Central Connecticut State University


Graduate Catalog 2000-2002
"START WITH A DREAM FINISH WITH A FUTURE"

# CONNECTICUT STATE UNIVERSITY SYSTEM 

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

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

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

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

The governance of the Connecticut State University System is the responsibility of 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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STATE U N I V ERSIT Y

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

## Graduate Catalog 2000-2002

## Central Connecticut State University, one of four universities of the Connecticut State University System

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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Daniel J. Miller. Dean, School of BusinessPaulette LemmaInterim Associate Vice President, Academic Affairs, andCoordinator of Graduate StudiesHakim A. Salahu-Din
$\qquad$Associate Vice President for Academic Affairs, Retention Strategies

## UNIVERSITY OFFICES

| Academic Deans |  |
| :--- | :--- |
| $\quad$ School of Arts and Sciences | $832-2600$ |
| School of Business | $832-3205$ |
| School of Education and | $832-2102$ |
| $\quad$ Professional Studies | $832-1800$ |
| $\quad$ School of Technology | $832-1615$ |
| Advising Center | $832-2665$ |
| Bookstore | $832-1630$ |
| Career Services and |  |
| $\quad$ Cooperative Education | $832-2256$ |
| Enrollment Center/Office of | $832-2200$ |
| $\quad$ Continuing Education |  |
| Financial Aid Office | $832-2050$ |
| George R. Muirhead Center for | $832-2350$ |


| Graduate Office | $832-2363$ |
| :--- | ---: |
| Learning Center | $832-1900$ |
| Library | $832-2055$ |
| Ombudsman | $832-3020$ |
| Personnel | $832-1750$ |
| Prevention and Counseling Services | $832-1945$ |
| Registrar | $832-2235$ |
| Residence Life | $832-1660$ |
| Special Student Services | $832-1955$ |
| Student Affairs | $832-1601$ |
| Student Center Operations | $832-1960$ |
| Summer and Winter Sessions | $832-2256$ |
| Transcripts | $832-2244$ |
| University Police | $832-2375$ |
| Veterans Services | $832-1785$ |
| For all numbers not listed above | $832-3200$ |

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832-3200

> Send Inquiries to:
> Graduate Admissions 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 (for its certification programs in education) and the National Council for the Accreditation of Teacher Education. Programs in chemistry are accredited by the American Chemical Society. The honors track of the computer science program is accredited by the Computing Sciences Accreditation Board. The civil engineering technology and the manufacturing engineering technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The industrial technology programs are accredited by the National Association of Industrial Technology, and the Bachelor of Science in Nursing program is accredited by the National League for Nursing. The Council on Social Work Education has accredited the baccalaureate social work program, and the Council on Accreditation of Nurse Anesthesia Programs has accredited the master's degree in biological sciences, anesthesia specialization.
The University is a member of the American Association of Colleges for Teacher Education, the American Association of Higher Education, the American Association of State Colleges and Universities, the American Council on Education, the Association of American Colleges and Universities, the College Board, the Council for Advancement and Support of Education, the Council of Graduate Schools, the National Commission for Cooperative Education and many other professional organizations related to the activities of individual departments at Central Connecticut State Universiry.

## University Calendar 2000-2001

## Fall Semester 2000

August 28 Academic year begins
September $4 \quad$ Labor Day - Holiday
September 6 Last day for full-time students to withdraw with $100 \%$ refund
September 6 Classes begin 8 a.m.
September 6-8, 11 Add/Drop period; last day to change from part-time to full-time status
September 12 Last day for part-time students to
September 15 Last day for graduate students to apply for December 2000 graduation
September 19 Last day for full-time students to withdraw with $60 \%$ refund
September 26 Last day to declare Pass/Fail and Audit options; last day for part-time students to drop with $50 \%$ refund; last day to change from full-time to part-time status
October 3 Last day to drop eight-week courses; last day for full-time students to withdraw with 40\% refund
October 24 Mid-term; last day to drop full-semester courses; first eight-week courses end
October 25 Second eight-week courses begin
November 21 Last day to drop second eight-week courses; Thanksgiving recess begins 10 p.m.
November 27 Thanksgiving recess ends 8 a.m.
December 1 Last day for undergraduates to apply for December 2001 graduation
December 15 Day classes end
December 18-22 Examinations
December 23 Semester ends; last class meeting for Saturday classes

## Winter Session 2001

| December 27 | Classes begin |
| :--- | :--- |
| January 1 | New Year's Day - Holiday - no classes |
| January 15 | Martin L. King, Jr., Day - no classes |
| January 18 | Classes end |

## Spring Semester 2001

| January 16 | Academic semester begins |
| :--- | :--- |
| January 22 | Last day for full-time students to withdraw <br> with $100 \%$ refund |
| January 22 | Classes begin 8 a.m. |
| January 22-25 | Add/Drop period; last day to change from <br> part-time to full-time status |
| January 29 | Last day for part-time students to drop <br> with $100 \%$ refund |
| February 2 | Last day for full-time students to withdraw <br> with 60\% refund |

February 9 Last day to declare Pass/Fail and Audit options; last day to change from full-time to part-time status
February 12
February 16-19 Lincoln's/Washington's Birthday weekend Holidays - no classes
February 20

March 1

March 16
March 17
March 26

April 13-14
April 20
May 1

May 9
May 10-11
May 14-18
May 17
May 19
May 19 with $40 \%$ refund; last day to drop first eightweek courses
Final day for graduate students to apply for May and August 2001 graduation
Midterm; last day to drop full-semester courses Spring Recess begins 1:30 p.m.
Spring Recess ends 8 a.m.; second eight-week courses begin
Holiday - no classes
Last day to drop second eight-week courses
Final day for undergraduates to apply for May 2002 graduation
Day classes end
Reading Days (make-up days if needed) no classes
Examinations
Graduate Commencement
Semester ends; last class meeting for
Saturday classes
Undergraduate Commencement

