spent in the music department of an elementary school, the other half in a secondary school music department. Student demonstrates ability to conduct learning activities in music and to work effectively with children and youth. Emphasis on Connecticut teaching competencies in classroom and field experiences.

## 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. Not for credit in graduate degree programs.

## EDSC 429 RESPONSIBLE STUDENT TEACHINGART (K THROUGH 12)

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of Clinical and Laboratory Experiences. Student demonstrates ability to organize and conduct school learning activities and to work effectively with pupils and teachers in a program of art education. Emphasis on Connecticut teaching competencies in classroom and field experiences. Open only to Art Education Certification majors.

EDSC 435 SECONDARY EDUCATION STUDENT TEACHING
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of Clinical and Laboratory 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. Not for credit in graduate degree programs.

EDSC 505 INNOVATIONS IN SECONDARY EDUCATION
Prereq.: Admission to an M.S. program. Examination of current areas of research in secondary education, including restructuring of high schools, alternatives to tracking, innovations in various subject areas and interdisciplinary studies, team teaching and grouping practices. F

## EDSC 556 INSTRUCTIONAL THEORY AND PRACTICE

Prereq.: Admission to an M.S. program. Advanced study of the theoretical bases of instruction, focusing on the analysis of instructional models and their use in the secondary school classroom. S

## EDSC 582 SUPERVISION OF SECONDARY

## SCHOOL TEACHING

Supervised teaching experience for graduate students who possess a Durational Shortage Area Permit from the State of Connecticut. Not to be credited towards master's degree. Supervision will continue for sequential semesters.

EDSC 586 SEMINAR IN SECONDARY EDUCATION
Examination of issues relevant to the teacher in the middle or high school. Investigation of a specific curricular issue through qualitative methods of inquiry. $S(0)$

## EDUCATION - TEACHER EDUCATION

Note: Additional work may be required for graduate credit in 400-level courses.

## EDTE 420 FIELD EXPERIENCE PRACTICUM 1-3

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.

## EDTE 510 METHODS OF INQUIRY INTO PEDAGOGY AND LEADERSHIP IN DIVERSE COMMUNITIES

3 Prereq.: Admission to full-year Post-Baccalaureate certification program. Through inquiry methods, students will explore the world of teaching, learning and leadership in diverse communities. Course includes issues of pluralism, tools and strategies for teachers and teacher empowerment and leadership.

## EDTE 530 INTERNSHIP IN PEDAGOGY AND LEADERSHIP I 4

Prereq.: Admission to either the full-year Post-Baccalaureate certification program or Professional Program for a dual certification. Site-based consecutive internship. Practice teaching at a classroom level commensurate with requirements of dual certification and fulfilling the responsibilities of teaching faculty at the school. F

EDTE 531 INTERNSHIP IN PEDAGOGY AND LEADERSHIP II 4 Prereq.: EDTE 530. Site-based internship continued. Conducting research into curriculum, instruction and assessment, and serving on school-wide collaborative leadership teams while also continuing to expand classroom teaching repertoire. Intern will disseminate research findings to school and the larger educational profession. $S$

## EDUCATIONAL FOUNDATIONS

Note: Additional work will be required for graduate credit in 400-level courses.

## EDF 400 PHILOSOPHY OF EDUCATION

Prereq.: Admission in the Professional Program in Teacher Education or permission of the department chair. Major philosophies and their implications for education in the United States. Not for credit in graduate degree programs.

## EDF 415 EDUCATIONAL FOUNDATIONS

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. Not for credit in graduate degree programs.

## EDF 500 CONTEMPORARY EDUCATIONAL ISSUES

Contemporary educational issues and the ways they are affected by social, political, and economic forces of society.

## EDF 510 THE SOCIAL, POLITICAL AND

CULTURAL CONTEXT OF URBAN SCHOOLS
Prereq.: Admission to the Professional Program. Examination of the effects of social, political and cultural realities on schools in urban settings. Consideration of issues confronting urban schools and emerging models for improvement and reform. SS

EDF 516 SCHOOL AND SOCIETY
Presentation and analysis of factors, institutions, and events relating to school's role in society. Sociocultural analysis and interpretation of historic development, as well as contemporary influences affecting dynamic role of school in American life today. IR

EDF 521 HISTORY OF EDUCATIONAL IDEAS 3
Philosophical and historical study of education as an important social idea in past and present cultures, exploring its development into modern-institutional form and including a study of major individuals and movements that have made an impact on its current purposes and on cultural forces that affect education, institutions and agencies which relate to the public school and social structure of the school. IR

EDF 522 COMPARATIVE EDUCATION
Comparative study of contemporary education in the cultural contexts of selected countries in the major areas of the world, to develop knowledge and understanding of how different educational values and objectives are achieved. Special comparison with education in the United States will be made to provide an international perspective. SS

EDF 524 FOUNDATIONS OF CONTEMPORARY THEORIES OF CURRICULUM

3
Study of the social, psychological and philosophical influences that shape the curriculum and a range of curriculum positions in the United States and in other countries. $\mathrm{F}(\mathrm{o})$

## EDF 525 HISTORY OF AMERICAN EDUCATION

Historical study of the development of education in the United States, with emphasis on the role of social, political and cultural trends that have affected and influenced American public and private schooling. $S$

## EDF 530 MULTICULTURAL EDUCATION

Seminar addressing issues related to the education of culturally diverse populations with emphasis on cultural and linguistic diversity in the context of American public schools. F

## EDF 538 THE POLITICS OF EDUCATION

Introduction to the politics of education and the making of educational policy within our society's political system. Topics include: school governance and the decision-making process, problems of policy-making in bureaucracy, intergovernmental rivalries of local, state and Federal authority, legal and extra-legal influences, ideological conflict and the struggle for change and reform in school institutions. S

## EDF 583 SOCIOLOGICAL FOUNDATIONS OF EDUCATION

Sociological principles and information applied to problems and situations in education. Emphasis on cultural forces that affect education, institutions and agencies which relate to the public school and social structure of the school. IR

## EDF 597 SUPERVISED READINGS IN HISTORY <br> AND PHILOSOPHY OF EDUCATION

Selected supervised readings in the history and philosophy of education by faculty in collaboration with a student's interests and professional needs. May be repeated for a maximum of three credits. On demand.

EDF 687 SEMINAR IN EDUCATIONAL POLICY STUDIES 3
Education policy and policy-making will be examined utilizing a critical sociocultural perspective. Students will analyze the formulation and evaluation of local, state and national educational policies. $F$

## EDUCATIONAL LEADERSHIP

## EDL 513 SUPERVISION

Study of major problems confronting supervisors in improving instruction: interpreting educational objectives to staff and public, coordinating education programs, teacher-supervisor relations, evaluating instruction and supervision of student teachers.

EDL 514 ADMINISTRATION
Study of leader's roles in developing programs in education. Major areas include: obligation toward learners, staff, boards of education, and parents; administrative organization, curriculum development and stimulating research.

EDL 551 CURRICULUM LEADERSHIP
Prereq.: ED 511 and graduate matriculation. Study of curriculum leadership with special emphasis on curriculum processes, curriculum management, decision making and current trends in the field. F, SS

EDL 552 TOPICS IN EDUCATIONAL LEADERSHIP
Prereq,: ED 511, 598 and graduate matriculation. Comprehensive inquiry into a specific area of educational leadership. It may be repeated once with different content. S, SS

3 EDL 555 LEADERSHIP FOR CULTURALLY DIVERSE SCHOOLS

3
Study of leadership roles and strategies for developing a positive school climate for diverse cultural and racial groups in urban/suburban schools.

NOTE: ADMISSION TO 600-LEVEL EDUCATIONAL LEADERSHIP COURSES REQUIRES THE COMPLETION OF THE FOLLOWING PREREQUISITES: ED 511, EDL 513, EDL 514, ED 540 AND ED 598 OR EQUIVALENT.

## EDL 617 PERSONNEL AND PROGRAM EVALUATION

Study of current principles and procedures for the evaluation of school programs and personnel.

## EDL 634 SEMINAR IN CURRICULUM DEVELOPMENT

Study of curriculum design including the setting of objectives, selection of content material, instructional techniques and program evaluation.

EDL 635 SEMINAR IN SUPERVISION
The study of program evaluation including the design of a staff in-service program for developing instructional and organizational competencies.

## EDL 636 DYNAMICS OF EDUCATIONAL LEADERSHIP

Understanding of the various groups and subgroups to which a supervisor and curriculum specialist relates and of the significance of these relationships for leadership behavior. Demonstration of personal skills necessary to work successfully with groups of adults and conduct a successful one-to-one conference.

EDL 637 PRACTICUM IN EDUCATIONAL LEADERSHIP
Practicum under the direction of a cooperating school administrator/supervisor specialist and a University faculty member. Students complete a project which demonstrates mastery of state and department competencies. Seminar and evaluations to measure student progress jointly conducted by University faculty and cooperating field specialist.

EDL 639 SCHOOL FINANCE 3
Content and activities focus on developing the skills and knowledge necessary to operate the business aspects of local schools, including obtaining, allocating and managing federal, state and local funds. F

EDL 640 THE PRINCIPALSHIP
3
Identifies those skills which exemplify effective principals. Among the topics and skill competencies to be examined are school organization, curricular needs, program and staff development, strategies for institutional change, fiscal management and leadership styles. S

EDL 650 INTERNSHIP IN EDUCATIONAL LEADERSHIP 6 This internship is intended to provide an individually designed and carefully monitored learning experience for qualified students. Beginning and aspiring school leaders will take part in skill development seminars and will demonstrate leadership skills in their work settings under the guidance of University faculty and public school mentors. ("Outstanding" or "Competent" score on Qualifying Examination required for admission.) One semester or one academic year. Note: Of the 6 cr . required, 3 cr . may be applied to meeting the elective requirement.

## EDL 690 INTERNSHIP IN EDUCATIONAL LEADERSHIP I:

 THEORY AND PRACTICE3-6
3 Prereq.: Successful completion of Qualifying Examination. Supervised administrative internship in a school setting. Seminars and clinical experience will focus on application of theory to practice. Each intern will plan a school improvement project. F

## EDL 691 INTERNSHIP IN EDUCATIONAL LEADERSHIP II:

 RESEARCH AND PRACTICE3-6
Prereq.: Successful completion of Qualifying Examination. Supervised administrative internship in a school setting. Each intern will complete a school improvement project under the direction of a university supervisor and a sitebased mentor. S

## EDL 698 RESEARCH SEMINAR IN EDUCATIONAL LEADERSHIP AND SUPERVISION

Advanced seminar involving a critical review of research in educational leadership and supervision. A research proposal and completed report is required.

## EDUCATIONAL TECHNOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.
EDT 490 INSTRUCTIONAL COMPUTING
Examination and application of computers and other related technologies to various teaching situations, with emphasis on developing skills in evaluating instructional software programs. F, S, SS [c]

## EDT 500 INSTRUCTIONAL DESIGN AND EVALUATION I

Prereq.: Permission of instructor. Application of instructional design principles that includes design of needs analysis, learner analysis, task analysis, goals and objectives, instructional and media strategies and evaluation in solving instructional issues. F [c]

EDT 501 MESSAGE DESIGN AND PRODUCTION
Prereq.: Permission of instructor. Application of message design theories and principles involving perception, memory, attitude and persuasion. Course includes hands-on learning experience in the design and production of instructional materials. F [c]

EDT 511 TOPICS IN EDUCATIONAL TECHNOLOGY
Prereq.: Matriculation or permission of instructor. Selected topics in the field of educational technology and instructional design. F, SS [c]

EDT 512 COMPUTER-BASED INSTRUCTION
Prereq.: EDT 500, 501 or permission of instructor. Application of computerbased strategies for instruction, including interactivity, adaptivity, feedback, branching and evaluation, with emphasis on screen design, developing flowcharts and storyboarding. S [c]

## EDT 521 INTERACTIVE MULTIMEDIA FOR

 INSTRUCTION IPrereq.: EDT 512. Application of multimedia principles emphasizing screen design, branching, instructional and media strategies, using flowcharts, storyboards and evaluation techniques. $S$ [c]

EDT 522
INSTRUCTIONAL DESIGN AND EVALUATION II
Prereq.: EDT 500. Examination and application of cognitive theories and new instructional design concepts, such as needs assessment and media strategies. S [c]

EDT 531 INTERACTIVE MULTIMEDIA FOR INSTRUCTION II
Prereq.: EDT 521. Production of multimedia through hands-on experiences that include CD-ROM mastering, digital audio and video, animation, graphics, programming and subsequent evaluation procedures for Educational Technology. SS [c]

EDT 532 DISTANCE LEARNING AND NETWORKING 3
Prereq.: Matriculation or permission of instructor. Analysis of distance learning and networking, including hands-on experiences to design, produce, evaluate and manage students' own distance learning and networking programs. $\mathrm{S}[\mathrm{c}$ ]

EDT 560
EVALUATION, ACQUISITION AND
ORGANIZATION OF MEDIA MATERIALS
Prereq.: Current Connecticut Teaching Certificate. A systematic examination and application of processes, materials and technology used to evaluate, acquire and organize instructional media materials in a school library media center. SS [c]

## EDT 561 STRUCTURING AND ACCESSING INFORMATION

Prereq.: Current Connecticut Teaching Certificate. Development of skills needed to structure and access information using traditional and automated

formats to meet client needs using print, CD-ROM and telecommunication systems. SS [c]

## EDT 562 DEVELOPING, OPERATING AND LEADING

 MEDIA FACILITIESPrereq.: Current Connecticut Teaching Certificate. An analysis of the planning, organization and administrative procedures for media personnel involved in education media services programs and facilities at the school level. SS [c]

EDT 597 FINAL PROJECT
Prereq.: Permission of EDT adviser and completion of 24 credits in planned program. Culminating experience. Students develop an instructional project that demonstrates acquired skills in design, production and evaluation in Educational Technology. S [c]

## ENGINEERING TECHNOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.

## ET 422 COMPUTER SYSTEMS AND INTEGRATION 3

Prereq.: TC 113 or permission of instructor. Laboratory based problem 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. IR [c]

## ET 440 GEOMETRIC DIMENSIONING AND

 TOLERANCINGIntended for all technical personnel involved in originating or interpreting state-of-the-art industrial engineering drawings. Emphasis will be on the interpretation, application and verification of all aspects of geometric dimensioning and tolerancing per the latest ANSI Y14.5 specification including the concepts of true positioning, runout, datums, maximum material condition and functional gaging.

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. Laboratory required.

## ET 454 TRANSPORTATION/LAND

 tion and maintenance of transportation projects using new and rehabilitated highway and bridge projects as focus points for lecture and laboratory work. F
## ET 456 MATERIALS ANALYSIS

Prereq.: TC 118 or permission of the instructor. The study of the composition, properties, and characteristics of metallic and non-metallic manufacturing materials including: the nature and structure of materials, phase diagrams, mechanical properties, and the effects of environment on materials. Emphasis will be placed on the principles behind the selection of materials to meet design requirements. Laboratory includes the use of standard materials and testing apparatus. Lecture/lab.

## ET 460 COMPUTER AIDED DESIGN AND

 MANUFACTURING (CAD/CAM)Prereq.: ET 260, 351 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. $S$ [c]

## ET 461 MANUFACTURING WITH PLASTICS

 AND COMPOSITES of materials and the correlated manufacturing techniques used in the plastics and composites industry. Emphasis will be placed on the processes involving thermoplastic, thermoset and composite materials. Laboratory required.
## ET 462 MANUFACTURING PROCESS PLANNING AND ESTIMATING

Prereq.: TC 121, 316, ET 440. 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 DESIGN

Prereq.: ET 256, 260 and 461. Principles for design of molds and tooling for the production of plastics and composites products. F [c]

## ET 464 CAD/CAE SOLID MECHANICS

3
Prereq.: ET 351, 260 or TC 321. Analysis of stress and strain in machinery and mechanisms. Computer-aided design of surface and solid geometric models and computer analysis of engineering/mechanical properties of solids. Two lecture hours and two lab hours. S

## ET 466 DESIGN FOR MANUFACTURE

Prereq.: ET 260, 440, 462, TC 446 (taken concurrently). 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. F [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. F [c]

## ET 470 STRUCTURAL STEEL DESIGN

Prereq.: TC 356 and ET 397. 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. 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

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 497

ENGINEERING COST ANALYSIS
Prereq.: MATH 125. Economic analysis of financing technical or engineering projects as related to the construction and industrial infrastructure facilities, determination of costs and justification of improvements.

## ET 500 TOPICS IN ENGINEERING TECHNOLOGY

Prereq.: Permission of instructor. Selected topics in engineering/technical applications. Opportunity for the student to acquire knowledge of new and emerging technologies. Not for independent study. On demand.

ET 501 INDEPENDENT STUDY IN ENGINEERING TECHNOLOGY
Prereq.: Permission of instructor. Studies of special areas in engineering technology providing for individual research and application. May be repeated with different topics for a maximum of 6 credits. On demand.

ET 517 AUTOMATED ASSEMBLY AND MANUFACTURING CELL DESIGN
3 Prereq.: TC 416, IT 480 and either ET 351 or PHYS 121; or permission of instructor. Manufacturing center level programming and programming execution of different automated work cells. CNC mill programming, inventory control and automated assembly at the center level. Design of several work cells to work concurrently on product manufacturing. $\mathrm{F}(\mathrm{e})[\mathrm{c}]$

## ET 523 CONTEMPORARY ENGINEERING MATERIALS

Prereq.: ET 357 or permission of instructor. Analysis of contemporary materials for the applications, advantages or disadvantages, properties and specifications for product design and manufacturing techniques. Two lectures and one two-hour laboratory per week. S(e)

ET 534 CONCEPTS OF GROUP TECHNOLOGY
Prereq.: Permission of instructor. Principles and applications of group technology for the engineering and manufacturing environment. Analysis of part and coding system design for applications in CAD/CAM/CIM and process planning systems. S [c]

ET 542 PRODUCTION COST ESTIMATING
Prereq.: ET 360 and 497, or permission of instructor. Principles and methods for evaluating costs and times crucial to engineering designs, tooling and production, with application of these principles to case studies and basic engineering design problems. $S$ [c]

ET 550 GLOBAL POSITIONING SYSTEMS APPLICATIONS
Prereq.: ET 457. Global Positioning System (GPS) use for control surveying, GIS data acquisition and land surveying applications. Students will gather GPS field data and perform differential processing including static, kinematic, pseudo-kinematic and real time GPS. F [c]

## ET 556 ARCHITECTURAL AND CIVIL ENGINEERING TECHNOLOGY COMPUTER AIDED DESIGN

Prereq.: TC 113 and 122. MicroStation CAD software in practical projects applications. Introduction to 3D design and solid modeling. IR [c]

ET 568 CAE APPLIED FINITE ELEMENT ANALYSIS 3
Prereq.: ET 357 and 464, or permission of instructor. Application of the finite element method to structural problems. S [c]

ET 577 ENGINEERING TECHNOLOGY PROJECT ADMINISTRATION

3
Examination of principles and practices of project administration. Topics include planning, budgeting, permitting, programming, personnel, legal, public involvement, tort liability, emergency handling and dealing with federal and state government requirements. F

## ET 592 RESEARCH AND DEVELOPMENT OF EXPERIMENTS

3
Prereq.: Matriculation in MSET program and completion of 15 credits of approved graduate study. Concepts and procedures for obtaining, evaluating and reporting existing and measured data. F [c]

ET 598 RESEARCH IN ENGINEERING TECHNOLOGY 3
Prereq.: ET 592 and permission of project adviser. Technical laboratory project 3 conducted under the supervision of project adviser. Written and oral defense of project required. On demand. [c]

THESIS
Prereq.: ET 592 and permission of thesis adviser. Preparation of thesis under supervision of adviser. Written and oral defense of research required. On demand. [c]

## ENGLISH

Note: Additional work will be required for graduate credit in 400-level courses.

## ENG 400 LINGUISTIC ANALYSIS

Intensive analyses (syntactic, morphological, phonological) of selected data from English and other languages. Particular emphasis on developing analytical skills. F

## 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. (Not applicable to M.A. or M.S. in English programs.)

## ENG 403 TECHNICAL WRITING

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, correspondences, directories, manuals, technical/articles. (Not applicable to M.A. or M.S. in English programs.)

## ENG 412 EDITING

Prereq.: ENG 235 or 236 or permission of instructor. Emphasis on copy editing, headline writing, news judgment, photo handling, newspaper makeup. (Not applicable to M.A. or M.S. in English programs.) IR

## 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. (Not applicable to M.A. or M.S. in English programs.) S

## ENG 418 STUDIES IN JOURNALISM <br> Prereq.: ENG 235 or 236 or permission of instructor. Selected topics in jour-

 nalism. Students may take this course under different topics for a maximum of 6 credits. (Not applicable to M.A. or M.S. in English programs.) IR
## ENG 420 TEACHING ENGLISH IN SECONDARY SCHOOLS

3
Prereq.: Admission into the professional program in English. Methods and materials for teaching English language and literature. (Not applicable to M.A. or M.S. in English programs.) F

## 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. (Not applicable to M.A. or M.S. in English programs.) F

## ENG 430 STUDIES IN LINGUISTICS AND THE

## ENGLISH LANGUAGE

Selected topics in linguistics. Students may not take this course under the same topic more than once. IR

## ENG 431 THE HISTORY OF THE ENGLISH LANGUAGE

History, growth, and structure of English language. S
ENG 441 HAWTHORNE, MELVILLE AND JAMES
Study of the problem of evil in 19th-century American literature. The course seeks to define the problem, to trace its sources in the Puritan tradition, and to consider solutions proposed in the fiction of Hawthorne, Melville and Henry James. IR

## ENG 445 AMERICAN DRAMA

Development of American drama and its contribution to literature. IR

## ENG 448 STUDIES IN AMERICAN LITERATURE

Selected topics in American literature. Students may take this course under different topics for a maximum of 6 credits.

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. IR

ENG 450
CHAUCER
3
Readings in Chaucer, with special emphasis on The Canterbury Tales and Troilus and Criseyde. IR

ENG 451 MILTON
Readings in Milton's prose and poetry with emphasis on Paradise Lost and Samson Agonistes. IR

ENG 458 STUDIES IN BRITISH LITERATURE
Selected topics in British Literature. Students may take this course under different topics for a maximum of 6 credits.

ENG 461 SHAKESPEARE: MAJOR COMEDIES
Close analysis of major comedies and pertinent critical problems. IR
ENG 462 SHAKESPEARE: MAJOR TRAGEDIES
Close analysis of major tragedies and pertinent critical problems. IR
ENG 463 ELIZABETHAN AND JACOBEAN DRAMA
Study of major dramatists from Kyd to Ford, excluding Shakespeare. IR
ENG 464 RESTORATION AND 18th CENTURY DRAMA
English drama from 1660-1800, primarily comedy. Readings from works of such dramatists as Wycherley, Etherege, Dryden, Congreve, Vanbrugh, Farquhar, Gay, and Sheridan. IR

ENG 470 THE VICTORIAN NOVEL
Representative Victorian novelists with special emphasis on Trollope, Eliot, Dickens, Thackeray, and Hardy. IR

ENG 474 THE CONTEMPORARY AMERICAN NOVEL 3
American novels which have come to prominence since World War II, and the changing cultural environment which they reflect. IR

ENG 475 THE BRITISH NOVEL TO 1832
Form and content of the novel with readings selected from DeFoe, Richardson, Fielding, Sterne, Smollett, Austen, Scott and Gothic novels. IR

ENG 476 THE MODERN BRITISH NOVEL
3
Form and content of the novel with readings selected from Joyce, Woolf, Ford, Conrad, Lawrence, Huxley, Forster, Greene, Waugh and others. IR

ENG 477 MODERN BRITISH POETRY 3
Major works of Hardy, Hopkins, Yeats, D.H. Lawrence, Owen, Sassoon, Auden, Dylan Thomas, Larkin, Hughes, and others. IR

ENG 478 MODERN AMERICAN POETRY
Study of important American poets from Dickinson to the present. IR
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. IR

ENG 486 LITERATURE AND FILM
3
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. $S$

ENG 487 TWENTIETH-CENTURY BRITISH DRAMA 3
3 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. IR

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.

## ENG 490 SEMINAR IN INDIVIDUAL GUIDED READING 1-3

Prereq.: Permission of the department chair. A conference course for students wishing 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. (May be applicable to M.S Program - see graduate adviser.) S

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. (Not applicable to M.A. or M.S. in English programs.)

## ENG 495 INTERNSHIP 1-6

Prereq.: Permission of faculty adviser and department chair. Intern projects under the guidance of an English faculty adviser and with the permission of the department chair. (Not applicable to M.A. or M.S. in English programs.)

## 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. F

ENG 497 SECOND LANGUAGE ACQUISITION
Major theories of language acquisition and their potential application to language teaching. The theoretical bases of second language instruction. $S$

ENG 498 TESOL PRACTICUM
Students will teach ESOL under supervision. S

## ENG 500 SEMINAR IN AMERICAN LITERATURE

Prereq.: Admission to degree program in English or permission of instructor. Designed to give student seminar experience in selected area of English studies. F

ENG 501 SEMINAR IN BRITISH LITERATURE
Prereq.: Admission to degree program in English or permission of instructor.
Designed to give student seminar experience in selected area of English studies. S

## ENG 512 MODERN SYNTAX

Concepts and formalisms in grammar. Problem solving in English syntax. Contemporary developments in syntactic theory. S

## ENG 513 MODERN PHONOLOGY

3
Characteristics and organization of sound systems of languages. Special attention to the sound system of English and how it fits into universal patterns.
Generative and post-generative phonologies. S

## ENG 515 AN INTRODUCTION TO SOCIOLINGUISTICS

Examination of the interlocking nature of language and society, with particular emphasis on sociolinguistic theory and field work. F

ENG 520 TEACHING ENGLISH IN SECONDARY SCHOOLS 3
Prereq.: Teaching experience and permission of instructor. Methods and materials for teaching English language, literature and composition. Meets state certification requirements. (Applicable to M.S. in English; not applicable to M.A. in English.) S

ENG 521 TEACHING WRITING IN SECONDARY SCHOOLS 3

Prereq.: Open only to experienced teachers. Exploring ways of motivating writing, organizing writing activities, teaching grammar and mechanics, and evaluating writing in secondary schools while developing personal writing techniques. (Applicable to M.S. in English; not applicable to M.A. in English.) F

ENG 530 SPECIAL TOPICS IN LITERATURE 3
Detailed study of a literary figure, genre, period, or theme. Subject matter will vary from semester to semester. Students may not take this course under the same topic more than once. IR

ENG 533 SECOND LANGUAGE COMPOSITION
Psycholinguistics of writing in a second language. Principles, methods, and materials for teaching writing to students of English as a second or foreign language. The second language writing curriculum. S

ENG 535 SECOND LANGUAGE TESTING
Linguistic and academic assessment of non-native speakers of English. Determination of language dominance and proficiency of bilinguals. Preparation of language tests. F

ENG 598 RESEARCH IN ENGLISH
Research skills in a discipline offered by the English Department. The literature section is a course designed to introduce the techniques and resources of literary research through an examination of the theory, history and practice of literary criticism. The TESOL section covers research topics and methods in TESOL and Applied Linguistics. F

ENG 599 THESIS
Prereq.: Admission to M.S. or M.A. program in English or M.S. program in TESOL, a minimum of 15 credits of graduate course work in English, and permission of the department chair. Preparation of the thesis under the supervision of the thesis adviser.

## FINANCE

Note: Additional work may be required for graduate credit in 400-level courses.

FIN 400 ADVANCED MANAGERIAL FINANCE 3
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. F [c]

FIN 410 SECURITIES ANALYSIS
Prereq.: FIN 301, 310 and 320. An advanced course in investments with emphasis on security analysis and portfolio 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 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. F

FIN 430 INTERNATIONAL FINANCIAL MANAGEMENT 3
Prereq.: FIN 295. 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]

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 $496 \quad$ 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. F
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. $S$

## FINE ARTS

Note: Additional work will be required for graduate credit in 400 -level courses.

## FA 490 INTEGRATING THE FINE ARTS FOR THE YOUNG LEARNER

Prereq.: Permission of dept. chair in Art, Theatre or Music. 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. SS

## FRENCH

Note: Additional work will be required for graduate credit in 400 -level courses.

## FR 441 ADVANCED ORAL PRACTICE I

Prereq.: Senior or graduate standing and permission of instructor. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. F

## FR 442 ADVANCED ORAL PRACTICE II

Prereq.: Senior or graduate standing, FR 441 or permission of instructor. Continuation of FR 441. On demand.

## FR 451 THE STRUCTURE OF MODERN FRENCH

Prereq.: Permission of instructor. Designed to assist students in the improvement of all aspects of oral expression. Includes study of morphological and phonological systems and syntactic analysis. IR

## FR 460 ADVANCED GRAMMAR AND COMPOSITION

Prereq.: Senior or graduate standing, FR 335 or equivalent. Written expression of French, particularly in idiomatic free composition, designed to establish appreciation for French style and to develop ability to express shades of meanings. F

## FR 465

LITERARY ANALYSIS
Prereq.: Senior or graduate standing, FR 302 and 336 or equivalent preparation. Instruction in the techniques of "explication de texte" and of various approaches to literary analysis as an instrument for the development of critical reading ability and as a necessary step in literary research. F

## FR 471 20th CENTURY FRENCH LITERATURE I

Prereq.: Senior or graduate standing and permission of instructor. Literature and the arts in a world of complex and ever-changing values, from the century's surrealistic beginnings to Existentialism. F(o)

## FR 472 20th CENTURY FRENCH LITERATURE II

Prereq.: Permission of instructor. Literature and the arts from Existentialism to the present focus on the mass media and other innovations. S(e)

FR 510 MEDIEVAL FRENCH LITERATURE
Prereq.: Senior or graduate standing and permission of the instructor. Cultural and literary trends in France from the ninth through the 15th centuries and their relation to contemporary society. $\mathrm{F}(\mathrm{o})$

FR 561 TOPICS IN FRENCH LITERATURE
Prereq.: Permission of instructor. Detailed study of literary figure, movement, or theme. Subject matter will vary from semester to semester. IR

## FR 581 19th CENTURY FRENCH LITERATURE

3
Prereq.: Permission of instructor. The main currents of 19th century thought, with emphasis on works of the Symbolists and Naturalists. F(e)

FR 588 CONTEMPORARY SOCIETY IN THE FRENCH-SPEAKING WORLD

3
Prereq.: Permission of instructor. Contemporary French society, institutions, traditions and values.

FR 598 RESEARCH IN FRENCH STUDIES
Prereq.: Departmental approval and at least two graduate courses in literature or linguistics. Seminar designed to permit student to develop under supervision a research paper in an aspect of French literature, culture or linguistics, or to begin thesis research.

FR 599
THESIS
3 or 6
Prereq.: 15 credits of approved graduate study and approval of adviser. Preparation of the thesis under the supervision of the thesis adviser.

## GEOGRAPHY

Note: Additional work will be required for graduate credit in 400-level courses.
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. F

## 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 supervision on site by an affiliate member from a liaison institution. Substantial pre-trip orientation and post-trip reports required. On demand.

## GEOG 430 INTERNSHIP IN GEOGRAPHY

Prereq.: Permission of the department chair. No credit given to students with credit for GEOG 420. 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. 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.

## 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. $F$

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. S(o)

## GEOG 436 SOUTH AMERICA

Survey of the countries of South America with emphasis on people, places and problems. S

GEOG 437 CHINA
Physical, economic, political and historical geography of China. Special consideration of her population, resources, agricultural growth and industrial expansion. Discussion of the geographic bases of the expansion of the Chinese State and the contemporary foundation of Chinese national power. $\mathrm{F}(\mathrm{o}$ )

GEOG 439 URBAN GEOGRAPHY
Form, function and evolution of urban settlements with reference to attributes of place. Emphasis 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 onsite study of a current urban problem within the state is expected. S

GEOG 440 RURAL LAND USE PLANNING
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. F

GEOG 441 COMMUNITY AND REGIONAL PLANNING
Philosophies, theories, and principles involved in planning of regions and urban areas. F

GEOG 442 FIELD METHODS IN GEOGRAPHY 3
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. $\mathrm{F}(\mathrm{e})$

## 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 Hartford region. S(e)

## 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. S

GEOG 446 SUB-SAHARAN AFRICA
Relationships between the physical environment and human development in Africa south of the Sahara. S(o)

## GEOG 448 RUSSIA \& NEIGHBORING REGIONS

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. F

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. $F$

## GEOG 451 TOURISM DEVELOPMENT IN

 SOUTHERN NEW ENGLAND socio-economic impacts. Focus on issues, problems and opportunities in tourism, including functions of state and regional tourism agencies in southern New England. S(o)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. S

GEOG 453 RECREATION PLANNING
Study of the supply, location, distribution, use, planning, management and impact of recreation facilities in both urban and rural situations. $S(e)$

## GEOG 454 GEOGRAPHY OF TOURISM MARKETING

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. F

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. F

GEOG 459 FIELD STUDIES IN REGIONAL GEOGRAPHY 3-6
Prereq.: Permission of instructor. On-site group studies in regional geography. This course normally involves travel outside the United States. May be repeated once for credit. SS, WS

## 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, which might include urban climates, microclimatology, global change, coastal environments or the impact of glacial and periglacial processes on landforms. S(o)

GEOG 473 GEOGRAPHY OF NATURAL RESOURCES 3
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. S(e)

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. $\mathrm{F}[\mathrm{c}]$

GEOG 478 GIS DESIGN AND IMPLEMENTATION
Prereq.: GEOG 378 or permission of instructor. Advanced study of geographic information systems and applications. Students will prepare a proposal to develop a GIS for a municipality or non-profit organization. Portions of the database will be implemented. Concentration on vector software. $F(e)$ [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
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. $F(e)$

GEOG 514 STUDIES IN SYSTEMATIC GEOGRAPHY
3
Prereq.: Permission of adviser and instructor. Advanced study in one of systematic specialties of the department. May be taken more than once for credit. On demand.

## GEOG 516 STUDIES IN REGIONAL GEOGRAPHY

Prereq.: Permission of adviser and instructor. Advanced study in one of regional specialities of the department. May be taken more than once for credit. On demand.

## GEOG 518 STUDIES IN GEOGRAPHICAL TECHNIQUES

Prereq.: Permission of adviser and instructor. Advanced study in one of the geographical techniques. May be taken more than once for credit. On demand.

GEOG 595 SPECIAL PROJECT IN GEOGRAPHY
Prereq.: GEOG 598 and permission of graduate adviser. Completion of an advanced project in geography under the supervision of a faculty member. Requirements include preparation of a paper and an oral presentation on the project. On demand.

GEOG 598 RESEARCH IN GEOGRAPHY
Prereq.: Permission of adviser. Designed to familiarize student with techniques and resources associated with research in field of geography. Practical application. F

GEOG 599 THESIS
Prereq.: GEOG 598 and permission of graduate adviser. Preparation of the thesis under the supervision of the thesis adviser. $S$

## GERMAN

Note: Additional work will be required for graduate credit in 400-level courses.

## GER 410 BUSINESS GERMAN I

3
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. F

## HEALTH AND HUMAN SERVICE PROFESSIONS

Note: Additional work will be required for graduate credit in 400-level courses.
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. $F$

HHSP 500 TOPICS IN HEALTH AND HUMAN SERVICES 1-3
Prereq.: Permission of instructor. Selected studies in health and human services which are not offered in the regular curriculum of the department. May be repeated with different topics for a maximum of 6 credits. IR

## HISTORY

Note: Additional work will be required for graduate credit in 400-level courses.
HIST 423 COLONIAL PERIOD OF AMERICAN HISTORY 3
Prereq.: HIST 261 or equivalent or permission of instructor. Development of America to 1763. F

## 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. S

HIST 425 ERA OF NATIONAL DEVELOPMENT
United States from 1800 to 1850. F

## HIST 426 THE UNITED STATES, 1850-1896

The US from the Compromise of 1850 to Pless $v . F$ Reconstruction and the shift of public concern to problems of industrialization, urbanization and immigration. $S$

Hen
Industrial growth, immigration, political reform, the Great Depression and the rise of the United States as a world power. F

HIST 428 THE UNITED STATES SINCE 1933
3 Major political, social, economic, cultural and diplomatic developments since 1933. S

HIST 429 WOMEN AND REFORM IN AMERICAN SOCIETY, 1870 to 1920
Involvement of women in suffrage reform, temperance, immigration reform, the social hygiene movement, the crusade against prostitution and white slavery, birth control, socialism and problems of gender between 1870 and 1920 will be considered. S(o)

HIST 430 ECONOMIC HISTORY OF EUROPE 3
Emphasis on economic and industrial development of period since Industrial Revolution. F

## HIST 433 HISTORY OF ANCIENT GREECE

Greek institutions from Mycenean period to accession of Constantine. F
HIST 434 HISTORY OF ANCIENT ROME
Roman institutions from regal period to reign of Constantine. S
HIST 435 HISTORY OF EARLY MEDIEVAL EUROPE
The Late Roman Empire to the 11th century. S(e)
HIST 436 HISTORY OF LATER MEDIEVAL EUROPE
The Crusades to the Great Schism. S(o)

HIST 441 RENAISSANCE AND REFORMATION
History of Europe during the Age of Transition and the Era of Religious Wars, 1300-1648. F(e)

HIST 442 EUROPEAN HISTORY, 1650 TO 1815
Social, economic, political and cultural forces of period in relationship to formation of modern society and government. S(e)

HIST 443 EUROPEAN HISTORY, 1815-1918
Political, economic, and social institutions in relation to rise of liberalism, nationalism, socialism and imperialism. F

## HIST 444 EUROPEAN HISTORY, 1918 TO THE PRESENT

National and international problems of European states. S

HIST 445 EUROPEAN INTELLECTUAL HISTORY, 1750-1870 3
European philosophic, social, and political thought from Romanticism through Realism, including Marxism, Nationalism, Darwinism and Positivism. F(e)

## HIST 446 EUROPEAN INTELLECTUAL HISTORY, 1870-PRESENT

Contemporary European philosophic, social, and political thought. Topics covered include Irrationalism, Aestheticism, Neo-positivism, Existentialism and Fascism. S(e)

HIST 453 HISTORY OF MODERN CHINA
3
China during late Ch'ing, Republican and Communist periods. F
HIST 454 HISTORY OF MODERN JAPAN
3
Japan during the 19th and 20th centuries. S
HIST 456 CHINESE INTELLECTUAL HISTORY
The major intellectual, social and political texts that shaped the Chinese historical tradition and formed the basis for the development of East Asian civilization. $\mathrm{F}(\mathrm{o})$

HIST 457 THE FAMILY IN CHINESE HISTORY
3
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. F

## HIST 463 CONSTITUTIONAL HISTORY OF THE UNITED STATES TO 1900

Study of nation's fundamental law as influenced by political, economic and social forces. F(e)

HIST 465 ECONOMIC HISTORY OF THE UNITED STATES 3
American economy from its agricultural beginnings through stages of its commercial, industrial and financial growth.