## Summer Session 2001

May 29

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

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

## University Calendar 2001-2002

## Fall Semester 2001

## August 27

September 3
September 5
September 5
September 5-7, 10 Add/Drop period; last day to change from part-time to full-time status
September 11 Last day for part-time students to drop with 100\% refund
September 17 Last day for graduate students to apply for December 2001 graduation
September $18 \quad$ Last day for full-time students to withdraw with $60 \%$ refund
September 25 Last day to declare Pass/Fail and Audit options; last day for part-time students to drop with $50 \%$ refund; last day to change from full-time to part-time status
October 2 Last day to drop eight-week courses; last day for full-time students to withdraw with 40\% refund
October 23

October 24
November 20

November 26
December 3

December 14
December 17-22
December 22
Academic year begins
Labor Day - Holiday Classes begin 8 a.m. Last day for full-time students to withdraw with $100 \%$ refund

February 15-18

February 19

March 1

March 18

March 23
April 1

April 15
May 1

May 8
May 9-10
May 13-18
May 16
May 18
May 18

## Summer Session 2002

May 28

June 27
July 1
July 4
July 18
August 1
August 5
August 22

Last day for full-time students to withdraw with $60 \%$ refund
Last day to declare Pass/Fail and Audit options; last day to change from full-time to part-time status; last day for part-time students to drop with $50 \%$ refund Lincoln's/Washington's Birthday weekend Holidays - no classes
Last day for full-time students to withdraw with $40 \%$ refund; last day to drop first eight-week courses
Final day for graduate students to apply for May and August 2002 graduation
Midterm; last day to drop full-semester courses
Spring Recess begins 1:30 p.m.
Spring Recess ends 8 a.m.; second eight-week courses begin
Last day to drop second eight-week courses
Final day for undergraduates to apply for May 2003 graduation
Day classes end
Reading Days (make-up days if needed) no classes
Examinations
Graduate Commencement
Semester ends; last class meeting for
Saturday classes
Undergraduate Commencement

## Winter Session 2002

January $2 \quad$ Classes begin
January $18 \quad$ Classes end

Spring Semester 2002
January $14 \quad$ Academic semester begins
January 21 Martin L. King, Jr., Day — Holiday no classes
January $22 \quad$ Classes begin 8 a.m.
January 22 Last day for full-time students to withdraw with $100 \%$ refund
January 22-25 Add/Drop period; last day to change from part-time to full-time status
January 28 Last day for part-time students to drop with $100 \%$ refund

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

| TITLE OF FORM | RETURN TO | DATES DUE |
| :---: | :---: | :---: |
| Application, Reactivation, Re-enrollment Form | Graduate Admissions Office Also as on-line application (wwgs.ccsu.ctstateu.edu) | Aug. 10 for fall, Jan. 10 for spring |
| Special Project Capstone Forms | Graduate Office |  |
| Thesis Capstone Forms | Graduate Office | Final submission on April 16 |
| Application for Degree Candidacy | Graduate Office (for approval) |  |
| Graduate Assistant Forms | Graduate Office | July 1 for fall, Dec. 1 for spring |
| Withdrawal Request | Registrar |  |
| Change of Status (full-time, part-time) | Registrar or Enrollment Center |  |
| Application for Graduation | Registrar | March 1 |
| Comprehensive Examination Form | Registrar | Oct. 1 for fall; Feb. 15 for spring |
| Completed Planned Program of Study | Graduate Office, Registrar or Enrollment Center | Must be filed before completion of 15 credits |
| Course Substitution Forms | Registrar or Enrollment Center |  |
| Transfer of Credits | Registrar or Enrollment Center |  |

Note: Forms are available in Graduate Studies, Registrar and Enrollment Center. Application, Re-enrollment and Reactivation Forms are available in Admissions. Materials related to graduate study also are available as Microsoft Word documents. Faculty and staff using PCs should first click on Network Neighborhood, then on "CMFSRV1" and next open "The Grad Materials" folder. Mac users should go under the Apple to "Chooser" and click on the Appleshare icon. In the right pane, go to "MacShare on CMFSRV1" and double click on it. Choose Microsoft Authentication and put in your NT username and password. Double click on the "Grad Materials" NetShare folder. Your icon for connection to the NetShare will be on the desktop.

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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 over 6,700 full-time students and nearly 5,200 part-time students, and offers undergraduate and graduate programs through the master's degree and sixthyear certificate levels. The University has a full-time faculty of over 375 members, 450 part-time faculty, and some 500 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 internationally-oriented public university.

## OUR MISSION

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

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

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

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

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

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

## AFFIRMATIVE ACTION POLICY

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

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

## THE GRADUATE OFFICE

The Graduate School at Central Connecticut State University was established in 1954. Graduate enrollment is approximately 2,700 .

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 mission of CCSU graduate programs is to prepare students with demonstrated critical thinking skills and a high level of analytic and verbal ability to become leaders in their fields through independent thinking and enthusiasm for inquiry. Graduate education seeks to operate at a separate and distinctive level of performance, easily recognized by others and resulting in graduates who make a significant contribution to their field of study or profession.

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. Nondegree graduate-level planned programs leading to teacher certification and for professional enhancement are also available.

## 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: 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 (available with a concentration in accounting). 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 and other professionals 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 nondegree programs for the professional development of teachers and counselors. The School offers a Master's Degree in Marriage and Family Therapy and 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 vocationaltechnical 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) 3477700. 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 a capstone experience, which may involve a thesis or special project. 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, but a capstone experience is required. Most MS programs at Central Connecticut are designed for certified teachers (although some departments admit students who have not completed certification) and for students 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, 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 Education | MS, Certification |
| Biological | MA, MS, OCP, |
| Sciences | Certification |
| Computer |  |
| Information |  |
| Technology | MS |
| Criminal Justice | MS |
| English | MA, MS, Certification |
| Geography | MS |
| History | MA, MS, Certification |
| Information Design | MA |
| International |  |
| Studies | MS |
| Mathematics | MA, MS, Certification |
| Modern |  |
| Languages | MA, Certification |
| (French, German, |  |
| Italian, Spanish) |  |
| Music Education | MS, Certification |
| Natural Sciences | MS, Certification |
| (Chemistry, Earth |  |
| Sciences, Physics) |  |
| Natural Sciences/ |  |
| Science Education MS |  |
| Organizational |  |
| Communication | MS |
| Psychology | MA |
| Social Science | MS, Certification |
| Spanish | MS, Certification |
| TESOL | MS, Certification |

SCHOOL OF ARTS AND SCIENCES
Art Education MS, Certification
Biological MA, MS, OCP,
Sciences

MS
MA, MS, Certification MS MA, MS, Certification

## MA

 MSMA, MS, Certification
MA, Certification
(French, German,
Italian, Spanish)
Music Education MS, Certification
Natural Sciences MS, Certification
(Chemistry, Earth
Sciences, Physics)
Natural Sciences/
Science Education MS
Organizational
Communication MS
Psychology MA
Social Science MS, Certification
MS, Certification
MS, Certification

| GRADUATE PROGRAMS IN THE |  |
| :---: | :---: |
| Business |  |
| Education | MS, Certification |
| Business |  |
| Administration | MBA |
| Computer |  |
| Information |  |
| Technology | MS |
| GRADUATE PROGRAMS IN THE |  |
| SCHOOL OF EDUCATION AND |  |
| PROFESSIONAL STUDIES |  |
| Counselor |  |
| Education | MS, Certification |
| Early Childhood |  |
| Education | MS |
| Educational |  |
| Foundations/ |  |
| Secondary |  |
| Education | MS |
| Educational |  |
| Leadership | MS, SYC |
| Educational |  |
| Technology | MS |
| Elementary |  |
| Education | MS, Certification |
| Marriage and |  |
| Family Therapy | MS |
| Pedagogy and |  |
| Leadership | MS (jointly offered) |
| Physical |  |
| Education | MS, Certification |
| Reading | MS, SYC |
| Special Education | MS |

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

Computer
Information
Technology MS
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 part-time ( 8 hours or less) study. 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 to the University, accompanied by a non-refundable application fee of $\$ 40$. The Application for Admission is available upon request or may be obtained in a number of campus offices or downloaded from the web (wwwgs.ccsu.ctstateu.edu).

The back portion of the form includes important information about the application and admission process.

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 description section of this catalog provides additional information about 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. It is strongly recommended that applicants apply for the fall semester by May 1 and for the spring semester by November 1. However, all applications must be received no later than August 10 for the fall semester and January 10 for the spring semester.

Some programs have established earlier deadlines or admit students only once per year.

International applicants should submit all applications materials as soon as possible proceeding a semester's beginning dates to ensure adequate time for processing visa applications and for making other arrangements.

A personal interview with the academic department and additional materials 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 financial responsibility will not be admitted. Presently financial aid is not available for non-U.S. students. A limited number of graduate assistantships may be available to students who are available for oncampus interviews and/or who have successfully completed 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 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 computer-based test) unless waived by the University.

Information about the TOEFL test is available from the Educational Testing Service, P.O. Box 6151, Princeton, NJ 08541-6154, 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 Associate Vice President of Academic Affairs and Coordinator of Graduate Studies and Research 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, faculty, foreign professionals and other non-native 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.

Registration for these courses is done directly through the IELP office in the George R. Muirhead Center for International Education, Barnard 131.
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. After one calendar year of no registration, graduate students will be notified that they have become inactive and that they have one more year to register or they will be dropped from their program. If they are subsequently dropped, they must reapply and pay a re-enrollment fee of $\$ 50$ if they want to return. Only students in good standing ( 3.00 graduate GPA or higher) are considered for re-admission. Students may request file reactivation when their previous program has not been completed.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.

If a former student wishes to enter a program other than the one to which she or he
was originally accepted and/or 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 regionallyaccredited institution of higher education. The undergraduate record must demonstrate clear evidence of ability to undertake and successfully pursue studies in a graduate field.

A minimum undergraduate GPA of 2.70 on a 4.00 point scale (where $A$ is 4.00 ), or its equivalent, and good standing (3.00 GPA) in all post-baccalaureate course work is required.

When applicable, evidence of successful completion of a master's degree from an accredited institution with a minimum 3.00 GPA, on a four-point scale (where $A=4.00$ ), will admit the student to the graduate school and the undergraduate GPA will not be counted.

For those students who apply to the graduate school who do not meet the minimum undergraduate GPA of 2.70 on a fourpoint scale (where $A=4.00$ ), the quality points of credits for courses taken at the graduate level will be added to the quality points of the undergraduate GPA to compute the total GPA to determine if the required 2.70 has been met.

Some graduate programs have established additional admission requirements beyond the minimum requirements of the Graduate Office. Prospective applicants should consult the program description 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.

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

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

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 programs, and for all other programs by September 21 or February 21 of the semester in which the student is first eligible. (Note: These dates and processes differ for applicants to Summer Through Summer Programs. Applicants should consult directors of these programs.) An eligible student is someone who has: been admitted to the graduate program; completed or is enrolled in no less than six credits of post-baccalaureate 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 pro-
gram 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. 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 of the preceding spring semester. Applicants requesting student teaching in the Spring semester must apply by October 1 of the preceding fall semester.