HIST 466 HISTORY OF AMERICAN TECHNOLOGY
The history and development of technology in America, emphasizing sources of technology, its impact on the work place, on the reorganization of production and management and on change in the larger society. F

## HIST 469 AFRICAN AMERICANS IN THE TWENTIETH CENTURY

Political, economic, social and cultural developments in Black American since 1900. F (o)

## HIST 472 MODERN MIDDLE EAST

3
Historical developments in the 20th century with a special emphasis on political, social and economic conflicts. F

## HIST 473 HISTORY OF JUDAISM

Analysis of major themes in the historical development of Judaism from ancient times to the present. S

HIST 474 HISTORY OF THE ARAB-ISRAELI CONFLICT
History of the Arab-Israeli conflict from the time of Israel's creation as a modern nation-state until the present. S

HIST 480 MODERN POLAND
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. $\mathrm{F}(\mathrm{e})$

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. F(e)

HIST 482 THE POLISH AMERICAN IMMIGRANT AND ETHNIC COMMUNITY3

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. $S(0)$

HIST 483 HISTORY OF INTER-AMERICAN RELATIONS 3 Inter-American relations from inception of Monroe Doctrine to present. $F(e)$

## HIST 484 HISTORY OF MEXICO

Mexico from high culture of Mayans through conquest, colonial period, independence and national development. S(e)

HIST 488 AMERICAN BUSINESS HISTORY
3
Historical examination of the forms and strategies employed in business in America. S(o)

HIST 489 AMERICAN LABOR HISTORY
Historical examination of the response of American Labor to technology and the development of a formal institutionalized labor movement. S(e)

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 vary from semester to semester. Not more than three credits to be taken in one semester. On demand.

## HIST 495 HISTORIOGRAPHY

European and American historical writing and philosophies of history. S
HIST 497 TOPICS IN HISTORY 3
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.

## ALL 500-LEVEL COURSES REQUIRE PERMISSION OF INSTRUCTOR

$\begin{array}{ll}\text { HIST } 532 & \text { STUDIES IN ANCIENT GREEK AND } \\ & \text { ROMAN CIVILIZATION }\end{array}$
Study of selected topics. IR
HIST 540 SEMINAR IN EUROPEAN HISTORY
3 or 6
Selected problems in historical research. IR

HIST 542 SEMINAR IN MODERN RUSSIAN HISTORY 3
Selected topics in 19th- and 20th-century Russia with emphasis on multinational developments. $\mathrm{S}(\mathrm{o})$

HIST 550 SEMINAR ON CHINA IN THE NINETEENTH CENTURY
China as she sought to make the transition from a traditional to a modern state. $\mathrm{F}(\mathrm{e})$

HIST 552 SEMINAR ON CHINA IN THE 20TH CENTURY 3
Investigation of the birth and development of communism in China since 1918. S(e)

HIST 560 SEMINAR IN AMERICAN HISTORY 3 or 6
Selected problems in historical research. IR
HIST 564 PRE-CIVIL WAR REFORM IN AMERICA, 1800-1860
Analysis of the major social, moral, and religious reforms in antebellum America. IR

HIST 565 SEMINAR IN 17th and 18th CENTURY AMERICA 3
Topics in 17th- and 18th-century American history. IR
HIST 567 THE UNITED STATES IN THE 1920s 3
In-depth study of Age of Disillusionment via directed readings and seminar. S(e)
HIST 568 SEMINAR ON THE NEW DEAL 3
Study of agencies and policies of New Deal and their impact upon institutions of United States. IR

HIST 570 IMMIGRATION IN AMERICAN HISTORY 3
Study of major waves of immigration into United States in 19th and 20th centuries. F (o)

HIST 583 SEMINAR IN LATIN AMERICAN HISTORY 3 or 6
Selected historical, political, social, cultural, or economic topics. IR
HIST 593 DIRECTED STUDY IN HISTORY
Prereq.: Permission of graduate adviser and instructor. Selected readings and project appropriate to student's major field. Open only to students in M.S. program Plan C. IR

HIST 598 RESEARCH IN HISTORY
Prereq.: 30 credits in History. Designed to familiarize students with techniques and resources associated with research in their specialization. Opportunity for practical application will be provided. IR

HIST 599 THESIS
Prereq.: Permission of adviser. Preparation of thesis under the supervision of the thesis adviser.

## HUMANITIES

Note: Additional work will be required for graduate credit in 400-level courses.

HUM 490 CULTURE AND CIVILIZATION OF OTHER LANDS
Prereq.: Permission of instructor. Approach to better understanding of other lives and cultures as reflected in language, music, literature, art and folklore. IR

HUM 494 FOREIGN STUDY THROUGH TRAVEL 3 or 6
Course will acquaint participants with civilizations of other countries through supervised travel abroad. Attention will be given to special needs and interests of participants. On demand.

## INDUSTRIAL TECHNOLOGY

Note: Additional work may be required for graduate credit in 400-level courses.

## IT 402 TOPICS IN TECHNOLOGY <br> 1-3

Prereq.: Permission of 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 and ITM majors. Course may be repeated for a maximum of 6 credits for different topics.

## IT 403 TECHNIQUES OF TECHNICAL TRAINING

Emphasis on instructional techniques and their application for the delivery of training programs to trainees in organizational settings. Areas of study include instructional objectives, presentation planning, delivery strategies, integration of audio-visual materials and development of approaches for assessing trainee achievements. IR

## IT 410 INDUSTRIAL SAFETY

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.

IT 411 INDUSTRIAL HYGIENE
Lectures and laboratory exercises covering evaluation and control of exposure to dust, fumes, mist, vapors, gases, radiation, noise and abnormal temperatures. F

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 onsite loss control program, personnel responsibilities and total safety program. S

IT 415 FIRE PROTECTION AND PREVENTION
Measures related to safeguarding human life and preservation of property in prevention, detection, extinguishing fires. $S$

IT 421 EVALUATION TECHNIQUES IN
INDUSTRIAL HYGIENE
Prereq.: IT 411 or permission from instructor. Continuation of Industrial Hygiene with emphasis on instrumentation, data collection, interpretation and applications to safety standards and regulations. $S$

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. $S$

## 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. S

Practical course in techniques needed by conference leader. Student is encouraged to put into practice techniques learned, and is permitted to lead conferences. Analysis of conference procedures, leader's responsibility in conference, selection and preparation of conference topics, use of auxiliary materials, techniques of control and summarization. On demand.

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. $S$

## IT 457 CONSTRUCTION SUPERVISION

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
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 improvement are studied. S

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. F

IT $480 \quad$ ROBOTICS 3
Prereq.: Senior standing or permission of instructor. The course provides an overview of the industrial robot to introduce the student to the science of flexiselection and implementation of industrial robots. F, SS [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. $S[c]$

IT 490 QUALITY BY DESIGN
3 Planning techniques of Failure Mode and Effects Analysis (FMEA), Quality Function Deployment (QFD) and Design of Experiments (DOE) will be presented. $S$

## IT 500 INDUSTRIAL APPLICATIONS OF COMPUTERS

Prereq.: TC 113 or equivalent. The use of the computer as an industrial tool.
Topics include writing and running programs for computer-assisted design analysis, computer generated numerical control programs, and computer verifications. F, SS

## IT 502

## HUMAN RELATIONS AND BEHAVIOR

 IN COMPLEX ORGANIZATIONSAnalysis of human relations in technological organizations, including motivation, corporate processes, communication and power.

IT 510 INDUSTRIAL PLANNING AND CONTROL 3
Principles underlying industrial management. Topics include organization for production, industrial risk, product research and development and the management of capital goods. S, SS

## IT 513 COMPUTER APPLICATIONS FOR

 THE PROFESSIONAL3
Prereq.: TC 113 or CS 115 or permission of instructor. Designed for business professionals who need to expand their knowledge of application software. Includes the in-depth application and interrelationship of state-of-the-art managerial software packages. On demand. [c]

IT 521 COMPUTER-AIDED DESIGN AND DRAFTING
Prereq.: TC 113 or permission of instructor. In-depth utilization of computer technology to create and modify two and three-dimensional engineering drawings. Space geometry, vector analysis and specialized drafting conventions will be used to generate a data base for a variety of design-drafting applications. This course is laboratory-oriented and intended to further the student's knowledge in drawing preparation using the computer and associate peripherals.

IT 551
PROJECT MANAGEMENT
3
Application of the techniques and tools to manage each state of the project life cycle within the organizational and cost constraints. Utilize project management tools to set goals tied to needs for successful project management. S [c]

IT 564 QUALITY SYSTEMS MANAGEMENT
3
Emphasis on the development and application of total quality system management (TQM) documents. Students will develop a planned quality document to meet domestic and international standards as defined by ISO-9000 and United States supplier certification programs. S [c]

IT 595 APPLIED RESEARCH TOPIC IN TECHNOLOGY
Prereq.: Permission of adviser. Completion of an advanced project in technology under the supervision of a faculty member. Requirements include a paper and an oral presentation on the project. On demand. [c]

IT 596 TECHNOLOGICAL ISSUES AND PROBLEMS 1-3
Extensive study of selected technological issues and problems. Course may be repeated for different topics, but student may not take this course for credit under the same topic more than once. Course may be repeated with different topics for a maximum of 6 credits. IR

IT 597
THESIS
Prereq.: Permission of adviser. Preparation of thesis under the supervision of thesis adviser. On demand.

IT 598 RESEARCH IN TECHNOLOGY
3
Prereq.: Permission of adviser. Theory and practice of conducting research in technology. Includes study of professional literature, evaluation of data gathering techniques, application of statistical methods to data, formulation and verification of hypothesis. F [c]

IT 664 QUALITY DATA COLLECTION AND ANALYSIS
Prereq.: IT 564 or permission of instructor. Study of product, process and material control and their application to inspection, quality control and process improvement. Emphasis on data collection, measurement systems and methods. S [c]

IT 690 QUALITY AUDITING
3
Prereq.: IT 564 or permission of instructor. Emphasis on the administration, preparation and performance of quality audits. Topics include conduct, ethics and auditing tools and techniques related to various quality standards. F [c]

## INTERNATIONAL BUSINESS

Note: Additional work will be required for graduate credit in 400 -level courses.
IB 491 SPECIAL TOPICS IN INTERNATIONAL BUSINESS 1-3
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 from a maximum of 3 credits. IR

## 3 INTERNATIONAL STUDIES

Note: Additional work will be required for graduate credit in 400-level courses

## IS 450 INTERNSHIP IN INTERNATIONAL STUDIES <br> 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.

IS 570 MODERN WORLD ISSUES 3
Examination of contemporary world problems such as population, underdevelopment, ecological degradation, war and diplomacy and cultural extinction.

IS 571 INTERNATIONAL DIVERSITY AND INTEGRATION
Study of the institutions and attitudes involved in international integration. Factors which influence this process such as ethnic and cultural diversity will be considered. F

IS 572 GLOBAL ECONOMIC INTEGRATION 3
Prereq.: ECON 200 and 201. Analysis of the global economy stressing integration in economic development and international trade. $S$

IS 590 GRADUATE FIELD STUDY ABROAD 3-6
Course taught abroad. May be repeated for a maximum of 6 credits.

## IS 595 SPECIAL PROJECT IN

INTERNATIONAL STUDIES
Prereq.: IS 598 and permission of instructor. Advanced project in international studies under the supervision of a faculty member. Requirements include preparation of a paper and an oral presentation on the project. On demand.

## IS 596 INDEPENDENT STUDIES

Prereq.: Permission of adviser. Independent work in International Studies to meet individual interest in regions or topics not covered in the regular curriculum. Work will be under the supervision of an assigned faculty member. On demand.

## IS 597 GRADUATE SEMINAR IN

 INTERNATIONAL STUDIESPrereq.: 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.

IS 598 RESEARCH IN INTERNATIONAL STUDIES
Prereq.: Permission of adviser. Designed to familiarize students with the techniques and resources associated with research in their specialization. Opportunity for practical applications will be provided. On demand.

IS 599 THESIS IN INTERNATIONAL STUDIES
Preparation of the thesis under supervision of the thesis adviser.

## ITALIAN

Note: Additional work will be required for graduate credit in 400-level courses.

ITAL 441 ADVANCED ORAL PRACTICE I
Prereq.: Instructor's permission. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. On demand.

## ITAL 442 ADVANCED ORAL PRACTICE II

3
Prereq.: ITAL 441 or instructor's permission. Further practice in oral selfexpression. On demand.

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.

ITAL 470 14TH CENTURY ITALIAN LITERATURE
Prereq.: ITAL 305 or instructor's permission. Study of the period with special emphasis on Dante, Petrarca, Boccaccio. On demand.

## ITAL 471 20TH CENTURY ITALIAN LITERATURE

Prereq.: Permission of instructor. Representative authors and literary movements of the 20th century. On demand.

ITAL 476 16TH CENTURY ITALIAN LITERATURE 3
Prereq.: ITAL 305 or instructor's permission. Italian Renaissance major works with special emphasis on the Epic. On demand.

## ITAL 488 ITALIAN LIFE AND CULTURE

Prereq.: Permission of instructor. Discussion of contemporary Italian society, traditions and values. On demand.

## MANAGEMENT

Note: Additional work may be required for graduate credit in 400-level courses.

## MGT 403 SOCIAL ISSUES FOR MANAGERS

Prereq.: MGT 295. Defines contemporary issues of corporate social responsibility and explores the impact of these issues on managerial decision-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. 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. 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.: 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, FIN 295 and MKT 295. 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 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 MANAGEMENT

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: Additional work will be required for graduate credit in 400-level courses.
MIS 400 DECISION SUPPORT AND EXPERT SYSTEMS 3
Prereq.: MIS 210, 220 and senior standing. 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 and senior standing. The features of centralized, decentralized and distributed systems will be examined. The impact of distributed systems on the business enterprise will be exposed via the medium of case studies. Technology implications of computer hardware, software and communications are discussed as they relate to the design, development and implementation of distributed data processing systems. [c]

## MIS 415 DATABASE PROGRAM DEVELOPMENT

3
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. Design and implementation of a major database project. [c]

MIS 420 INFORMATION SYSTEMS (IS) AUDIT, CONTROLS AND SECURITY
Prereq.: MIS 210, 220 and senior standing. An introduction to IS auditing. Emphasis on IS controls, types of IS audits, and concepts and techniques used in IS audits. Exposure to risk assessment and professional standards in the field of IS auditing. [c]

## MIS 450 <br> ENTERPRISE STRATEGIES AND

 TRANSFORMATIONSPrereq.: 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. IR [c]

## MIS 461

STRUCTURED SYSTEMS ANALYSIS AND DESIGN IN MIS
Prereq.: Completion of required MIS core 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 496

## PRACTICUM IN MANAGEMENT INFORMATION SYSTEMS

3
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
Prereq.: Senior standing. An examination of the current trends in the theory and business practices of information and decision sciences. On demand. [c]

## MARKETING

Note: Additional work may be required for graduate credit in 400-level courses.

## MKT 413 INDUSTRIAL MARKETING

Prereq.: MKT 295. 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
3 Prereq.: MKT 295 and STAT 104. 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 3
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 sites. 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 and 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 and 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

 ORGANIZATIONSPrereq.: MKT 295. 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.

## MARRIAGE AND FAMILY THERAPY

MFT 541 INTRODUCTION TO THEORIES OF FAMILY SYSTEMS
Prereq.: Admission to department. Historical and theoretical underpinnings of General Systems Theory as it applies to families and family therapy. Major models of family therapy will be presented to orient the student to an understanding of functional and dysfunctional processes in human interaction. This course lays the foundation for the subsequent assessment and treatment courses which focus specifically on the major schools of family therapy.

MFT 543 THE FAMILY LIFE CYCLE
Prereq.: MFT 541. Developmental aspects of the family system over time, delineating critical issues for individual and other subsystems at various stages and transition points of the family life cycle. This course covers divorce, remarriage and blended families within the various stages a family may experience.

MFT 544 FAMILIES IN CONTEXT: GENDER AND CULTURAL DIMENSIONS
Prereq.: MFT 541. Integral principles of human organization that influence family growth and development. Students gain an understanding of ethnicity and gender from a systemic framework.

MFT 551 STRUCTURAL/STRATEGIC \& BEHAVIORAL FAMILY THERAPIES and Behavioral schools of family therapy are examined. Students learn about diagnosis and treatment of human dilemmas and symptomatology within a systemic context.

MFT 552 EXPERIENTIAL, INTERGENERATIONAL AND PSYCHODYNAMIC FAMILY THERAPIES
Prereq.: MFT 551. Assessment and interventions from Experiential, Intergenerational and Psychodynamic schools of family therapy are explored. Students learn diagnostic and treatment of human dilemmas and symptomatology from these schools of therapy.

## MFT 554 COUPLES THERAPY

Prereq.: MFT 541. Assessment and treatment approaches to problematic dyadic relationships within a systemic framework are explored. Problems unique to couples are discussed, including sexual, communication and role expectations. This course covers treatment of spousal violence, sexual dysfunctions, mate selection, types of marriages, communication problems, gender and power issues and the developmental stages of marriage.

## MFT 555 DYSFUNCTIONAL FAMILY PROCESSES

Prereq.: MFT 541. Examination of structures and processes of family dysfunction, including substance abuse, family violence and sexual abuse. Assessment and intervention strategies from a systemic framework.

## MFT 556 SYSTEMIC PERSPECTIVES ON MENTAL ILLNESS

Prereq.: MFT 541. Diagnostic classifications of mental, emotional and behavioral disorders of individuals within a systemic framework. Students learn how to communicate within a medical model framework using systemic conceptualizations.

## MFT 557 ACTION METHODS IN MARITAL AND FAMILY THERAPY

Prereq.: MFT 541 or permission of instructor. Introduces students to action methods involving physical movement and dramatic role-play in MFT. Uses hands on experience and theory to compare action-oriented and exclusively verbal methods regarding therapeutic effectiveness and skill level. S

MFT 583 MARRIAGE AND FAMILY THERAPY PRACTICUM I 3 Prereq.: MFT 551 and permission of MFT coordinator. Students participate in direct client contact, staff meetings and supervision in a clinical setting. F

MFT 584 MARRIAGE AND FAMILY THERAPY PRACTICUM II 3
Prereq.: MFT 583. Students participate in direct client contact, staff meetings and supervision in a clinic setting. S

MFT 585 MARRIAGE AND FAMILY THERAPY INTERNSHIP
Prereq.: MFT 584 and permission of the MFT coordinator. Placement in a community agency providing marital and family therapy under supervision. May be repeated as needed to complete minimum requirement of 12 consecutive months (and 500 clinical contact hours/ 100 supervision hours).

## MATHEMATICS

Note: Additional work will be required for graduate credit in 400 -level courses.

## MATH 404 TOPICS IN MATHEMATICS

Prereq.: MATH 221 and junior standing. Selected topics in mathematics covering specialized areas not covered in regular course offerings or that go beyond that provided for in the standard curriculum. May be repeated with different topics for up to 6 credits. IR

## MATH 410 EARLY CHILDHOOD MATHEMATICAL METHODS

Prereq.: MATH 213 (C- or higher). 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 412 ELEMENTARY MATHEMATICAL METHODS

Prereq.: MATH 213 (C- or higher) and admission to the Professional Proran 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 414 MIDDLE LEVEL MATHEMATICS METHODS 2-3

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

 metic of commerce, astronomy, geometry and trigonometry in Babylonia, Egypt, Greece and Rome to the later accomplishments in algebra, geometry and calculus. S (o)
## MATH 431 TECHNIQUES IN DIAGNOSIS AND REMEDIATION FOR THE TEACHING OF MATHEMATICS-K-12

Prereq.: 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 identifying the factors related to learning difficulties in mathematics in the cognitive and affective domains, diagnostic tests, identification of the underachiever and case studies.
${ }^{1}$ MATH 441 INTRODUCTION TO CONCEPTS OF ANALYSIS I 3
Prereq.: MATH 113. Equations, inequalities, functions, relations and graphs. F

## ${ }^{1}$ MATH 442 INTRODUCTION TO CONCEPTS OF ANALYSIS II 3

Prereq.: MATH 441. Extension of MATH 441. Basic concepts of trigonometric
3 functions of angle and of real numbers and analytic geometry including polar coordinates. Introduction to calculus and other selected topics. S(o)

## ${ }^{1}$ MATH 446 INTRODUCTION TO COMPUTERS AND COMPUTER PROGRAMMING

Prereq.: MATH 121 or MATH 125 or MATH 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 every day 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. S [c]

## MATH 449 MATHEMATICS LABORATORY FOR ELEMENTARY SCHOOL

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. SS

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. $S$

MATH 466 INTRODUCTION TO RINGS AND FIELDS
Prereq.: MATH 366. An in-depth study of rings and related topics, including basic ring theorems, ideals, quotient rings, divisibility theory in integral domains, polynomial rings, simple field extensions and finite fields. S(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 systems and propositional calculus. F (o)

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. $\mathrm{F}(\mathrm{o})$

## MATH 470 MATHEMATICAL METHODS <br> IN OPERATIONS RESEARCH

Prereq.: STAT 200 or 215 or 315 and MATH 110 or 228 . Selected topics chosen from the areas of linear programming, queuing theory, decision analysis, network analysis, and simulation. S(o)

## MATH 471 COMPUTER PROGRAMMING

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 ORGANIZATION

AND PROGRAMMING
Prereq.: CS 151 or MATH 471, 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 and the design of computer systems. Oriented toward mathematics and Modula II. No credit given to students with credit for CS 254. S [c]

MATH 473 APPLIED ALGEBRA
Prereq.: MATH 228 and 366. Applications of abstract and linear algebra to the areas of statistics, computer science, actuarial science and applied mathematics. S(o)

MATH 477 NUMERICAL ANALYSIS I
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. F [c]

## MATH 478 NUMERICAL ANALYSIS II

Prereq.: MATH 221 and 471 or CS 151. Selected topics in numerical analysis with emphasis on computer solutions of problems. S(e) [c]

## MATH 479 ELEMENTS OF APPLIED MATHEMATICS

Prereq.: MATH 221 and 471 or CS 151. The calculus of finite differences. Selected topics from differences, difference operators, summations, interpolation, numerical approximations, gamma, beta, and psi functions and the solution of difference equations. $S(0)$ [c]

## 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. $\mathrm{F}(\mathrm{o})$

## 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. $S(e)$

MATH 491 ADVANCED CALCULUS
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. F(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. $\mathrm{F}(\mathrm{o})$

MATH 505 STUDIES IN MATHEMATICS
Prereq.: MATH 213. Includes a study of networks, Boolean Algebra, number theory, geometric transformations and their applications and relationships to the elementary and middle school mathematics programs. IR

MATH 515 ABSTRACT ALGEBRA I
3
Prereq.: MATH 366. Extension of basic group theory introduced in MATH 366, including normal subgroups, quotient groups, cyclic groups, permutation groups, classical isomorphism theorems and Sylow theorems. F(e)

## MATH 516 ABSTRACT ALGEBRA II

Prereq.: MATH 515, or MATH 366 and 466. Selected topics from advanced polynomial ring theory, Galois and extension field theory, homological algebra. S(e)

## MATH $520 \quad$ PRINCIPLES OF ANALYSIS II

3
Prereq.: MATH 495. Topics include Riemann-Stieltjes integrals, functions of bounded variation, sequences and series of real numbers, power series. S(o)

MATH 525 HIGHER GEOMETRY
3
Prereq.: MATH 221. Topics from higher-dimensional geometry. Foundations of several geometries and relationship of Euclidean Geometry to other geometries. Projective properties in a Euclidean (metric) setting. Selected topics from synthetic and analytic projective geometry. $\mathrm{F}(\mathrm{e})$

## ${ }^{1}$ MATH 531 BASIC CONCEPTS OF ELEMENTARY SCHOOL

 MATHEMATICS IPrereq.: MATH 113 (C- or higher) or 213 (C- or higher). Analysis of concepts underlying contemporary mathematics program in elementary school. Emphasis is placed on both structure of mathematical content and procedures used in developing pupil understanding of concepts and processes.

## ${ }^{1}$ MATH 532 BASIC CONCEPTS OF ELEMENTARY SCHOOL

 MATHEMATICS IIPrereq.: MATH 531, or permission of instructor. Continuation of MATH 531. Topics include those which are presently being taught in the K-8 curriculum with emphasis on content and methodology. With problem solving strategies as the main focus, the course will address geometry, probability and statistics, and developing the algorithms for teaching rationals and irrationals. Curriculum changes in mathematics for the 90 s will also be examined $S$

## MATH 540 CURRICULUM PROBLEMS IN

 SCHOOL MATHEMATICSCurrent issues in mathematics education. Study of some current major curriculum projects. Content basic to these programs is studied with emphasis on mathematical structure. Opportunity is provided for special investigation into topics of student's interest. S(e)

## MATH 543 SECONDARY SCHOOL MATHEMATICS FROM ADVANCED VIEWPOINT

Planned for teacher of secondary school mathematics. Major objective is to broaden and deepen teacher's knowledge of mathematics he/she teaches. Topics from secondary school mathematics are critically examined and advanced topics directly related to secondary school mathematics are included. Opportunity for discussion of teaching problems is provided. May be repeated with different topics for a maximum of 6 credits. SS

## MATH 580 DIRECTED STUDY IN MATHEMATICS

3
Prereq.: Permission of the instructor. A study of selected topics in mathematics. The area of study will depend on the instructor and the interests and needs of the student(s). May be repeated with different topics to a maximum of 6 credits. IR

## MATH 590 SPECIAL PROJECT IN MATHEMATICS 3

Prereq.: Completion of at least 21 credits in the student's planned program of graduate study. The study of an advanced topic in mathematics/mathematics education, approved by the student's graduate adviser and supervised by a faculty member. Requirements include preparation and oral presentation of a paper on the topic. IR

MATH 598 RESEARCH IN MATHEMATICS
Prereq.: STAT 453 and permission of adviser. Course designed to familiarize graduate student with techniques and resources associated with research in mathematics and mathematics education. Opportunity for practical application will be provided. $S$

MATH 599 THESIS 3 or 6
Prereq.: Permission of the adviser. Preparation of thesis under guidance of thesis adviser for students completing master's requirements under M.S. Plan A.
${ }^{1}$ These courses cannot be used to meet 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.

## MODERN LANGUAGES

Note: Additional work will be required for graduate credit in 400-level courses.
ML 400 TOPICS IN MODERN LANGUAGES
3
Prereq.: Permission of the instructor. Literary and language topics taught in the target language. May be repeated with different topics for a 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 Clinical 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. F

## 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. S

ML 492 TOPICS IN LANGUAGE TEACHING
Prereq.: ML 408 or 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. IR

## ML 510 BILINGUAL BICULTURAL EDUCATION

Prereq.: Functional command of a second language or permission of instructor. Principles and practices in the use of bilingual and bicultural materials in schools where two languages are used as medium of instruction.

## MUSIC

Note: Additional work will be required for graduate credit in 400-level courses.

## MUS 400 PROJECT IN MUSIC

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 the 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. IR

## MUS 430 MOZART AND HAYDN

Prereq.: 9 credits in Music or permission of instructor. Historical and analytical study of the composers and selected works. IR

Prereq.: 9 credits in Music or permission of instructor. Historical and analytical study of the composer and selected works. IR

MUS 432 BACH AND HANDEL
Prereq.: 9 credits in Music or permission of instructor. Historical and analytical study of the composers and selected works. IR

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. IR

## MUS 436 CHORAL MUSIC

3
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. IR

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. IR

## MUS 441 RESEARCH/BIBLIOGRAPHY SEMINAR

Prereq.: MUS 222 or equivalent. Examination of primary and secondary research sources and their application to modern musical scholarship. Representative research projects pursued. Open to Music majors only. IR

## MUS 470 MUSIC 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 periods. Emphasis on aural awareness through melodic and harmonic dictation. IR

## MUS 495 ADVANCED COMPOSITION

Prereq.: MUS 395 or permission of the instructor. Continuation of Music 395. Principles and techniques of musical composition, emphasis on larger forms and independent work. IR

## MUS 500 PROJECT IN MUSIC

Prereq.: Permission of the instructor. Individual study in an area of the student's choice with the consultation of an adviser; may include written project, performance or composition. IR

## MUS 501 TOPICS IN MUSIC <br> 1-3

Prereq.: Permission of the instructor. Selected topics in music covering specialized areas not covered in regular course offerings. Open only to students with an undergraduate degree in music or with special permission of the department chair. May be repeated with different topics up to 6 credits. IR

MUS 502 TOPICS IN MUSIC EDUCATION 1-3
In-service experience designed to meet specific needs of public school music
teachers. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 503 TOPICS IN INSTRUMENTAL

 MUSIC EDUCATIONPrereq.: MUS 316. Study of specialized areas of instrumental music for the experienced music educator. May be repeated with different topics for a maximum of 6 credits. SS

MUS 504 PRINCIPLES AND FOUNDATIONS OF MUSIC EDUCATION
Prereq.: Admission to the Masters of Science in Music Education. The study of the school music program from a historical, philosophical and psychological basis. Special emphasis on current research in pedagogy and trends in aesthetic education. $F$

MUS 505 TOPICS IN PEDAGOGY AND CURRICULUM 1-3
Prereq.: Permission of instructor. Exploration of specialized topics in music pedagogy and curriculum for the experienced music educator. May be repeated with different topics for a maximum of 6 credits. SS

MUS 506 TOPICS IN CHORAL MUSIC EDUCATION
2
Prereq.: MUS 315. Specialized areas of choral music and the school choral music program for the experienced music educator. May be repeated with different topics for a maximum of 6 credits. SS

MUS 507 TOPICS IN CONDUCTING
Prereq.: MUS 367 or 368 , or permission of instructor. Selected topics in band, choral or orchestral conducting covering specialized areas for the experienced conductor. May be repeated with different topics for a maximum of 6 credits. SS

MUS 508 TOPICS IN CHORAL LITERATURE
Selected choral literature and rehearsal techniques for specific choral ensembles, including elementary, middle and high school choirs and community choirs. May be repeated with different topics for a maximum of 6 credits. SS

MUS 509 HISTORICAL PERSPECTIVES IN MUSIC
Prereq.: Admission into the Master of Science degree program in music. A study of major composers and compositions from the Renaissance to the present through lectures, assigned readings and individual research projects. IR

MUS 510 CURRENT ISSUES IN MUSIC EDUCATION 3
Prereq.: MUS 504 and 598, or permission of instructor. Contemporary issues in music education and how these interface with educational reform. Topics and projects include curriculum (music and interdisciplinary), research, assessment, equity and access. S [c]

## MUS 511 TOPICS IN STRING LITERATURE

Prereq.: MUS 267 or 268 . Intensive study of literature appropriate to elementary school orchestral and chamber ensembles. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 512 TOPICS IN STRING PEDAGOGY

Prereq.: MUS 267 or 268 . Intensive study of the elements of pedagogy, with emphasis on program development. May be repeated with different topics for a maximum of 6 credits. SS

MUS 515 TOPICS IN DIGITAL SYNTHESIZER TECHNIQUES
A study of selected aspects of digital synthesizer techniques and their application to the music classroom. May be repeated for a maximum of 6 credits with different content. SS

MUS 526 DEVELOPING CHILDREN'S CHOIRS
Prereq.: MUS 310 or equivalent. Study of organizational techniques, resource materials and rehearsal techniques for developing children's choirs. SS

MUS 536

## INTRODUCTION TO COMPUTERS IN MUSIC EDUCATION

Survey of computer applications in music and an introduction to computerassisted instruction, notation and sequencing. May be repeated with different topics for a maximum of 6 credits. SS [c]

MUS 540 ENSEMBLE
Prereq.: Permission of instructor. Study and performance of ensembles for various combinations. May be repeated for a total of 3 credits toward a degree program.

MUS 551
ORFF SCHULWERK TEACHER TRAINING
COURSE LEVEL I
Foundations and principles of the Orff Schulwerk process for teaching music to children; includes training in recorder pedagogy, ostination, bordun and canon. SS

MUS 552 FOLK DANCE AND MOVEMENT ACROSS THE CURRICULUM
Multicultural and interdisciplinary course based on traditional folk music and dances. Movement education will be explored. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 556 ORFF SCHULWERK TEACHER TRAINING

 COURSE LEVEL IIPrereq.: MUS 551. A continuation of Music 551; various accompaniment patterns, orchestrations and modulation. Rhythmic training including irregular rhythms and meters; continuation of soprano recorder and introduction of alto recorder. SS

1-3 MUS 557 TOPICS IN GENERAL MUSIC EDUCATION
Prereq.: MUS 310. Study of specialized areas of classroom music throughout the K-12 music program. May be repeated with different topics for a maximum of 6 credits. SS

2 MUS 559 TOPICS IN HIGH SCHOOL MUSIC CURRICULUM 2
Prereq.: MUS 315 or 316 or equivalent. Study of selected non-performance curricula for the secondary music teacher. May be repeated with different topics for a maximum of 6 credits. SS

3 MUS 562 TOPICS IN INSTRUMENT REPAIR
Repair and preventative maintenance of brass, woodwinds and string instruments. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 566 GENERAL BAND INSTRUMENT REPAIR

2
Fundamentals of woodwind and brass emergency/minor repair skills for musicians, including preventative maintenance, minor regulation, cleaning and other related topics. SS

## MUS 567 STRING REPAIR

Fundamentals of violin family repair through lecture, demonstration and lab experience. Areas of emphasis include bridge and peg repair, seam and crack gluing, making and setting of sound posts, instrument cleaning and bow rehairing. SS

## MUS 570 TOPICS IN VOCAL TECHNIQUES

2 Prereq.: MUS 259 or equivalent. Study of vocal techniques for selected age groups and/or levels of musical development. May be repeated for maximum of six credits with different content. SS

MUS 572 TOPICS IN LITERATURE FOR BANDS
Prereq.: MUS 316. Study of selected instrumental literature for specific instrumental ensembles, including elementary, middle and high school bands and wind and jazz ensembles. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 574 TOPICS IN ASSESSMENT AND EVALUATION

Study of various methods and evaluation as related to student, teacher and program assessment. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 575 TOPICS IN BAND

2 Prereq.: Graduate standing. Study of selected aspects of the public school band program. May be repeated for a maximum of 6 credits with different content. SS

## MUS 577 SECONDARY APPLIED MUSIC

 Fee: $\$ 75$ (subject to change)
## MUS 578 ADVANCED APPLIED MUSIC

3 Individual instrumental or vocal instruction in performance. May be taken more than once for credit. Fee: $\$ 150$ (subject to change)

## MUS 579 TOPICS IN IMPROVISATION

Study of function and usage in specialized areas of improvisation. Development of basic skills in such realms as jazz, classical and world music. May be repeated with different topics for a maximum of 6 credits. SS

## MUS 590 SYMPHONY ORCHESTRA

Prereq.: Permission of instructor. Standard symphonic literature will be rehearsed for concert performance. No more than a total of 3 credits from Music 590, 591 and 592 may be taken for credit towards the degree. F

## MUS 591 CHORUS

1
Prereq.: Permission of instructor. Representative chorus works from the great composers will be rehearsed and performed. No more than a total of 3 credits from Music 590, 591, and 592 may be taken for credit towards the degree.

MUS 592 MARCHING BAND-WIND ENSEMBLE
Prereq.: Permission of instructor. Various styles of band music and different compositions studied for performance each semester. No more than a total of 3 credits from Music 590, 591, and 592 may be taken for credit towards the degree.

MUS 597 RECITAL 3
Prereq.: Permission of adviser and department approval. The preparation and presentation of a recital under the guidance of the appropriate applied music instructor. On demand.