Further information about the requirements for entry into the professional program may be obtaincd 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 Field 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 planned programs of post-master's study, with the exception of the Sixth-Year Certificates in Educational Leadership and in Reading, are nondegree programs and are provided in a limited number of fields. Admission to programs of post-master's study, including the sixth-year certificate, is limited to students who hold the appropriate Connecticut teaching certificate, hold an appropriate master's degree, or present other evidence of advanced course work in the field of study. Acceptance is based on performance at the master's degree level (minimum 3.00 on a 4.00 scale where $\mathrm{A}=4.00$ ). 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 admission requirements are described in the program descriptions section of this catalog.

## CONDITIONAL ADMISSION

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 pre-admission requirements. When any course requirements set forth are completed and conditions are met with a GPA of at least 3.00 , 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 Coordinator of Graduate Studies and should include additional academic information (such as scores from standardized tests, grades in very recent courses or letters of recommendation from instructors) which was not submitted with the original application.

Depending on the nature of the appeal, the Graduate Appeals Subcommittee of Graduate Studies, an appropriate designee of the academic school, and the department chair of the relevant program will be consulted before making a decision.

## GRADUATE STUDENT POLICIES AND DEGREE

 REQUIREMENTSThe policies and degree requirements for graduate students at Central Connecticut State University are governed by the University faculty, and administered by the Coordinator of Graduate Studies. The Graduate Studies Committee, composed of faculty and graduate 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 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 the courses and other degree requirements that 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.

The planned program, once submitted by the student, recommended by the adviser and approved by the Coordinator of Graduate Studies, represents a formal agreement between the University and the student. Any changes in the planned program must be approved by the adviser and the Coordinator of Graduate Studies. "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 pro-
gram requirements which are initiated after the student has started a thesis, or attempted after the comprehensive examination, must be approved by the student's academic department as well as by the Coordinator of Graduate Studies.

Changes in Program. To change a graduate program after admission, the student must complete a change of major/adviser form. Students must be matriculated and must meet any special requirements of the program to which they are seeking approval for a change.

If the change in program 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 program 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 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 $3.00(\mathbf{B})$ 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 will 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 programs 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 program. 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.

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 of a minimum of one additional faculty member must approve the thesis proposal and the thesis prior to their submission to the Coordinator of Graduate Studies. Some departments require their students to give an oral defense of their thesis before it is submitted to the Coordinator of Graduate Studies, who assures that the thesis meets University standards for format and quality, and transmits the thesis to the University library. A thesis handbook is available in the Graduate Office.

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 must be submitted
to the Coordinator of Graduate Studies by the thesis adviser.
(3) The thesis must be prepared in a style and format appropriate to the discipline and approved by the Coordinator of Graduate Studies. 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 Coordinator of Graduate Studies 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 Registrar's Office. Students should submit this form to the Registrar no later than October 1 for fall semester examinations, and no later than February 15 for spring semester examinations. The academic 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 Coordinator of Graduate Studies for permission to retake the examination.

Students who elect the Plan Coption 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 evaluated 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 Coordinator of Graduate Studies. When making the request, the student should include the date when the sixyear 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 Coordinator of Graduate Studies 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 TEACHER CERTIFICATION PROGRAMS

Requirements for teacher 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.

## OFFICIAL CERTIFICATE PROGRAMS

Official Certificate Programs (OCPs) are defined as academic programs of study that have been through a complete university curricular review and approval process, but which do not lead directly to a formal degree. These programs are designed for people interested in developing expertise in a particular field of study, but who do not wish to complete formal degree requirements. The advantages to these programs are that, as formal programs of study, students may be matriculated, pursue their studies on a fulltime basis, and may be eligible for financial aid. Most importantly, these programs are coordinated by faculty closely tied to the area of interest who are committed to advising students enrolled in these programs, ensuring that the student is best able to achieve his or her educational goals. Requirements for Official Certificate Programs at the graduate level will be individually prescribed by the program director after the student has been admitted to Graduate Studies.

## 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. Thirty-credit 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 Coordinator of Graduate

Studies 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 16 . 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 will be required for graduate credit.
500-599 Graduate courses; undergraduates require a minimum 2.70 GPA and 90 credits of study, approval of adviser, department chair and Coordinator of Graduate Studies, who will give preferential admission to graduate students.
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 Coordinator of Graduate Studies. Courses numbered under 400 may be applied toward teacher certification and official certificate 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 mid-point in the course, with the exception that fulltime 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 full-semester 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, 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 Graduate Admissions.

## 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: $\mathrm{A}(4.0) ; \mathrm{A}-(3.7) ; \mathrm{B}+(3.3) ; \mathrm{B}$ (3.0); B- (2.7); C+ (2.3); C (2.0); C- (1.7); D+(1.3); D (1.0); D- (0.7); 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 the Coordinator of Graduate Studies. 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 Coordinator of Graduate Studies 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 Coordinator of Graduate Studies 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 Coordinator of Graduate Studies, 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 office of the Coordinator of Graduate Studies.

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 Admissions Office.

## 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:

- Transfer of credits from accredited institutions other than universities in the CSU System is limited to nine credits.
- 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 credits of the 15 in the student's area of specialization.
- 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 Coordinator of Graduate Studies 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 Education 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 "continuing 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. Application 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 summarized below.

Attendance. Regular attendance for classes is expected of all graduate students 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 completed 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, involuntary withdrawal from the graduate program for a specified period of time and suspension from Central Connecticut State University. 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.

Graduate students should be registered every fall and spring semester. During fall and spring semesters in which no course work is taken, matriculated graduate students
involved in completing Thesis (Plan A) or Special Projects (Plan C) must pay a Continuing Registration Fee of $\$ 40$. This allows students continued access to computer facilities, the library, parking and the faculty.

A matriculated graduate student who fails to pay the Continuing Registration Fee for the Capstone Plan A or C will be withdrawn and lose his/her matriculation status. Matriculated graduate students withdrawn for this reason will have to reapply and pay a Re-enrollment Fee of $\$ 50$ 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. Fulltime 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; Web site: www.nebhe.org - or
contact the Office of Recruitment and Admissions, Davidson Hall, Room 115.

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 reregister through the Enrollment Center/Office of Continuing Education. Part-time student fees or receipt of an early withdrawal may be involved. Exceptions to this policy may be granted by the Coordinator of Graduate Studies.

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 $\$ 50$ 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 five-week 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 2000-01 of tuition and fees charged to fulltime graduate students (nine or more credits of courses) are as follows.

Non-
Resident resident
Tuition $\quad \$ 1,334.00 \$ 3,718.00$

|  |  |  |
| :---: | :---: | :---: |
| Fee (credited toward tuition) | (\$90.00) | (\$90.00) |
| State University Fee | \$329.50 | \$810.00 |
| General Fee | \$472.00 | \$472.50 |
| Student Activity Fee | \$33.00 | \$33.00 |
| Information Technology Fee | \$62.50 | \$62.50 |

Sickness Insurance. An annual fee of $\$ 257.00$, 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 <br> \$2,231.00 \$5,096.00 <br> Spring <br> \$2,231.00 \$5,096.00

## PART-TIME COURSE AND REGISTRATION FEES

The 2000-01 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
$\$ 50.00$
Courses numbered 100-499
\$170.00
per credit
Courses numbered 500-699
$\$ 195.00$
per credit

## OTHER FEES

Depending on student status and/or course selections, other fees will be charged to students as follows:
Applied Music Fee (1/2 hour) $\$ 200.00$
Applied Music Fee (1 hour) $\$ 400.00$
Audit Fees (same as for credit-bearing courses)
Design Lab Fee
$\$ 65.00$
On-Campus Room and Meals. Very limited on-campus graduate student housing is available for international graduate students only on a space-available basis. Off-campus residents may participate in the meal plan which is required for all students living in the campus residence halls.

Room Deposit
$\$ 140.00$
Residence Hall Room
Balance Per Semester

| Standard | $\$ 1,542.00$ |
| :--- | ---: |
| James Hall | $1,876.00$ |
| Vance Hall | $2,267.00$ |

Meal Plan (required of on-campus residence hall students):
A. $19 \mathrm{Meals} /$ week \&

10 Guest Meals
\$1,230.00
B. $220 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals
C. 180 Meals/semester \& 10 Guest Meals plus \$100 Blue Chip
D. $150 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals plus \$200 Blue Chip
\$1,297.00

## PAYMENT OF FEES

All graduate students accepted for full-time study must pay a non-refundable $\mathbf{\$ 9 0}$ 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 \$50 if payment is received after the due date. A Service Charge of $\mathbf{\$ 2 5}$ will be assessed for checks returned as non-negotiable. 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 117). 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 Hall 117) 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:
Admission 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 second 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, but remaining students, 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 second 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:Please consult the Continuing Education
Registration Bulletin for refund dates.
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 spaceavailable basis.

Veterans. Veterans and certain others may qualify for veterans assistance programs, including waivers. Eligible students should consult the University Registrar (Davidson Hall 117). 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; part-time 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 all Memorial Hall dining areas, Grand CENTRAL Cafe coffee shop and Trattoria) 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 off-campus food locations, such as Blimpie's, Tony's Central Pizza, Domino's (Allen St.), Sam's Getty, Tom's Pizza (Fenn Rd. Plaza), Quick-N-Easy Convenience Store, Pizza Express (Allen St.), Papa John's, Bella Via (West Main St.), Subway (East St.) and Jade Lee (Fenn Rd. Plaza).

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, Room 101 (832-0139).

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 $832-2140$; or visit the website at www.cardoffice.ccsu.edu. 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 matricu-
lated (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 is $\$ 65,500$. Students must meet eligibility criteria.

## Federal Unsubsidized Stafford Loan

 (variable interest rate loan - $8.25 \% \mathrm{cap}$ ). 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 Eligibility 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 full-time 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. Part-time 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 personal 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 aca-demically-relevant work experience while pursuing graduate study. A limited number of graduate assistantships are available for fulltime and part-time graduate students. Graduate assistants may teach, supervise laboratories, participate in leadership roles for service and partnership activities, and 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, post-master'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.

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 Coordinator of Graduate Studies upon the recommendation of a department chair or academic 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 full-time graduates. Half-time appointed GA's who are fulltime 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 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 full-time 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 <br> 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.

A Graduate Student Association (GSA)
Scholarship is awarded to students who demonstrate academic excellence and exemplary involvement in University and/or community service activities. Competition for this scholarship is open to all matriculated graduate students who have completed a minimum of 15 credits of graduate academic credit in residence at Central Connecticut State University and who have a grade point average of 3.50 or higher. Scholarship recipients are selected in the spring; awards are distributed the following fall semester. Application forms are available in the Graduate Studies Office.

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 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. (Fulltime 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, the GSA Scholarship, 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, full-time 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 on the first floor of Seth North Hall.

## 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 and Newman Club.

## Career Services and Cooperative

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

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

## Enrollment Center/Office of Continuing Education. The Enrollment Center

 (Willard Hall Lobby) is a centralized service center for all students (full- or part-time). Students may obtain all forms needed to initiate administrative and academic actions at the Center. The Center's hours of operation are Monday through Thursday, 8:30 a.m. to 7:00 p.m.; Friday, 8:30 a.m. to 4:00 p.m. and Saturday morning during the academic year, 7:45 a.m. to 12:00 p.m.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 students. Students are notified in advance of registration dates and procedures. All graduate students who have been formally admitted to one of the Uni-
versity's graduate programs receive advisement from their faculty advisers.