MUS 598 RESEARCH IN MUSIC
Prereq.: Admission into the degree program in Music. A study of sources, methods and types of research appropriate to the field of music. IR

MUS 599 THESIS
Prereq.: Permission of graduate adviser. Preparation of the thesis under the supervision of the thesis adviser.

## NURSING

Note: Additional work will be required for graduate credit in 400-level courses.

## NRSE 401 TRENDS AND ISSUES

Prereq.: Permission of instructor. Analysis and evaluation of trends and issues in health care delivery and nursing with emphasis on accountable professional behavior. F

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.

NRSE 500 ADVANCED HEALTH EVALUATION
Prereq.: Permission of instructor. Preparation of advanced practice nurses in health assessment and health evaluation. Advanced health assessment and evaluation focus on the individual, family and aggregates across the life span. [c]

NRSE 501 BASIS OF HUMAN REPRODUCTION
Prereq.: Permission of instructor. Theories and concepts relevant to the human reproduction cycle which serve as a basis for nursing care. Exploration of human embryology patterns of disease. Discussion of implications for nursing practice and research.

## NRSE 503 NURSING THEORY AND SCIENTIFIC INQUIRY

Prereq.: Permission of instructor. Analysis and comparison of selected theories and their origins that provide direction for education, research and practice in nursing. Emphasizes implication of nursing theory as a basis for advanced practice and impact on decision-making.

NRSE 505 ADVANCED NURSING RESEARCH
Prereq.: Permission of instructor. Synthesis of research and theory relevant to health care. Emphasis on application of the research process and utilization of research in practice.

NRSE 509 HEALTH CARE DELIVERY SYSTEMS 3
Prereq.: Matriculation in the MSN Program or permission of instructor. Health care delivery systems and the development of social policy as a context for leadership and advanced nursing practice. Emphasis on nursing responsibility for participation in the development of policy as it affects the quality of health care.

## NRSE 510 THE FAMILY NURSE PRACTITIONER IN AMBULATORY/PRIMARY CARE

Prereq.: Matriculation in the MSN Program and permission of instructor. Management of family systems in need of primary health care. Emphasis on comprehensive health promotion, illness prevention and health maintenance throughout the life cycle within the family system.

NRSE 512 THE FAMILY NURSE PRACTITIONER IN ACUTE CARE SETTINGS6

Prereq.: NRSE 510. Care of individuals/families who require intervention for acute disease conditions and those conditions of a complex maturational-situational nature across the life span. Emphasis on the prevention of complications. SS

NRSE 514 CARE MANAGEMENT AND THE FAMILY NURSE PRACTITIONER IN HOME SETTINGS
Prereq.: NRSE 512. Treatment of individuals/families with complex situational/developmental events requiring care in home settings.

## NRSE 516 COMMUNITY MENTAL HEALTH NURSING WITH INDIVIDUALS

Prereq.: Matriculation in the MSN Program and permission of instructor.
ment to community psychiatric care. Specialized treatment approaches throughout the life span will be addressed.

NRSE 518 COMMUNITY MENTAL HEALTH NURSING WITH COMMUNITIES AND GROUPS
Prereq.: NRSE 516. Integration of theoretical and practical components of treating family and groups. Exploration of systems approach to the assessment and treatment of individual clients within a group context. SS

NRSE 520 CASE MANAGEMENT AND THE COMMUNITY MENTAL HEALTH NURSE
Prereq.: NRSE 518. Examination of the nurse practitioner's role as a primary provider, case manager, charge agent, researcher, consultant, liaison and educator.

## NRSE 522 CARE OF WOMEN THROUGHOUT THE LIFE

 CYCLE IN AMBULATORY/PRIMARY SETTINGS
## Prereq.: Matriculation in the MSN Program and permission of instructor. Gen-

 eral health care needs of women during the life cycle. Comprehensive health assessment, maintenance and promotion with respect to general health, gynecological and perinatal treatment of women.
## NRSE 524 CARE OF WOMEN THROUGHOUT THE LIFE

 CYCLE IN ACUTE CARE SETTINGSPrereq.: NRSE 522. Assessment, education and management of obstetrical, gynecological and perinatal health care needs of women and their families throughout the life cycle in acute care settings. SS

## NRSE 526 CASE MANAGEMENT AND CARE OF WOMEN

Prereq.: NRSE 524. Treatment of women and their families with complex situational/developmental events requiring nursing care. Integration of previous learning and concepts in a complex multifaceted environment will be required.

## NRSE 596 SPECIAL PROJECT IN NURSING EDUCATION 3

Prereq.: Core courses, enrollment in clinical practicum and approval of adviser. Study of a topic in advanced practice nursing as approved by adviser. Oral presentation and written paper required. On demand.

## NRSE 599 THESIS

3
Prereq.: Core courses, enrollment in clinical practicum, and approval of thesis adviser. Preparation of the thesis under the supervision of the thesis adviser. On demand.

## ORGANIZATION AND MANAGEMENT

OMC 525 MANAGERIAL ECONOMICS
Prereq.: ECON 201 or equivalent. The application of economic analysis to business and industrial problems and management policy. Topics include the application of various economic theories and the role of modern business and industry in the contemporary economy. $S$

## PHILOSOPHY

Note: Additional work will be required for graduate credit in 400 -level courses.

## PHIL 401 SEMINAR IN ASIAN PHILOSOPHY <br> 3

Prereq.: 6 credits in either Asian philosophy, Asian religion or Asian history; or permission of instructor. Study of selected topic as announced. S(o)

PHIL 440 PROJECT IN APPLIED ETHICS
Prereq.: PHIL 220, 346 and six credits from PHIL 144, 222, 240, 241, 242, 246, $341,342,346,349$. Research in applied ethics. May include a practicum. S

## 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: Additional work will be required for graduate credit in 400-level courses.
PE 402 ORGANIZATION AND ADMINISTRATION OF PE 3
Prereq.: Admission into the Professional Program. Administrative procedures involved in conducting physical education activities, arranging programs, providing facilities, and handling staff-class details, finance, publicity, interscholastic and intramural activities. F

## 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.

## PE 406 ADAPTED PHYSICAL EDUCATION

Prereq.: PE 214, 272 and 305. Teaching strategies for working with students with special needs. Emphasis on assessing, programming, developmental and/or prescriptive teaching for all exceptionalities. F

## PE 407 HUMAN PERSPECTIVES IN SPORT

Inquiry into the nature and expression of humans in sport. Topics include: the issues of competition and winning, amateurism vs. professionalism, the values of sport, causes and results of spectator behaviors. S

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.

## PE 415 FITNESS ASSESSMENT AND

 EXERCISE PREPARATIONPrereq.: 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.

PE 420 PERCEPTUAL AND MOTOR DEVELOPMENT
Prereq.: 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. F

## PE 422 MOTOR LEARNING

3
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. S

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 low-back pain. F(e)

PE 445 INTERNSHIP IN ATHLETIC TRAINING
Prereq.: PE 315, and admission to the Physical Education program. An eightweek period will be spent in an Athletic Department of the public schools or at the college level where the student will demonstrate his/her ability to conduct an athletic training program.

PE 450 PRACTICUM IN EXERCISE SCIENCE
Prereq.: PE 375, 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.

## 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 INDEPENDENT STUDY IN PHYSICAL EDUCATION

Prereq.: Junior standing and permission of department chair. Reading and research in approved topics under the guidance of a member of the department. May be repeated to a total of 3 credits.

## PE 515 SPORT, PHYSICAL ACTIVITY AND EXERCISE PSYCHOLOGY

Identifies principles and guidelines that professionals use to help adults and children participate in and benefit from sport and exercise activities. $S$

## PE 516 CURRENT TOPICS IN

## ATHLETIC ADMINISTRATION

Current problems in the administration of athletic programs in schools and colleges. Included are topics in financing athletic programs, use of synthetic surface material, crowd control at contests, legality: eligibility and liability, certification of coaches and management of contest. The administration of intramural programs is reviewed. $\mathrm{F}(\mathrm{o})$

PE 519 SPORT BIOMECHANICS
Prereq.: PE 216 or equivalent or permission of instructor. Study of the
mechanical analysis of sport skills, in order to improve teaching. The student is provided with a scientific basis for teaching correct form. F(o)

PE 520 CURRENT ISSUES IN PHYSICAL EDUCATION 3
Reviews current trends and issues involved in the teaching of Physical Education in American schools. Emphasis is upon a discussion of new and innovative administrative procedures, programs, trends and problems. S(o)

PE 522 PHYSICAL ACTIVITY AND HEALTH 3
Prereq.: PE 410 or permission of instructor. Study of the hypokinetic diseases of the human organism. Particular emphasis will be given to the beneficial effects of physical activity on the cardiovascular system, weight control, low back pain, longevity and participation of women in sports. S(o)

PE 523 THEORIES OF HIGH LEVEL
PERFORMANCE IN SPORT
Study of empirical and experimental theories of high level performance. The sciences of physiology, biomechanics, and psychology will be utilized as they affect human performance. $\mathrm{F}(\mathrm{o})$

## PE 524 SPORT, PHYSICAL EDUCATION, ATHLETICS AND THE LAW

The varied aspects and impact of law in professional sport, physical education, and athletics. Emphasis on negligence, product liability and risk management. F

## PE 598 RESEARCH IN PHYSICAL EDUCATION

Prereq.: Permission of the adviser. Designed to familiarize students with techniques and resources associated with research in their specialization. Opportunity for practical application will be provided.

PE 599 THESIS IN PHYSICAL EDUCATION
Prereq.: 15 credits of approved graduate study including PE 598. Preparation of the thesis under the supervision of the thesis adviser.

## PHYSICS

Note: Additional work will be required for graduate credit in 400-level courses.

PHYS 411 MECHANICS II
Prereq.: PHYS 220. Mechanics of continuous media, wave motion, special relativity and introduction to Lagrange's and Hamilton's Equations. IR

PHYS 425 MODERN PHYSICS
Prereq.: PHYS 305 or equivalent. Special theory of relativity; quantum aspects of matter and of electromagnetic radiation; hydrogen atom; optical and X-ray spectra. F

PHYS 442 ELECTROMAGNETICS
Prereq.: MATH 222, PHYS 305. Field theory of electromagnetism. Magnetic fields of currents, magnetic materials, electromagnetic induction and Maxwell's Equations. F(o)

## PHYS 450 ADVANCED LABORATORY

Prereq.: PHYS 331 and 425. A study of the 400 kv Van de Graaf accelerator, particle detection electronics, and a study of induced nuclear reactions. One three-hour laboratory per week. S

## PHYS 452 INDEPENDENT STUDY IN PHYSICS

Prereq.: Approved plan of study by arrangement with 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. IR

PHYS 470 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. S

PHYS 471 QUANTUM MECHANICS II
3
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. IR

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. IR

PHYS 505 MATHEMATICAL PHYSICS
Prereq.: Undergraduate physics minor; MATH 222. Introduction to basic mathematical methods of theoretical physics, such as linear algebra (matrices), vector analysis, partial differential equations, orthogonal functions and complex variables presented with physical illustrations. F

PHYS 598 RESEARCH IN PHYSICS
3 Prereq.: 15 credits of approved graduate study and permission of department. Course concerned with instrumental techniques of research in physics. Student is to become familiar with the literature of physics and is expected to search journals and report on a specific problem.

PHYS 599 THESIS
Prereq.: PHYS 598 and permission of the adviser. Preparation of the thesis under the supervision of the thesis adviser.

## POLITICAL SCIENCE

Note: Additional work will be required for graduate credit in 400-level courses.
PS 415 GOVERNMENT, BUSINESS, AND PUBLIC POLICY
Prereq.: PS 110. Analysis of the pattern of interaction between business and government in the American administrative and political process, with attention to how we as members of society are affected by and may influence this process. S

## PS 416 MANAGEMENT AND DELIVERY OF

 GOVERNMENT SERVICESPrereq.: PS 340 or permission of instructor. Exploration and analysis of new ideas and concepts of government service delivery and management, privatization, user fees, joint public/private ventures, contracting out, voucher system, public entrepreneurship, democratic and ethical problems with new approaches. F

PS 420 GOVERNMENT AND POLITICS OF LATIN AMERICA
Historical, social, economic and ideological factors impacting contemporary government and politics in Latin America. S(o)

PS 421 GOVERNMENT AND POLITICS OF AFRICA 3
Historical, social, economic and ideological factors impacting contemporary government and politics in Africa. $S(0)$

PS 425 ASIAN POLITICS
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 crossnational comparisons. S

## PS 430 THE AMERICAN PRESIDENCY

Prereq.: PS110 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 in politics and public policy and interplay between man and office. $S$

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. Analysis of growth and expansion of governmental control through social legislation and administrative rulemaking. IR

## PS 432 URBAN POLITICS AND GOVERNMENT

3
Selected urban conditions and problems such as housing, the racial crisis, power structure, the resolution of conflict, local ideology, intergovernmental relations, partisan politics, group behavior, forms of government, politics of planning, regionalism, transportation and communication. Field research projects. IR

## PS 433 TWENTIETH CENTURY POLITICAL THOUGHT

Contemporary approach to politics, such as systems analysis, group theory, game theory, decision making, structural-functional analysis and simulation. F

## PS 434 GOVERNMENT AND POLITICS OF THE MIDDLE EAST AND NORTH AFRICA

Historical background, contemporary setting, political processes, and major problems of some countries of the Middle East and North Africa. S

PS 435 RUSSIA AND EASTERN EUROPE
Government and politics of Russia and of selected Eastern European countries, such as Poland, Hungary, Ukraine and Yugoslavia. IR

## 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. F

## PS 437 POLITICS OF ARAB NATIONALISM

Evolution of the Arab nationalist movement in the Middle East. Examines the impact of Arab nationalism on regional and global politics and evaluates the efforts of Arab nationalists to accomplish their objectives of Arab unity, nonalignment and socialism. S

## PS 439 U.S. MIDDLE EAST POLICY

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. IR

## PS 445 PUBLIC POLICY ANALYSIS AND EVALUATION

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

Prereq.: PS 110 and 340. Examination and analysis of budgeting as an administrative and political process, with attention to techniques and reform efforts. F

## PS 447

ADMINISTRATIVE LAW
Prereq.: PS 110, PS 331 and 340 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.

## PS 480 GOVERNMENT INTERN EXPERIENCE

Prereq.: Junior or senior status with 2.50 grade point average or higher. Students who apply and are admitted to this program are assigned to work in state, local, and federal government departments for a minimum of two days a week. To be taken concurrently with PS 481; 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. Open only to students concurrently enrolled in PS 480. Seminars and research projects and papers related to work assignments of PS 480.

## PS 482 GOVERNMENT INTERN EXPERIENCE

6
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. Students who apply and are admitted are assigned to work on a full-time basis in public or political offices. Must be taken concurrently with PS 483 and cannot be taken by students who have completed PS 480 and 481. No more than 3 credits of PS 482 can be credited toward a Political Science major.

PS 490

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
Extensive study of selected problems in political science. Students may count no more than six credits toward the 30 -credit requirement. By application. On demand.

## PS $492 \quad$ POLICY STUDIES

Prereq.: PS 110 and 340. 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. IR

PS 561 THEORY OF PUBLIC ORGANIZATION 3
Classic and modern theories of public organization. Examination of questions of organizational structure and process at both the informal and formal levels; attention to the issues of leadership, motivation, public policy formulation, and the role of public organizations in modern democracy. IR

## PSYCHOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.

## PSY 428 ADULT DEVELOPMENT AND AGING 3

Prereq.: PSY 235 or 236 . Study of behavior, dynamics and developmental processes from early adulthood through old age and death.

## PSY $430 \quad$ PSYCHOLOGY OF MINORITY GROUPS

Prereq.: PSY 112 or permission of instructor. Review of psychological research and theories pertaining to the study of minority groups. Implications for clinical work and community education will be discussed. S

## PSY 435 ORGANIZATION AND

PERSONNEL PSYCHOLOGY
Consideration of structure, problems, human behavior and personnel functions in various types of organizations.

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 <br> PSYCHOLOGY OF COUNSELING

Prereq.: Three courses in psychology. 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. IR

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.

## 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 effects on the brain and behavior. Legal drugs, such as alcohol and caffeine, and illegal drugs are considered.
memory, common neurological disorders such as dementia and stroke and alcohol-related disorders. S

## 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 reeducation; personal, vocational and correctional rehabilitation.

## PSY 462 PSYCHOLOGY OF EARLY CHILDHOOD

Prereq.: PSY 235 or 236 . Study and observation of young children (birth to age six), with emphasis on the developmental 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 critical analysis of major contemporary theories of personality, including empirical evidence relevant to these theories.

## PSY 471 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. S(e)

## PSY $480 \quad$ PSYCHOLOGY OF DYING AND DEATH

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/adolescent's views of death, psychological stages of dying and euthanasia.

## PSY 490 HISTORY AND SYSTEMS OF PSYCHOLOGY

Prereq.: PSY 112, three other courses in psychology. 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 <br> 1-3

Study of selected topics in psychology. Topics announced each semester. May be repeated under different topics for a total of 6 credits.

## PSY 499 INDEPENDENT READING AND RESEARCH

 IN PSYCHOLOGYPrereq.: Written permission of instructor. Directed independent studies in psychology. May be repeated for a total of 6 credits. On demand.

## PSY 512 SEMINAR IN DEVELOPMENTAL PSYCHOLOGY

Prereq.: PSY 112 or equivalent or permission of instructor. Study of human development from conception through old age, including analysis of theory and research findings.

## PSY 526 PSYCHOLOGY OF LEARNING 3

Prereq.: PSY 235 or 512 or equivalent or permission of instructor. Not open to graduate students who have had undergraduate courses in psychology of learning or educational psychology. Introduction to research and theories of learning with emphasis on implications for classroom procedures.

Prereq.: Admission to M.A. or M.S. program and PSY 330 or equivalent or permission of instructor. Psychopathological conditions and their etiologies will be considered in the context of differing major theoretical perspectives. In-depth information about the diagnosis and assessment of abnormal behavior will be provided. Recent research will be reviewed. S

PSY 545 INTRODUCTION TO CLINICAL PSYCHOLOGY 3
Prereq.: Admission to M.A. in Psychology or permission of instructor. Survey of current clinical practice, theory and research with an emphasis on ethical issues. F

PSY 546

## SHORT-TERM PSYCHOTHERAPY AND

 HEALTH CARE3
Prereq.: PSY 330 or permission of instructor. Examination of American health care system and psychotherapy practice. Topics include description of short-term therapy models, ethics, diversity and controversies. F

PSY 550 INTRODUCTION TO COMMUNITY PSYCHOLOGY
3
Introduction to the history, central assumptions and methodologies of community psychology. F

## PSY 551 PRIMARY PREVENTION

Prereq.: PSY 550. Intensive examination of the theoretical and empirical underpinnings of primary prevention programs in mental health. $S$

PSY 553 DEVELOPING PREVENTION PROGRAMS
Prereq.: PSY 551 or permission of instructor. Development and operation of prevention/empowerment strategies in institutional and/or community settings. F

## PSY 590 ADVANCED TOPICS IN PSYCHOLOGY

Prereq.: Admission to M.A. in Psychology or permission of instructor. Study of advanced topics in psychology. Topics will vary and will be announced each semester. May be repeated under different topics for a total of 6 credits. IR

## PSY 595 INTERNSHIP IN PREVENTION APPLICATIONS

Prereq.: PSY 553 and permission of instructor. Supervised internship at an agency or institution that provides prevention services. Seminars and evaluations that measure student progress will be conducted by a University supervisor and the cooperating prevention field specialist. On demand.