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

Learning Center. The Learning Center (TLC) helps students reach their academic potential. Students who wish to establish a strong grade point average are encouraged to visit TLC early in their college experience for assistance with collegiate study skills, time management and exam preparation. TLC provides study skills tutorials, individual and small group study sessions, a nineweek study skills program called Methods of Inquiry, The Mathematics Center, learning styles and study skills assessment, and a computer-based Praxis I practice program for students applying for teacher certification. TLC is located in Copernicus, Room 241 (832-1900).

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

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

University Health Service. The University Health Service provides medical services, by appointment, for the maintenance of health and the evaluation and treatment of illnesses and injuries to all students. Faculty and staff will be seen for medical care or referrals where indicated. Various clinics, including blood pressure monitoring, travel, flu and allergy, to name a few, are offered. Although no fee is charged for appointments in Health Service, there are nominal fees for prescriptions ordered within the office, immunizations, allergy shots and certain diagnostic evaluations.

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

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

The University Health Service (8321925), located in the Marcus White Annex, is staffed by a full-time physician and nurses and is open Monday-Thursday from 8:00 a.m. to $3: 45$ p.m. and Friday from 9:00 a.m. to 4:00 p.m. (closed daily from 12:00 to 12:30 p.m.). These hours are subject to change.

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

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

## Women's Center. The Ruthe Boyea

Women's Center, named for its founding director, is a multi-purpose program and service center for students, staff and faculty. The center offers a variety of services for and about women, including peer education, reentry counseling, support groups, crisis intervention, a luncheon series and programming and research on women's issues. The staff of the center also sponsors educational and cultural programs in response to the needs and interests of campus women. The Ruthe Boyea Women's Center is located on the third floor of Seth North Hall (8321655). 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 50,000 members. The Association offers its members access to the campus computing facilities (for two semesters following graduation), career and library services, discount tickets to athletic events and exciting travel opportunities. The Alumni Association is governed by a Board of Directors consisting of alumni who volunteer their time to enhance the programs of the Association and its relationship with the University community. For more information contact the Alumni Affairs Office (832-1740).

## BOOKSTORE

The University Bookstore, operated by Barnes and Noble, Inc., is temporarily located in the basement of Marcus White Annex, below the Microcomputer Lab. 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, WFSB-TV 3 and WTNH-TV 8 are notified. Notices of delays or cancellations are also posted on the Outlook Inclement Weather Announcements folder (accessible through the Public Folders) on the Web at www.mail.ccsu.edu. 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

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

## 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 18. Additional food service is also available on a cash basis in the Memorial Hall Trattoria and Grand CENTRAL Cafe.

## 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 third Summer Session.

## HEALTH INSURANCE

Health insurance coverage (accident and sickness) is mandatory for all full-time students. The University provides accident insurance coverage for all full-time students. Students can purchase a sickness insurance plan through the University or elect an alternative health insurance coverage through an outside carrier. Part-time students may elect the accident/sickness policy through the University for a combined premium by contacting the Office of Continuing Education. Brochures regarding the policy are available in the Uni-
versity Health Service (Marcus White Annex) or, for part-time students, in the Office of Continuing Education (Willard).

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

The ID card, known as the Blue Chip Card, can be used as a debit card to make purchases from vending machines and at public-use copiers, as well as at dining locations in the Student Center and Grand CENTRAL Cafe. Off-campus vendors accepting the Blue Chip Card are Blimpie's, Tony's Central Pizza, Domino's (Allen St.), Sam's Getty, Tom's Pizza (Fenn Rd. Plaza), Quick-N-Easy Convenience Store, Pizza Express (Allen St.), Papa John's, Bella Via (West Main St.), Subway (East St.) and Jade Lee (Fenn Rd. Plaza).

There is a charge for laser printing at the Microcomputer Lab. This must 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 to a debit account. The Card Office and Cashier's Office accept cash and checks. Credit card transactions can be made by calling the Cashier's Office (832-2020) or through the Card Office web site at www.cardoffice. ccsu.edu. For money to be deposited instantly to a debit account, visit any of the four Card Value Centers, located at the Library (main floor), Microcomputer Lab, Memorial Hall and the Police Station, which is open 24 hours.

The Card Office is located in the Power House on the northeast corner of the Barnard parking lot. Card Office hours are Monday through Friday from 8:00 a.m. to 5:00 p.m., with extended hours during the first month of each semester. The phone number is $832-2140$. After Card Office hours, lost cards should be reported to the Police Department (832-2375); a temporary

ID will be issued, as well as a "hold" placed to deactivate the account.

## 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 graduate 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 graduate 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).

## ONLINECSU

OnlineCSU is the virtual classroom of the Connecticut State University System (CSU) - Central, Eastern, Southern and Western. CSU strives to meet the academic and support needs of our learners. Responding to the emerging trends of learning-on-demand, CSU designed OnlineCSU to ensure that the education it has traditionally made available in the classroom can now be offered without regard to time, distance or circumstance.

Online learning, also known as distance education, takes place using computer technology and the Internet when the faculty and students are separated by distance, i.e., not in the same room. Within semester limits,
OnlineCSU offers asynchronous learning, which means the instructor and the students need not be in the same room at the same time or on the computer at the same time. This means students may sign on any time, 24 hours a day, seven days a week. Except where the faculty have set test dates, chat room sessions, etc., students do not need to sign on at the same time as other students or at the same time as the instructor.

OnlineCSU offers both graduate and undergraduate courses, and new courses are
added every semester. CSU faculty, who design and teach the courses, are at the core of this distinctive learner-centered program. CSU campuses are fully accredited, and courses offered through Online CSU are approved for credit by the university offering the course. Credits earned online are eligible for credit towards a degree.

Full-time and part-time matriculated students (students who have formally applied and been admitted to a CSU university) who already have a faculty adviser should continue to consult with that adviser regarding online courses. Non-matriculated students do not need a faculty adviser to register for an online course.

For information on OnlineCSU courses, stop by the OnlineCSU site at www.OnlineCSU.ctstateu.edu.

## PARKING

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

## PET POLICY

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

## PUBLIC 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 can place students to study almost anywhere in the world through a variety of arrangements. International experiences may range from two weeks to one year in duration. CCSU offers two distinct types of programs semester or academic year study abroad and courses abroad taught by our own faculty.

The study abroad immersion programs are typically available on an exchange basis, allowing students to pre-pay tuition, and in some cases room or board, to CCSU and enroll overseas to study at one of our partner universities. Study abroad programs are available in the United Kingdom, Spain, France, Germany, Poland, Sweden, Ghana, Puerto Rico, Jamaica, Barbados, Korea and
the Turkish Republic of Northern Cyprus. To plan a study abroad program, contact the Study Abroad Coordinator in the George R. Muirhead Center for International Education, Barnard Hall (832-2043). The application deadline is April 1 for all programs in the upcoming academic year. As it can take up to eight months to properly prepare for a program, it is advisable for students to begin investigating their choices well in advance of their desired departure date. The cost is often little more than studying at Central Connecticut State University, and financial aid applies to all CCSU programs. With proper planning, all course work will transfer to Central Connecticut State University and be applied toward graduation requirements.

Students may also take a course taught abroad by a CCSU professor in Winter or Summer Sessions. Students may choose from a dozen courses offered each year by faculty in a variety of disciplines. Foreign language proficiency is generally not required. Registration for courses taught abroad in Summer or Winter Sessions takes place at the Enrollment Center/Office of Continuing Education, Willard Hall. Students must also declare their participation with the George R. Muirhead Center for International Education.

## 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.

## VOTER REGISTRATION

Students can register to vote or change their registration at the Reference Desk in the Elihu Burritt Library. Regardless of which town in Connecticut is the place of residence, voter registration can be done on campus. Out-of-state registration can also be done using the federal universal voter registration form available at the Library. Students with special needs may register as voters at the Special Student Services Office in Willard 100. All students are urged to take advantage of this convenient service and exercise their rights and duties as citizens by becoming registered voters.

## 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.

## George R. Muirhead Center for Interna-

 tional Education. The George R. Muirhead Center for International Education at Central Connecticut State University is the cornerstone of the University's unwavering commitment to international education. Established by the Board of Governors for Higher Education in 1987 as a statewide Center for Excellence in International Education, the Center is the flagship of global initiatives and activities at Central Connecticut State University. In planning and implementing CCSU's international mandate to carry out its global goals and responsibilities, the Center defines, develops and supports internationally focused interdisciplinary academic and development activities. Additionally, it provides a forum through which CCSU's students, faculty, staff and alumni pursue collaborative interests and projects with partner institutions around the world.Through the Center's partner institutions around the globe, CCSU's students are presented with exciting opportunities to discover the world through overseas studies. Living and learning in a new culture helps to prepare students for the increasingly integrated and interdependent world around them. In any given year, the Center offers exciting semester and year-long exchange programs in locations as varied as England, Germany, Ghana and Korea. Short-term study tours bring students to the reaches of the earth, from the rainforests of Costa Rica to the Black Forest in Germany and from Tiananmen Square in China to Safari in Africa.

The Center is devoted to serving its international students from the moment of their recruitment through their graduation and beyond. The Center possesses the expertise necessary to easily process and transfer and to usher international students from potential to bona fide status. The staff embodies the critical capabilities of both intercultural and interpersonal communication, facilitating the management of the
unique problems inherent in the international student recruitment-admission-retention process. This ability, combined with a vast knowledge of immigration law and its rapidly changing policies, makes the Center the sole entity with immigration documentation issuing authority.

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

## 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 nationallyknown 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 on-line and CD-ROM databases.

## INFORMATION SERVICES

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

The Microcomputer Lab (Marcus White Annex) is the primary location for student access to computers and offers more
than 225 PC-compatible and Macintosh computers and numerous laser printers. All of the computers offer a wide variety of popular software packages, as well as direct access to the Internet.

Users have access to all of the available hardware and software on a first-come, firstserved basis. Student ID cards and proper certification are required to use the lab. Students are certified after passing a simple PC quiz to prove adequate computer knowledge. Training classes are given at the beginning of every semester, and self-paced, computeraided instruction is also available to supplement, or substitute for, the training classes.

Once certified, a student is issued an NT account, which allows access to all of the software in the lab, as well as to the campus e-mail system. The lab should be used only for class work and other academically related work.

## 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 AV/TV equipment for class use.

## SPORTS AND RECREATION

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

Harrison J. Kaiser Hall is home to the Department of Physical Education and Health Fitness Studies, as well as the Intercollegiate Athletics Department which sponsors 21 varsity sports. Kaiser Hall houses the newly-renovated, 3,200-seat William H. Detrick Gymnasium, the Jack Suydam Natatorium and special function rooms, including a modern Nautilus and free weight training facility.

The fall 2000 season brings a major upgrade to Arute Field, where the football team plays its home games - new grandstands and a synthetic turf field. The women's lacrosse program, in its second season as a varsity sport, will also play its home games on Arute Field in the spring of 2001. Other sports facilities include Kaiser Annex, a 37,000-sq.ft. recreational/athletic, air-supported structure which features five tennis courts and a three-lane track; outdoor
tennis courts; and fields for soccer, softball, baseball 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 Association (NCAA), the Eastern College Athletic Conference (ECAC) and the Northeast Conference (NEC) and conducts its athletic programs under the rules of these organizations.