## PSY 596 PSYCHOLOGICAL RESEARCH:

 DESIGN AND ANALYSIS IPrereq.: Admission to M.A. program, STAT 215 and PSY 222 or equivalent or permission of instructor. Topics include experimental and quasi-experimental design, program evaluation, single case and survey design, with application of statistical software packages (e.g., SAS). Each student will plan an independent research project. F [c]

## PSY 597 PSYCHOLOGICAL RESEARCH:

 DESIGN AND ANALYSIS IIPrereq.: PSY 596. An overview of research methods in psychology, continued from PSY 596. Each student will complete the independent project proposed in PSY 596. S [c]

PSY 598 RESEARCH IN PSYCHOLOGY
Designed to familiarize student with techniques and resources associated with research in psychology. Opportunity for practical applications. Not open to students enrolled in M.A. in Psychology program except with permission of adviser and Psychology Department chairperson. S(o)

PSY 599 THESIS
3 or 6
Prereq.: 21 credits of graduate work. Students must consult with their adviser before registering for thesis credits. Preparation of the thesis under the supervision of the thesis adviser.

## READING

RDG 569 FOLKTELLING ART AND TECHNIQUE
3
Prereq.: RDG 588. Study of the art and techniques of storytelling. Develop competency in the oral tradition of folktelling. Investigate the planning of study units and activity programs for use in elementary and secondary schools. IR

RDG 578 TEACHING WRITING IN THE
ELEMENTARY SCHOOL
An integration of theories, practices and techniques as related to teaching writing in the elementary schools. Students, in conjunction with the instructor, design lessons, construct models, and collect children's writing efforts for their level.

## RDG 582 WORKSHOP IN LANGUAGE ARTS

Prereq.: RDG 412 or 427 . Examination of commercially prepared materials in spelling, writing, listening and speaking and analysis of specific skills they
develop. Some sessions will be workshop-type where materials will be created for developing specific spelling, writing, listening and speaking skills. This course may not be used to fulfill certification requirements. IR

RDG 585 READING IN CONTENT AREA
Prereq.: RDG 412 or 427 or 440 . Investigation of materials and procedures used for teaching reading in content area. Special emphasis on vocabulary and comprehension development.

## RDG 586 LITERACY INSTRUCTION FOR

DIVERSE POPULATIONS I
Prereq.: RDG 315. Current trends and issues on language, ethnicity and social class as they impact on literacy instruction for children of diverse backgrounds with an emphasis on sociolinguistic perspectives. $F$

## RDG 587 BIBLIOTHERAPY

Identification, selection and effective use of books that address problems confronting young people from pre-school age to adolescence. Concerns include physical and mental handicaps, divorce, death, alcoholism, drug abuse, neglect. S

## RDG 588

TEACHING CHILDREN'S LITERATURE
Study of wide variety of literature for children. Investigation of the appreciation for literature with children. Competency in storytelling and writing or original stories and poems will also be developed.

## RDG 589 CREATIVE LANGUAGE ARTS

Prereq.: RDG 412. Creative aspects of language activities both written and oral for elementary school children are considered toward stimulating such work in the classroom. Essential goals of language arts programs will be studied.

RDG 590 CURRENT TRENDS IN DEVELOPMENTAL READING K-12
Prereq.: RDG 412 or 414 or 427 or 440 . Survey of current reading practices and materials in the schools. Emphasis on developmental reading from preschool through high school and into the adult years.

## RDG 591 DEVELOPMENTAL READING IN

 PRIMARY GRADESPrereq.: RDG 412 or 414 or 427 or 440 . Comprehensive study of factors involved in teaching reading readiness, and reading in primary grades; developmental in use of experience stories; introducing first books; developing a sight vocabulary, word recognition techniques and comprehension skills. F

RDG 592 MIDDLE SCHOOL LEVEL LITERACY DEVELOPMENT
Prereq.: RDG 315 or 440 or 590 or permission of instructor. Foundations, approaches, materials and techniques for developmental literacy programs at the middle school level. Attention is given to literacy strategies and the use of study skills in both regular and content classrooms.

RDG 593 DEVELOPMENTAL READING IN SECONDARY SCHOOLS
The Basic Skills Development program in elementary school reviewed. Study of the need for continuing systematic instruction in reading for pupils throughout grades 7-12. Organization of such a program, materials, and methods currently in use, and means of evaluation are considered. F(e)

RDG 594 DIAGNOSIS OF READING DIFFICULTIES
3
Prereq.: RDG 590 or 591 or 592 . May not be taken concurrently with RDG 595. Study and interpretation of selected tests and instruments useful in analysis of physical, intellectual, social and emotional factors related to reading difficulties.

RDG 595 REMEDIAL AND CORRECTIVE TECHNIQUES IN READING
Prereq.: RDG 594. Study of principles of remedial-corrective reading, methods of analysis and interpretation, and materials useful in correction of reading difficulties.

## RDG 596 CLINICAL PRACTICES IN READING

Prereq.: RDG 595. Diagnosis and treatment of reading difficulties and disabilities. Case study prepared for pupil tutored during term. Open to MS certification students only.

## RDG 598 SEMINAR IN READING RESEARCH

Prereq.: 15 credits in graduate reading courses. Advanced studies in reading research as well as basic reading research studies are reviewed. Emphasis will be on the articulation between research findings and reading practices in schools. The significance of the findings of research will be studied through prescribed readings, written and oral reports, and seminar discussion. S

## RDG 667 MULTICULTURAL LITERATURE

 IN THE CLASSROOMPrereq.: RDG 588 or ENG 491 or 492. A variety of teaching methods will be studied and applied to multicultural and multiethnic books for children in the elementary and middle grades. The implementation of various teaching methodologies as part of a whole language learning and teaching philosophy will be explored. S(e)

## RDG 675 READING AND WRITING AS

 INTEGRATED PROCESSPrereq.: RDG 412 or 589. Integration of theories, practices and techniques as related to reading-writing in the elementary school. Students, in conjunction with the instructor, design lessons, construct models and collect children's writing efforts for their level. F (o)

## RDG 680 CURRENT TRENDS AND ISSUES IN READING AND LANGUAGE ARTS

Prereq.: M.S. degree and either RDG 590 or 591 or 592. Current trends and current issues in reading and language arts. Focus on recent research and its application to reading and language arts. Courses will focus on recent research and its application to reading and language arts instruction in school settings. $F$

## RDG 686 LITERACY INSTRUCTION FOR

 DIVERSE POPULATIONS IIPrereq.: RDG 586; RDG 667 and permission of instructor. Strategies and techniques for promoting and expanding literacy among children of diverse backgrounds. Models of theoretical frameworks and analytic strategies that address children's diverse educational needs will be practiced. S(o)

RDG 692 SPECIALIZED DIAGNOSIS \& REMEDIAL TECHNIQUES
Prereq.: RDG 594 and 595. Specialized diagnostic procedures and materials in reading for perceptually, neurologically, and psycholinguistically disabled children. Role of children's literature, bibliotherapy and cultural implication of story content are examined. Consultants from specialized areas, such as medicine and psychology will be used as resource persons. S(e)

RDG 694 ORGANIZATION, ADMINISTRATION AND SUPERVISION OF READING PROGRAMS tion, administration, evaluation, and supervision of various types of reading programs in schools. $\mathrm{F}(\mathrm{e})$

RDG 696 PRACTICUM FOR READING AND LANGUAGE ARTS CONSULTANTS
Prereq.: RDG 596 and 692. Work experience under guidance of certified reading and language arts consultant for an academic year. Experience includes supervision of reading programs, consultation with school personnel, assessment, clinical practice, professional development and applied research. F

RDG 698 RESEARCH SEMINAR
Prereq.: 24 credits of graduate study in Reading. In-depth individual study of research pertaining to reading materials, programs and methods. Research reports required.

## RUSSIAN

Note: Additional work will be required for graduate credit in 400-level courses.
RUS 441 ADVANCED ORAL PRACTICE I
Prereq.: Instructor's permission. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. F

RUS 442 ADVANCED ORAL PRACTICE II
Prereq.: RUS 441 or instructor's permission. Further practice in oral selfexpression. S

## SCIENCE AND SCIENCE EDUCATION

Note: Additional work will be required for graduate credit in 400-level courses.

## SCI 418 TEACHING SCIENCE IN THE OUT-OF-DOORS 3

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. F(o)

SCI 420
HISTORY OF SCIENCE
3
Prereq.: Three courses in science or mathematics or permission of instructor. Historical development of biological and physical science, interdependence of various areas of science and relation of scientific progress to society.

SCI 424
TEACHING MIDDLE LEVEL SCIENCE
2
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.

SCI 452 INDEPENDENT STUDY IN SCIENCE
1-3
Prereq.: Approved plan of study by arrangement with the instructor and approval of a science 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 one credit up to a limit of 4 credits. On demand.

SCI 453 ENVIRONMENTAL INTERPRETATION

## INTERNSHIP

Prereq.: Prior completion of two field trips to environmental education facilities 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

1-3
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 under different topics, but student may not take this course for credit under the same topic more than once.

## SCI 500 SCIENCE AND THE CITIZEN

3
Discussion of the nature and values of science and the implications of science in other areas such as religion, medicine, environment, government and education. No previous preparation in physical science is required.

## SCI 520

THE PHYSICAL SCIENCES
3
Study of basic physical and chemical phenomena with emphasis on materials suitable for use in the elementary grades. Course aims to broaden and deepen background of elementary school teacher of science; opportunity is provided through demonstrations and laboratory work to gain functional understanding of physical science concepts. S(e)

SCI 530 THE EARTH SCIENCES
Study of basic earth science phenomena with emphasis on materials suitable for use in the elementary grades. Course aims to broaden and deepen background of elementary school teacher of science; opportunity is provided through demonstrations and laboratory work to gain functional understanding of earth science concepts. $S(o)$

## SCI 540 TEACHING BIOLOGICAL SCIENCES IN THE ELEMENTARY SCHOOL

Study of biological phenomena with emphasis on materials and experiments suitable for use in the elementary grades. Course aims to broaden and deepen background of the elementary school teacher; opportunity is provided through demonstrations and laboratory work to gain functional understanding of biological science concepts. $F(e)$

## SCI 555 TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL

Course, planned for in-service teachers, is to help students become acquainted with materials, content, and problems of teaching science in elementary schools, so they may initiate and develop programs of science in own classrooms.

SCI 556 TEACHING SCIENCE TO YOUNG CHILDREN 3
Prereq.: Permission of instructor. Develops teaching strategies which assist young children in expanding their awareness, understanding and appreciation of their natural environment. Teachers will learn active involvement techniques and will prepare "hands-on" science curriculum materials for use with children from preschool through grade 3. IR

## SCI 570 TEACHING OF SCIENCE

IN THE SECONDARY SCHOOL
Problems related to such matters as science objectives and trends, curriculum materials, textbooks, equipment and visual aids. Course is primarily intended for liberal arts majors in graduate certification programs or for in-service teachers to help them initiate and develop programs of science for own classrooms. F

SCI 580 TOPICS IN SCIENCE EDUCATION
Topics will vary each time course is offered. Combination of lecture, discussion, inquiry sessions, and student presentations. May be taken more than once for credit under different topics. IR

## SCI 595 SPECIAL PROJECT IN SCIENCE EDUCATION 3

Prereq.: Completion of at least 21 credits in the student's planned program of graduate study and SCI 598. The study of an advanced topic in Science Education, approved by the student's graduate adviser and supervised by a faculty member. Requirements include preparation of a paper on the topic. S(e)

SCI 598 RESEARCH IN SCIENCE EDUCATION 3 Prereq.: Permission of adviser. Course is designed to familiarize students with research techniques and science and educational literature particularly applicable to science education in elementary or secondary school. S(o)

SCI 599 THESIS (SCIENCE EDUCATION)
3
Prereq.: 21 credits of approved graduate study, and permission of adviser. Preparation of the thesis under the supervision of the thesis adviser.

## SOCIAL SCIENCE

SSCI 420 TEACHING SOCIAL STUDIES IN SECONDARY SCHOOLS
Prereq.: Admission into the Professional Program in History/Social Studies. Concepts, methods, and materials for teaching social studies in secondary schools.

## SSCI 421

## SOCIAL STUDIES STUDENT

 TEACHING SEMINARSeminar 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. Taken concurrently with EDSC 435 and SSCI 420.

## SOCIAL WORK

Note: Additional work will be required for graduate credit in 400-level courses.

## SW 433 INDEPENDENT STUDIES IN SOCIAL WORK

Prereq.: Senior standing and permission of instructor. Student must present a written study proposal to the department chair at least one week prior to registering for this course. Readings and research in selected areas of social work. On demand.

SW 436
HEALTH AND SOCIAL WORK
3
Prereq.: SW 226 and 227 or permission of 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. IR

SW 437
CHILD WELFARE I
3
Prereq.: SW 226 and 227, or permission of instructor. Examination of the role of the social worker in meeting the needs and protecting the rights of children. IR

SW 438
CHILD WELFARE II
3
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. IR

SW 441 PUERTO RICANS IN TRANSITION: A SOCIAL WORK PERSPECTIVE
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. IR

## SW 442

## THE SOCIAL CONSEQUENCES OF IMMIGRATION

3
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. IR

SW 478 CURRENT TOPICS IN SOCIAL WORK
Analysis and evaluation of special topics in the general field of social work.
Topics will vary from year to year. If topics vary, may be taken more than once; not to exceed 6 credits. IR

## SOCIOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.
SOC 401 DEVELOPMENT OF SOCIOLOGICAL THOUGHT
Prereq.: SOC 110. Development of sociological thought from its original evolutionary emphasis to the early 20th century: differences between social and sociological thought. The contributions of Spencer, Marx, Durkheim, Simmel, Weber and selected other classical theorists. F

## SOC 402 CONTEMPORARY SOCIOLOGICAL THOUGHT

Prereq.: SOC 110. Sociological thought from early 20th century to present time. Compares and contrasts contemporary schools of sociological thought: consensus, conflict, symbolic interaction and systems theories. S

## 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 health care profession in meeting the needs of the terminally ill and the bereaved. Student will be required to have a field experience with a terminally ill patient and/or bereaved family. S(e)

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. S

SOC 475 SEMINARS IN SOCIOLOGY
Prereq.: SOC 110. Examination of selected topics in sociology. IR
SOC 478 CURRENT TOPICS IN SOCIOLOGY 3
Prereq.: SOC 110. Analysis and evaluation of special topics in the general field of sociology. Topics will vary from year to year. This is not a seminar. If topics differ, may be taken more than once. IR

## SPANISH

Note: Additional work will be required for graduate credit in 400-level courses.

SPAN 410 BUSINESS SPANISH I 3
Prereq.: SPAN 336 or permission of instructor. Development of skills geared to specific situations which would be encountered in business offices, foreign firms, travel agencies and the like. $F$

SPAN 411 BUSINESS SPANISH II
Prereq.: SPAN 336 or 410 or permission of instructor. Additional practice in the oral and written skills needed for bilingual work situations. Emphasis on commercial translation. S

SPAN 435 SPANISH PHONETICS AND DICTION
3
Prereq.: Senior or graduate standing and permission of instructor. Phonetic theory and practice to improve oral expression. F

## SPAN 441 ADVANCED ORAL PRACTICE I

3
Prereq.: Permission of instructor. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. F

SPAN 442 ADVANCED ORAL PRACTICE II
Prereq.: SPAN 441 or permission of instructor. Continuation of SPAN 441. On demand.

SPAN 460 ADVANCED GRAMMAR AND COMPOSITION
Prereq.: Senior or graduate standing and permission of instructor. Course in written expression of Spanish, particularly in idiomatic free composition, designed to establish appreciation for Spanish style and to develop ability to express shades of meaning. IR

SPAN 471 20th CENTURY SPANISH LITERATURE I 3
Prereq.: Permission of instructor. Detailed study of the Generation of '98. F(o)
SPAN 472 20th CENTURY SPANISH LITERATURE II
Prereq.: Permission of instructor. Representative authors and literary movements after the Generation of '98. S(e)

SPAN 476 CERVANTES
Prereq.: Permission of instructor. Don Quixote, with consideration of Cervantes' other writings. On demand.

SPAN 525 CONTEMPORARY SPANISH-AMERICAN POETRY
Prereq.: Permission of instructor. A study of major Spanish-American poets and poetic themes from Modernism to the present. S(e)

SPAN 530 MODERN SPANISH NOVEL 3
Prereq.: Permission of instructor. A study of significant novels from the generation of 1898 to the post Spanish Civil War period. S(e)

SPAN 535 CONTEMPORARY SPANISH-AMERICAN NOVEL
Prereq.: Permission of instructor. Study of representative Spanish-American novels of 20th century. S (o)

SPAN 551 DRAMA OF GOLDEN AGE
Prereq.: Permission of instructor. Study in depth of representative plays by great dramatists of Golden Age. S(o)

SPAN 553 SPANISH ROMANTICISM
Prereq.: Permission of instructor. A study of 19th century literary realism with a consideration of its historical background. Particular emphasis given to the novel. IR

SPAN 555 THE SPANISH-AMERICAN DRAMA
Prereq.: Permission of instructor. Development of drama in Spanish-America from its origins to present. IR

## SPAN 561 TOPICS IN HISPANIC LITERATURE

Prereq.: Permission of instructor. Detailed study of a literary figure, movement, or theme. Subject will vary from semester to semester. IR

## SPAN 588 CONTEMPORARY SOCIETY IN THE SPANISH-SPEAKING WORLD

Prereq.: Permission of instructor. Contemporary society in the Spanish-speaking world, its institutions, traditions and values.

## SPAN 598 RESEARCH IN SPANISH STUDIES

Prereq.: Departmental approval and at least two graduate courses in literature or linguistics. Seminar designed to permit student to develop under supervision a research paper in an aspect of Spanish or Spanish-American literature, culture or linguistics or to begin thesis research.

SPAN 599 THESIS
Prereq.: 15 credits of approved graduate study and approval of adviser. Preparation of the thesis under the supervision of the thesis adviser.

## SPECIAL EDUCATION

Note: Additional work will be required for graduate credit in 400-level courses.
SPED 420 BASIC MANUAL COMMUNICATION I
Introduction to the Manual Alphabet and American Sign Language of the Deaf designed to provide basic skill in non-verbal communication. F

SPED 421 BASIC MANUAL COMMUNICATION II
3
Prereq.: SPED 420 or permission of instructor. Continuation of the Manual Alphabet and American Sign Language of the Deaf designed to provide further skill in non-verbal communication. S

SPED 423 ASSESSMENT, INSTRUCTION AND CURRICULAR ADAPTATIONS FOR PRESCHOOLERS
Prereq.: 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.

SPED 430 CHARACTERISTICS AND EDUCATION OF INDIVIDUALS WITH BEHAVIORAL/EMOTIONAL DISORDERS
Prereq.: SPED 315. 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 DEVELOPMENTPrereq.: SPED 315. 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.

## component.

## SPED 433 EDUCATIONAL ASSESSMENT FOR

 EXCEPTIONAL LEARNERSPrereq.: 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

## 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

 EXCEPTIONALITIESPrereq.: 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

6
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 Special Education office before October 1 for spring and before February 1 for fall.

## SPED 439 STUDENT TEACHING WITH EXCEPTIONAL

 LEARNERS IIPrereq.: 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 Special Education office before October 1 for spring and before February 1 for fall.

## SPED 498 INDEPENDENT STUDY IN

 SPECIAL EDUCATIONDirected independent studies in special education. May be repeated for a total of 6 credits.

SPED 501 EDUCATION OF THE EXCEPTIONAL LEARNER 3
Examines growth and development of exceptional learners including handicapped, gifted and talented, those who may require special education, and methods for identifying, planning for and working effectively with the special needs population in educational settings. Meets State of Connecticut requirement for teacher certification. Field experience required.

## SPED 506 FOUNDATIONS OF LANGUAGE <br> FOR THE EXCEPTIONAL CHILD

A review of the basis of language competence in the exceptional child including: phonology, morphology semantics, syntax and other component factors.

SPED 510 INCLUSIVE EDUCATION
Prereq.: Certification in any area of education or permission of instructor. Identification of the issues, legislation and litigation affecting inclusion as a method of integrating special needs children in regular education. Methods and assessment strategies of learning which facilitate inclusion along with alternate curriculum and classroom management strategies will be presented.

SPED 530 THE FAMILY, THE SCHOOL, AND THE HANDICAPPED CHILD
Examination of issues that arise within families with handicapped children and between these families and school personnel. IR

## SPED 532 ADVANCED TOPICS IN

 EMOTIONAL DISTURBANCESPrereq.: Certification in Special Education. Various models and methodologies for teaching this specific population at both the elementary and secondary level will be addressed. IR

## SPED 533 ADVANCED TOPICS IN

## LEARNING DISABILITIES

Prereq.: Certification in Special Education. Overview of current theory and practice in various aspects of learning disabilities including advanced topics in etiology, identification, classification, assessment and programming. IR

SPED 536 INTRODUCTION TO THE AUTISTIC CHILD
Historical and current views regarding the characteristics, etiology and prognosis of autism will be examined. Current educational and treatment programs will be reviewed, as well as practical management strategies that can be employed within the classroom, home or institution. IR

## SPED 560 CRISIS INTERVENTION IN THE SCHOOLS

Prereq.: SPED 315 or 501 or permission of instructor. Basic skill and application of reality-oriented verbal strategies and Life Space Crisis Intervention strategies for educators who address the needs of students experiencing emotional and/or physical crises. IR

## SPED 566 PUPIL PERSONNEL SERVICES <br> IN SPECIAL EDUCATION

Prereq.: Certification in special education. Federal and state laws and regulations for the handicapped are studied. Emphasis is placed on the theories and processes in pupil personnel services and pupil planning and placement teams.

SPED 577 INTEGRATIVE SEMINAR
Prereq.: Certification in special education. Integration of theories, practices and issues as related to provision and delivery of services to exceptional learners. Students in conjunction with the instructor, will evaluate their current professional skills and develop and carry out an independent study to increase their professional competence.

## SPED 578 THE JUVENILE OFFENDER AS AN EXCEPTIONAL LEARNER

Study of the educational characteristics of the juvenile offender. A review of current educational interventions. $F$

## SPED 580

THE SPECIAL EDUCATION
TEACHER AS CONSULTANT
Prereq.: Certification in teacher education or special education. Examination of the support services provided to the regular classroom teacher, including programming, management, and monitoring, for the purpose of educating the mildly handicapped child in the "mainstream."

## SPED 590 EARLY INTERVENTION FOR INFANTS, TODDLERS, AND PRESCHOOLERS WITH SPECIAL NEEDS

Prereq.: Matriculation in M.S. program or permission of instructor. Study of children, ages birth to six, with handicaps or at-risk for developmental delays.

Identification and development of intervention plans for these children and their families. IR

## STATISTICS

3

3
400 STATISTICAL QUALITY CONTROL
Prereq.: STAT 216 or 201 or IT 464 or permission of the 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. $\mathrm{F}(\mathrm{e})$

## 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. $S$

STAT 440 BIOSTATISTICAL METHODS
Prereq.: STAT 216 or 201 or 453 with permission of the 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. $\mathrm{S}(\mathrm{o})$ [c]

STAT 451 APPLIED STOCHASTIC PROCESSES
Prereq.: STAT 315 and MATH 228. Introduction to Stochastic Processes. Topics include Markov, Poisson, birth and death, renewal, and stationary processes. Statistical inferences of Markov processes are discussed. S(e)

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 include 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 . F

## STAT 455 EXPERIMENTAL DESIGN

Prereq.: STAT 201 or 216 or 416 or equivalent. Introduction to experimental designs in statistics. Topics include complete randomized blocks, Latin square and factorial experiments. $F(e)$

## STAT 456 STATISTICS LABORATORY

Prereq.: CS 151, and STAT 201 or 216 or equivalent. Study of SAS, one of the major statistical packages now available in computer libraries. Includes data manipulation and a study of the SAS statistical procedures and analysis.S(e) [c]

STAT 465 NONPARAMETRIC STATISTICS
3
Prereq.: STAT 201 or 216 or 416 . General survey of nonparametric or distribu-tion-free test procedures and estimation techniques. Topics include one-sample, paired-sample, two-sample and k-sample problems as well as regression, correlation and contingency tables. Comparisons with the standard parametric procedures will be made and efficiency and applicability discussed. $\mathrm{F}(\mathrm{o})$

## 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. F (o)

## STAT 470 APPLIED MULTIVARIATE ANALYSIS

Prereq.: STAT 216 or 201 or 453 with permission of the instructor 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. $S(o)$ [ $c]$

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 parame-
ters and the testing of hypotheses. Introduction to Bayesian methods, regression, correlation, and the analysis of variance. $\mathrm{F}(\mathrm{e})$

## STAT 476 TOPICS IN STATISTICS

Prereq.: Permission of instructor. Topics depending on interest and qualification 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. $S(o)$

## TECHNICAL COURSES

Note: These are laboratory courses designed to develop technical competence; for majors in Technology Education, Industrial Technology, and the Industrial Technical Management program.

Note: Additional work will be required for graduate credit in 400-level courses.

## TC 405 APPLIED TECHNICAL TOPICS 1-3

Laboratory oriented course of in-depth coverage of a selected technological topic or field of study. Course may be repeated for maximum of 6 cr . for different topics, but students may not take this course for credit under the same topic more than once. IR

## TC 414 AUTOMATED ASSEMBLY CELL DESIGN

Prereq.: ET 351, IT 480. Industrial robotics programming, cell design procedures, 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. F [c]

## TC 416 PRINCIPLES OF NUMERICAL CONTROL 3

Prereq.: TC 316 or permission of the instructor. Study of the principles and concepts essential for numerical control part programming and machine tool operation. Laboratory experiences will include: word address programming, computer-aided programming and N/C machine tool setup and operation. [c]

## TC 424 FLEXIBLE ASSEMBLY CENTER DESIGN

Prereq.: TC 414. Topics include robot to manufacturing center interfacing, programming, simulation, assembly, milling, inspection, inventory and packaging methods. Emphasis on inspection and packaging of one or more products concurrently. IR [c]

## TC 442 LITHOGRAPHY

Prereq.: TC 212. Study of photo-offset lithography, covering all phases of lithographic reproduction. Emphasis on layout, composition, process camera work, platemaking and offset press work. Continuous tone photography. [c]

## TC 443 ELECTRONIC COMMUNICATIONS

Prereq.: TC 223, 233 and 323. Study of electronic communication systems.
Provides a familiarization with the principles of telephone, AM and FM radio, television and microwave. Laboratory activities concern the design, fabrication, maintenance and servicing of systems. S

TC 445
CONSTRUCTION INDUSTRIES
Prereq.: TC 215. Comprehensive study of carpentry and related construction industries. Emphasis toward gaining modern concepts of wood technology. S

## TC 446 TOOL AND DIE FUNDAMENTALS

3
Prereq.: TC 316. Introductory study of and experiences in design and construction of tools, dies and work-holding devices used in tooling for manufacturing. [c]

## TC 455 CONSTRUCTION PROJECT MANAGEMENT

Prereq.: Senior standing. Examination of the role of Construction Project Manager. Emphasis on administrative procedures, quality control, time and cost control, resource management, field office practices, construction claims processing, job site meetings and correspondence.

## TC 462 ADVANCED GRAPHIC ARTS TECHNIQUES

Prereq.: TC 442. As in graphic arts industry, course will provide integrated experience of advanced instruction in both letterpress and offset printing.

Experiences will include advanced camera work leading to half-tone photography, process color photography and other camera manipulations. Cultural and historical aspects of graphic arts and industrial visitation. [c]

## TC 472 INTRODUCTORY AND PUBLICATIONS PHOTOGRAPHY

Professional and laboratory course of 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. F, SS

TC 526 COMPUTER INTEGRATED MANUFACTURING 3
Prereq.: Computer literacy or permission of instructor. Study of the technical implications of computer hardware, software and communications for controlling the manufacturing process. Concepts for systems integration will be introduced relating to the creation, storage, analysis, transmission and modification of design and manufacturing engineering data. Laboratory experience will involve CAD/CAM integration, distributive numerical control and process control. IR

## TC 591 INDEPENDENT STUDY IN

 INDUSTRIAL/ENGINEERING TECHNOLOGYPurpose is to allow students to undertake studies of special areas in industrial/engineering technology which fit their particular program of study. Problems may require individual research in the initiation and application of industrial/engineering technology relating to new areas or fields. Course may be repeated for maximum of 6 credits under different topics, but students may not take this course for credit under the same topic more than once. IR

TC 599 TECHNOLOGICAL ISSUES AND PROBLEMS
Extensive study of selected technological issues and problems. Course may be repeated for different topics, but students may not take this course for credit under the same topic more than once. IR

## TECHNOLOGY EDUCATION

Note: These are courses designed to develop professional competence; for majors in Technology Education. Courses also suitable as electives for Education, Counseling, and Technology majors.

Note: Additional work may be required for graduate credit in 400-level courses.

## 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 students in the technology education certification program. This course is a prerequisite to student teaching. F

## TE 410 COMMUNICATION SYSTEMS

3
3 Prereq.: 24 credits of technical (TC) 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 laboratory activities will include computer-aided design, desktop publishing, photography and telecommunications. $\mathrm{F}(\mathrm{o})$

## TE 411 ANIMATION GRAPHICS

3
3 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. IR [c]

## TE 412 COMPUTER-AIDED PUBLISHING

3
Prereq.: TC 113. Course designed to present and apply the basic concepts of
3 electronic publishing. Instruction and laboratory activities will focus on software usage, applying accepted design techniques and producing appropriate materials for classroom implementation. IR [c]

TE 420 PRODUCTION SYSTEMS 3
Prereq.: 24 credits of technical (TC) courses including TC 118 and 215; or permission of instructor. Laboratory application of the systems and technical means used to manufacture and construct products. Students will create designs, prototypes, tooling, transport devices, line production techniques and quality control mechanisms. S(e)

## TE 428 RESEARCH AND EXPERIMENTATION

Prereq.: Completion of 18 credits of required technical (TC) courses. 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. F

TE 430 TRANSPORTATION SYSTEMS
Prereq.: 24 credits of technical courses including TC 114 and 214; or permis sion 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. $F(e)$

## 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. S(o)

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. IR

## TE 460 CONSTRUCTIVE ACTIVITIES FOR NON-TECHNICAL TEACHERS

To 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. IR

## 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.

## TE 510 COMPUTER APPLICATIONS FOR TECHNOLOGY EDUCATION

Prereq.: TC 121 or equivalent. Use of microcomputer applications as a basis to develop and deliver units of study, laboratory activities, student records, and database management techniques for use in technology education programs. IR [c]

TE 512 PROGRAM AND COURSE DEVELOPMENT: THEORIES AND PRACTICES
Study of course/program development founded on current understandings of cognition and application of knowledge and skill with emphasis on adult technical programs. Also suitable for K-12 teachers/administrators. IR

## TE 513 PROFESSIONAL STRATEGIES FOR TEACHING TECHNICAL SUBJECTS TO ADULTS

Approaches and strategies designed for use with adult learners. The development, presentation and evaluation of student-prepared lessons unique to technical subjects will be emphasized. IR

## TE 520 READINGS IN TECHNOLOGY

Study of the nature of technology from a variety of perspectives. Students will explore, in-depth, the issues relative to the creation, use and control of technology and its impacts on individuals and society. F

## TE 540

## CURRICULUM MATERIALS IN TECHNOLOGY

 EDUCATIONPreparation of curriculum guides, instruction sheets, lesson plans, tests, special references, appropriate texts and use of audio-visual material in technology education and vocational-technical education will be studied and evaluated. IR

TE 560 TECHNOLOGICAL DEVELOPMENTS 3
Study of major technological developments in communication, transportation, and production from a historical perspective. Emphasis on how humans moved from the stone age and the major developments along the way. IR

## TE 590 TECHNOLOGY EDUCATION FACILITY PLANNING

3 Emphasis will be given to a systems approach to facility and environmental planning for industrial education, including philosophical commitment, effective laboratory design and plant layout, equipment, selection and requisition procedure. IR

## TE 595 INDUSTRIAL AND TECHNICAL WORKSHOP

Prereq.: Completion of 21 credits in graduate program or permission of instructor. Significant problems and trends in industrial and technical education are explored using research relating to organization, content, and techniques in specific fields. Scholarly investigation of meaningful aspects of industrial education: professional development, technical updating, federal and state legislation relating to industrial education programs and new and experimental programs. IR

TE 596 SPECIAL PROJECT IN TECHNOLOGY EDUCATION
Prereq.: 21 credits in planned program and TE 598. Study of an advanced topic in technology education approved by adviser and a special project coadviser. Requirements include a paper on the topic. At the option of the advisers, an oral presentation may also be required. IR

## TE 598 RESEARCH IN TECHNOLOGY EDUCATION

Familiarization with techniques and resources associated with research in the student's specialization. Opportunity for practical application will be provided. (To be taken during the first credits of the graduate program.) $S$

## TE 599 TOPICS IN TECHNOLOGY EDUCATION

Prereq.: Completion of 21 cr . of graduate work including TE 598 or ED 598, or permission of instructor. An examination of topics, problems or areas of interest to advanced graduate students' professional and/or technological field will be undertaken. May be repeated under different topics for up to 6 credits. IR

## THEATRE

Note: Additional work will be required for graduate credit in 400-level courses.

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. $\mathrm{F}(\mathrm{o})$

TH 465 CREATIVE DRAMATICS FOR CHILDREN
Trains teachers to develop the imagination, creativity, and communication skills of children ages five though 12 . Includes pantomime, theatre games, improvisation and formal theatre experience. $S$

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. IR

TH 481
PROJECTS: SCENERY
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 1-3
Prereq.: TH 347 and junior standing and departmental permission. Individual projects in reading, research or production under guidance of member of theatre staff.

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.
$\begin{array}{ll}\text { TH } 486 & \text { PROJECTS: LIGHTING/SOUND, STAGE } \\ & \text { MANAGEMENT }\end{array}$
Prereq.: TH 318 and departmental permission. Individual projects in reading, research or production under guidance of member of theatre staff.

TH $487 \quad$ 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 $488 \quad$ PROJECTS: DIRECTING
Prereq.: Permission of instructor. Individual direction of student production under faculty supervision.

TH 489 STUDIES IN THEATRE/DRAMA
3
Prereq.: Permission of instructor. Selected area of theatre and/or drama not covered in other courses. Topic varies. May be repeated for credit. IR

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. SS

## VOCATIONAL-TECHNICAL EDUCATION

## Certification courses

Note: Additional work will be required for graduate credit in 400-level courses.

VTE 400 EVALUATING STUDENT ACHIEVEMENT IN VOCATIONAL TECHNICAL EDUCATION
Prereq.: VTE 113. Procedures for evaluating achievement of instructional objectives with application in occupational education subjects. S

VTE 415 PRINCIPLES OF VOCATIONAL EDUCATION 3
Introduction to the principles and philosophy of vocational education and its impact on society. A brief historical development of vocational education, supportive legislation, characteristics of the various program field, delivery systems and current issues and problems.

## VTE 440 HUMAN RELATIONS IN THE WORKPLACE

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 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. F

## VTE 450 PRINCIPLES AND ORGANIZATION OF COOPERATIVE WORK EDUCATION

The development and organization of work experience programs at the secondary school level. Examines those activities necessary to establish, maintain, and improve cooperative work education programs. F

## VTE 455 RELATED INSTRUCTION AND REGULATIONS WITHIN COOPERATIVE WORK EDUCATION

Examines the relationship between cooperative work education, private industry and agencies within the State Department of Labor. Emphasis upon how these organizations interface related instruction and on-the job training for the cooperative work education student. S

## VTE 490 TOPICS IN VOCATIONAL

## TECHNICAL EDUCATION

1-3
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 ensure the instructor's technical expertise. May be repeated on different topics to a maximum of 6 cr. (Contact Dr. Mary Furtado Holloway, School of Technology, prior to registration.) On demand.

## VTE 520 SUPERVISION OF VOCATIONAL

 AND TECHNICAL EDUCATIONPrereq.: Teaching experience. Roles and functions of supervisors of vocational and technical education on the local and state level. F

## WOMEN'S STUDIES

Note: Additional work will be required for graduate credit in 400-level courses.
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. $S$

# 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).
STEPHEN ADAIR, Ph.D., Northeastern University; Assistant Professor of Sociology (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).
PALOMA LAPUERTA AMIGO, Ph.D., University of Geneva; Assistant Professor of Modern Languages (1998).
BETH AMTER, B.A., Southern Connecticut State University; Admissions Representative (1997).
MICHAEL ANSARRA, M.S., Southern Connecticut State University; Assistant Director of Intercollegiate Athletics, Compliance, and Special Counsel to the President for African-American Affairs (1995).
ALI 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., Catholic University of Chile; Assistant Director, Career Services and Cooperative Education (1991).
EDWARD R. ASTARITA, M.S., Columbia University; Associate Professor of Marketing (1975).
LOUIS AULD, Ph.D., Bryn Mawr College; Associate Professor of Modern Languages (1987).
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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 (1967).
ABNER S. BAKER III, Ph.D., University of Oregon; Associate Professor of History (1970).
TIM 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 BARATTA, Ph.D., Syracuse University; Assistant Professor of Sociology and Social Work (1998).
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JOHN BARKER, B.S., Central Connecticut State University; Assistant Director of Information Services (1992).
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CHARLES BASKERVILLE, Ph.D., New York University; Professor of Physics and Earth Sciences (1990).
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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).
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).
LYNN BONESIO, M.S., Eastern Connecticut State University; Associate Registrar (1990).
FRED BONVICINI, M.S., Central Connecticut State University; Interim Associate Director, Residence Life (1980).
MOLLY BORST, M.S., Central Connecticut State University; Assistant Director of Recruitment and Admissions (1995).
CONSTANCE C. BOSTON, M.S.W., University of Connecticut; Director, Prevention and Counseling Services (1987).
LAURA BOWMAN, Ph.D., Kent State University; Associate Professor of Psychology (1989).
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SHARON BRAVERMAN, M.S., Central Connecticut State University; Assistant to the Dean, School of Business (1992).

CASSANDRA BROADUS-GARCIA, Ph.D., Ohio State University; Assistant Professor of Art (1994).
BONNIE L. BROOKS, B.S., Springfield College; International Student Program Assistant, CIE (1997).
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JAMES BRUNER, B.S., Daniel Webster College; Business Manager, IIET (1994).
PETER A. BUDWITZ, C.P.A., M.S., Bucknell University; Associate Professor of Accounting (1971).
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THOMAS BURKHOLDER, Ph.D., University of Virginia; Associate Professor of Chemistry (1992).
SANDRA FLYNN BURNS, Ph.D., University of Connecticut; Professor of Physics and Earth Sciences/ Science and Science Education (1972).
WENDY WILTON BUSTAMANTE, B.S., Central Connecticut State University; Administrative Assistant to the President (1986).
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GLORIA CALIENDO, Ph.D., University of Connecticut; Assistant Professor of Modern Languages (1991).
THOMAS J. CALLERY, JR., M.F.A., University of Oregon; Associate Professor of Theatre (1983).
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LINDA JANE EVANS, Ph.D., Boston College; J.D. University of Connecticut Law School; Professor of Sociology and Social Work (1973).
SCOTT EVON, B.S., Central Connecticut State University; Server Support Specialist (1994).
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MARGARET M. FERRARA, Ph.D., Texas A \& M University; Associate Professor of Teacher Education (1992).
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F. WILLIAM FISCHER, Ph.D., University of Connecticut; Professor of Special Education (1975).
BARTON FISHER, Coordinator of Athletic Development (1995).

THOMAS B. FLAHERTY, Ph.D., Tulane University; Executive Officer for Planning and Analysis (1970).
BRADFORD FLOOD, M.A., University of Iowa; Assistant Professor of Intercollegiaté Athletics and Swimming and Diving Head Coach (1996).
KIMBERLY FOLEY, B.S., St. Joseph's University; Assistant Professor of Intercollegiate Athletics and Women's Basketball Head Coach (1995).

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Judith Guida, Tenant Relations Coordinator
Susan Siton, Professional Development Specialist
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Mary Ann Vincenzo, Procurement Specialist
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Joan Calvert, Coordinator
Jeanne Phillips, Support Staff

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Lisa Marie Fellage, Assistant Director
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Louise Olszewski, Administrative Assistant
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Gail Gionfriddo, Support Staff
Dale Macken, Support Staff
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Francis J. Gagliardi, Associate Director
Marie A. Kascus, Librarian
Joan Packer, Librarian
Prya Rai, Librarian
Emily S. Chasse, Associate Librarian
Richard Churchill, Associate Librarian
Lynn M. Johnson-Corcoran, Associate Librarian

Janice M. Kozovich, Associate Librarian
Faith A. Merriman, Associate Librarian
Frances A. Nadeau, Associate Librarian
John D. Rutherford, Associate Librarian
Ewa Wolynska, Associate Librarian
Barbara Sullivan Meagher, Assistant Librarian
Shelley A. Osterreich, Assistant Librarian
Jacqueline K. Schenck, Assistant Librarian
Nicholas Tomaiuolo, Assistant Librarian
June Sapia Welwood, Assistant Librarian
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Norma S. Chute, Support Staff
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Tzou-Min Hsiung, Support Staff
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Donna M. Wallach, Support Staff

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Shou-San Wang, Associate Director
Regina Klonis Dardzienski, Assistant Director, Graphic Design
Timothy J. Scott, Material Storage Supervisor
Craig A. Pocock, Video Engineering Specialist
Diane J. Seaburg, Administrative Assistant

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Lynn Bonesio, Associate Registrar
Maria A. Alvarez, Assistant Registrar
Lourdes Cruz, Assistant Registrar
Peggy C. Porter, Administrative Assistant
Rosa H. Colon, Support Staff
Mariette L. Gimmartino, Support Staff
Gayle M. Spring, Support Staff
Darlene Jordan, Support Staff
Nancy J. Shampang, Support Staff

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Lori J. Padua, Fiscal Administrative Assistant to the Chief Financial Officer

## Budget

To be named, Budget Director
Brian P. Wood, Associate Research Analyst
Barbara I. Woynar, Associate Accountant
Barbara J. Coughlin, Associate Accountant
Payroll
Marie L. Boilard, Payroll Officer 2
Lynn C. Detlefsen, Payroll Officer 1
Magdiel Ortiz, Support Staff
Student Financial Services
James Malone, Associate Dean
Bursar's Office
Charles G. Wallach, Bursar
Karen Voisine, Fiscal Administrative Assistant
Cash Management
Gail Kreneck, Director
Denise Zipp, Fiscal Administrative Assistant

Tara Crescentini, Support Staff
Maria Soderburg, Support Staff
Collection Office/Perkins Loan
Shiann Rutledge, Assistant to the Bursar
Yvonne L. Wynter, Support Staff
Card Office (Powerhouse)
Marilyn Cormier, Campus One Card Administrator

Grants Administration
Kathleen A. Knopf, Assistant Director of Financial Affairs
Rae A. Rudzinski, Support Staff
Business Services (Davidson)
To be named, Director
Lucy Cannamela, Support Staff
Jo-Ann Myers, Support Staff

## Accounts Payable

Major Ruth, Accountant
Elizabeth Fangiullo, Support Staff
Rosemarie Harrington, Support Staff
Robert Kennedy, Support Staff
Jacqueline A. Way, Support Staff
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Peter D. Clark, Mail Services Supervisor
Katherine A. Arasimowicz, Support Staff
Melvin G. Bigley, Support Staff
Rocco A. Nesta, Support Staff
Jeremy Schuberth, Support Staff
Purchasing
Carol Moran, Director of Purchasing
Thomas J. Brodeur, Jr., Purchasing Services Officer II
Michael Pallon, Purchasing Services Officer I
Kathy Kuziak, Support Staff
Patricia A. Michaud, Support Staff
Frances Antinerella, Support Staff
Travel/Telecommunications (Willard)
Laurie A. Napierski, Assistant Director, Business Services
Deborah A. Peterson, Fiscal Administrative Assistant
Mary L. Wood, Support Staff
Leanne M. Valengavich, Lead Telephone Operator (Police Station)
Constance M. Yard, Telephone Operator (Police Station)

Copy Center
Joseph W. Parys, Duplicating Technician
Brendan C. Kelly, Duplicating Technician

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Claire M. Coggshall, Administrative Assistant to the Chief
Administrative Officer

## Information Services (Barnard)

William Singleton, Director
Mary Custy, Associate Director
Mark McGuire, Associate Director
Douglas Cook, Database Manager/Administrator
John Barker, Assistant Director
Tennyson Darko, Assistant Director
Scott Evon, Server Support Specialist
Frank Gesino, Assistant Director
Trevor Jackson, Assistant Director
Rick Johnson, Assistant Director
Dawn Klimkiewicz, Assistant Director
John Michaud, Assistant Director
Spencer Miller, Assistant Director
William Pringle, Assistant Director

Lisa Ricci, Coordinator, Instructional Computing Services
Dan Beeler, Computer Operator
Martha D. Hart, User Support Specialis
Juan A. Reyes, User Support Specialist
Valerie J. Downes, LAN Specialist
Diane L. Mechlinski, Support Staff

Public Safety (Police Station)
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Toddnie A. Cherry, Lieutenant (Operations Commander)
Marilyn Haney, Administrative Assistant
Karin E. Marocchini, Police Officer (Accreditation Manager)

Environmental Health \& Safety
Domenic Forcella, Environmental Health \& Safety Officer
Craig M. Nolan, Fire Safety Inspector
Investigations \& Professional Standards
Paul Tanasi, Jr., Police Sergeant
Rolando Centeno, Police Detective
Crime Prevention \& Community-Oriented Policing
William R. Smith, Police Officer
Anthony P. D'Onofrio, Jr., Police Officer

Shift Supervisors (Patrol)
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Carlos I. Gil, Police Sergeant
Humberto L. Centeno, Police Sergeant
Police Officers (Patrol)
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Christopher V. Cervoni
Brett A. Cheezic
Salvatore A. Ciarleglio
Steven J. DiPietro
Thomas J. Kempf
Karyl B. Lembo
Ronald S. Lickwar
Leslie Richardson
Charles D. Thornton
Robert Virgulto
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Beverly L. Luke
Angel L. Miranda
Marcella J. Thayer

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Barbara DeMaio, Assistant Director of Facility Support Services
Rene E. Karas, Administrative Assistant
Construction and Capitol Projects
Robert Micek, University Architect
Robert LeBaron, Associate Director, Architectural Services
Janet Hubbard, Associate Director, Architectural Services
Francis Felletter, Construction Coordinator Joseph S. Virgadula, Construction Coordinator

## Physical Plant

Thomas J. Bottone, Plant Facilities Engineer II
Rob Gagne, Plant Facilities Engineer I
Frank W. Scarlett, Facilities Contract Administrator Joshua J. Bottone, Support Staff

## Craftworkers

## Carpenters

Roland Collin, Maintenance Supervisor (Carpentry)
David J. Balducci, Qualified Craftworker
Paul J. Borawski, Qualified Craftworker
Valentine J. Crescentini, Jr., Qualified Craftworker Jackson Fort, Qualified Craftworker

Richard K. Knowles, Qualified Craftworker Albert A. Wollman, Qualified Craftworker

## Electricians

Norman Charbonneau, Maintenance Supervisor (Electrical)
Stephen Brochu, Qualified Craftworker
Gary L. Catucci, Qualified Craftworker
James M. Donnelly, Qualified Craftworker
Jeffrey L. Kaczynski, Maintenance Supervisor (Electrical)
Paul M. Marsan, Qualified Craftworker
Joseph Starzyk, Qualified Craftworker
Locksmiths
Louis J. Pandolfo, Maintenance Supervisor (Locksmith)
Laura L. Niewinski-Partyka, Support Staff
Roger R. Dulac, Qualified Craftworker
David Sanko, Qualified Craftworker

## Masons

Steven M. Chester, Qualified Craftworker

Painters
James W. Boyle, Skilled Maintainer
Youal Eichouzadeh, Qualified Craftworker
Willie J. Mitchell, Qualified Craftworker
Preventive Maintenance
Charles J. Bugnacki, Maintenance Supervisor (General)
James A. Cararini, Qualified Craftworker Electrician
Joseph H. Deloy, Qualified Craftworker Carpenter
Salvador Ortiz, Skilled Maintainer
Fredrick J. Ward, Qualified Craftworker Plumber

Housekeeping
Barbara L. DeMaio, Assistant Director of Facilities Support Services
Robert T. Tajmajer, Building Superintendent
Joseph A. Truglio, Building Superintendent
Supervising Custodians
Sam N. Eshoo
Roy L. Johnson
Joseph F. Mangene
Tommie Newton
John R. Zielinski

Lead Custodians
Allen Bishop
Felix C. DeJesus, Jr.
Raymond J. Lewonczyk
Sophie W. Mackenzie
Peter W. Mangiafico
Jeffrey Parsons
Frederick L. Savage
Patricia Valencia

Custodians
Maria D. Alvarez
Luis A. Arroyo
Shermiran M. Baba
Deborah Bleau
Rena Boston-Surratt
Hank Bryant
Silvano Carillo
William J. Colossa
George Cunningham
Teresa Czyzewska
Felix DeJesus
Teresa DeJesus
Timothy R. Dowling
Thomas Dubowsky, Jr.
Elizabeth A. Glinski
Angel L. Guisao
Rosa M. Guisao
Richard J. Karas
Richard Lamarre

Elisabetta Liburdi
Luis Medina
Gerald W. Michaud
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Miriam Oliveras
Henri M. Petit
John S. Prescott
Frances M. Rose
Waldo Santos
Phyllis J. Small
Tadeusz A. Stanik
Daisy A. Tarlton

Landscaping/Special Projects
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(Landscaping)
Damian E. Cordero
Benjamin Ewing
David M. MacKenzie
Dean L. Winslow

Powerhouse
Kevin DeSimone, Lead Stationary Engineer

## Stationary Engineers

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William F. LaBier
Ronald J. McLellen
Mark J. Palmese
Jeffrey R. Sacharko

Boiler Tenders
Isadore Bezio
Bruce R. Earl
Ernesto Salcedo

Plumbers/Steamfitters
Gary A. Cusson, Qualified Craftworker
Ernest A. Frick, Jr., Qualified Craftworker Joseph Kulak, Maintenance Supervisor I (Plumbing)
Jose M. Ortiz, Skilled Maintainer
Neal J. Palmese, Qualified Craftworker
Edward J. Wojas, Qualified Craftworker

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Material Storage Managers
Richard A. Larose
Skilled Maintainers
Thomas J. Cardone
Marcellino A. Hill
Mark Varhol
Anthony S. Bleau
Gary M. Behm, Driver/Equipment Operator
Storekeepers
Steven J. Berry
Brian D. Chagnon
Lorraine S. Gallo
Richard P. Pelletier
Lawrence Tagnon

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Lois E. Johnson, Manager, Personnel Services
Santiago Malave, Assistant Manager, Personnel Services
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Janie L. Palasek, Support Staff
Laurel P. Paradise, Support Staff
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Father Richard J. Donovan, Catholic Campus Ministry (Newman House)
Rabbi Henry Okolica, Jewish Campus Ministry
Isam Qasim Sharief, Islamic Campus Ministry
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Debra Jepsen, College Health Nurse
Patricia B. Zapatka, College Health Nurse
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Kenneth A. DeStefanis, Assistant Director, Facilities
Lisa Meyers, Assistant Director, Fiscal Administration
Brent Rutkowski, Assistant Director, Sports Information
Karen S. Goulet, Administrative Assistant
Sharon L. Hornik, Administrative Assistant
Salvatore Cintorino, Football Head Coach
William Coleman, Women's Soccer Head Coach
Howard Dickenman, Men's Basketball Head Coach
Bradford Flood, Swimming and Diving Head Coach
Kimberly Foley, Women's Basketball Head Coach
Shaun Green, Men's Soccer Head Coach
George Kawecki, Women's Cross Country and Track Head Coach
John Keleher, Men's Cross Country and Track Head Coach
Lowell Lukas, Golf Head Coach
Ron Pringle, Softball Head Coach
George Redman, Baseball Head Coach
Victor Stone, Head Tennis Coach
Leopoldo Uzcategui, Volleyball Head Coach
Katherine B. Pirog, Head Athletic Trainer
Thomas McCarthy, Athletic Trainer
Joseph Vigdorchik, Equipment Manager
Sal Mangiafico, Skilled Maintainer
Larry Tagnon, Custodian
Judicial Programs Office (Barrows)
Michael Racz, Judicial Director
Prevention and Counseling Services (Willard)
Constance Boston, Director
Michael S. Terezakis, Counselor
Karen Block Engwall, Assistant Counselor
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Residence Life (Barrows)
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Fred Bonvicini, Interim Associate Director
Kimberly London, Interim Assistant Director
Holly Cairns, Area Coordinator
Matthew Grimm, Interim Area Coordinator
Christine Barrett, Residence Hall Director
Anthony R. Blazini, Residence Hall Director
Christopher Dukes, Residence Hall Director
Susan M. Holden, Administrative Assistant
Carolyn F. Yousef, Support Staff
Special Student Services (Willard)
George R. Tenney, Director and Counselor
Student Center (Student Center)
Duane A. Orloske, Director
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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

|  |
| :---: |

[^1]$\begin{array}{ll}11 & \text { Emma Hart Willard Hall } \\ 12 & \text { Maria Sanford Hall } \\ 13 & \text { Student Center } \\ 14 & \text { Robert E. Sheridan Hall } \\ 15 & \text { Frank J. DiLoreto Hall } \\ 16 & \text { Thomas A. Gallaudet Hall } \\ 18 & \text { Memorial Hall } \\ 19 & \text { Mildred Barrows Hall } \\ 20 & \text { Robert C. Vance Hall } \\ 21 & \text { Press Box } \\ 22 & \text { Elihu Burritt Library }\end{array}$


CentralConnecticut State University
1615 Stanley Street
New Britain, CT 06050

## A University of the

Connecticut State University System


[^0]:    African Studies: Evelyn Newman Phillips(Coordinator, Anthropology Dept.), Gabriel Alungbe, Ali Antar, Haines Brown, Walton Brown-Foster, Tennyson Darko, Ghassan El-Eid, Gloria Emeagwali, Parker English, Sheri Fafunwa-Ndibe, Eddie Joyce, Peter LeMaire, Andrew Moemeka, Segun Odesina, Peter Osei, Warren Perry (Phone: 832-2617)

[^1]:    $\begin{array}{ll}37 & \text { F. Don James Hall } \\ 38 & \text { Classroom/Office Bu }\end{array}$
    38 Classroom/Office Building (planned)
    39 South Parking Garage (planned)
    $\begin{array}{ll}\text { AR } & \text { Arute Field } \\ \text { BSF } & \text { Balf-Savin Fields }\end{array}$
    NH Newman House
    

    Nicolaus Copernicus Hall
    Construction Structures Lab (planned)
    Construction Structures Lab (planned)
    James J. Maloney Hall/Fine Arts Center
    East Hall
    Charter Oak State College (planned)
    Police and Public Safety Building
    Maint. Support Butler Building
    Grounds Building
    
    36 South Pump House