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

## 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.

The Student Center will be closed for extensive renovations and expansion until December 2001. During this time, the services provided by the Center, including the Bookstore and Food Services, have been relocated to other facilities. Most are in Memorial Hall or nearby buildings. Please look for materials, which are available around campus, to guide you to needed services during this period. Check out our website at http://scoes.ccsu.edu for service locations, regular updates and a live webcam to view the progress of the renovation online.

June B. Higgins, 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 biological sciences, English, history, information design, mathematics, modern language and psychology and the M.S. in biological sciences, computer information technology, criminal justice, geography, international studies, natural sciences and organizational communication.

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.

Currently, two graduate-level Official Certificate Programs are offered through the School of Arts and Sciences: OCP 500, Post-Baccalaureate Certificate in Pre-Health Studies, and OCP 501, Post-Baccalaureate Certificate in Cell and Molecular Biology.

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.

## ART

## Faculty

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

## Department Overview

The Department of Art offers a program 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 program in Art Education is designed primarily to meet the needs of experienced art educators who have com-
pleted an undergraduate program in the field. The program is 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.

## Program

The Art Department offers its Art Education Master's program with a wide range of visual arts specializations or concentrations. 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 12 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.):
ART 500 Problems in Art Education
ART 598. Research in Art Education
ART 597 Exhibition Research
or
ART 599 Thesis
and one of the following: $\operatorname{EDF} 500,516$, $524,525,538,583$

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 post-master's study in specific studio areas are available with the consent of the chair.

## BIOLOGICAL SCIENCES

## Faculty

Ruth Rollin (Chair, Copernicus 332), Leeds Carluccio, Douglas Carter, Michael Davis, Sylvia Halkin, Jeremiah Jarrett, Martin Kapper, Thomas King, Kathy Martin-Troy, Thomas Mione, Barbara Nicholson, Peter Osei, Clayton Penniman, 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.

## 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
- official transcripts from all institutions in which undergraduate and graduate work has been taken
- Graduate Record Examination scores for the aptitude and advanced biology tests are recommended but not required

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. If applicable, a thesis advising committee will be assigned after the student begins the program of study.

## Programs

## MASTER OF ARTS IN BIOLOGICAL SCIENCES

The master of arts programs provide 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 will be to help the student plan a sound program.

## Biological Sciences: General Program

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

Both Plan A and B require BIO 500 and 540 in addition to $19-20$ credits of directed electives in biology or related fields as approved by adviser. Plan A also requires BIO 599 ( 6 credits) and thesis defense or BIO 598 (3 credits) and 599 (3 credits) and thesis defense. Plan B requires BIO 590 and 598 and a comprehensive exam.

## Biological Sciences: Cell and Molecular Biology ( 30 credits)

Major Field Requirements (5-6 cr.): BIO 500 Seminar in Biology
BIO 540 Topics in Advanced Biology BIO 572 Laboratory Rotation in Cell and Molecular Biology

Directed Electives (18-19 cr.)
In biology or related fields as approved by adviser

Research (6 cr.):
Plan A:
BIO 599 Thesis ( 6 credits) and thesis defense or BIO 598 Research in Biology and BIO 599 Thesis (3 credits) and thesis defense
or
Plan B:
BIO 590 Research Problem
BIO 598 Research in Biology
Comprehensive exam

## 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 General 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, except the Health Sciences specialization. Non-thesis programs will require a comprehensive examination.

## Biological Sciences: General Program (30 credits)

This program is for teachers and others interested in a master's degree with a professional education component. Other courses may be substituted for the professional education component with the adviser's approval.

Professional Education (6-9 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by adviser
Biology Requirements ( $4-5 \mathrm{cr}$ ):
BIO 500 Seminar in Biology
BIO 540 Topics in Advanced Biology
Directed Electives (10-17 cr.):
In biology or related fields as approved by adviser

Research (3-6 cr.):
Plan A: BIO 599 Thesis ( 6 cr .) and thesis defense or BIO 598 Research in Biology and BIO 599 Thesis ( 3 cr .) and thesis defense
or
Plan B: BIO 598 Research in Biology and comprehensive exam.

## Biological Sciences: Anesthesia

(31-33 credits)
Professional Education (6 cr.):
ED 511 Principles of Curriculum Development
EDL 513 Supervision
Major Field Requirements ( 21 cr .):
BIO 416 Immunology
BIO 500 Seminar in Biology
BIO 517 Human Anatomy, Physiology and Pathophysiology
BIO 518 Applied Physiology
BIO 528 Pharmacology
CHEM 550 Organic and Biological Chemistry

Research (4-6 cr.):
Plan A:
BIO 598 Research in Biology
BIO 599 Thesis (3 credits)
and thesis defense
or
Plan B:
BIO 490 Studies in Biology (clinical case study in anesthesia, 1 cr .)
BIO 598 Research in Biology
Comprehensive exam
Note to prospective Anesthesia students: The student must be a licensed registered nurse and satisfactorily complete the program of study in Anesthesia at an affiliated hospital-based school of 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: John Satterfield, M.D. medical director, 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 412 Human Physiology
BIO 413 Human Physiology Laboratory
BIO 500 Seminar in Biology
BIO 518 Applied Physiology
BIO 528 Pharmacology
CHEM 454 Biochemistry or
CHEM 550 Organic and Biological Chemistry
Biology Elective (choose from BIO 411 Cellular Physiology and Metabolism, 416 Immunology, 490 Studies in Biology, 495 Molecular Biology, 540 Topics in Advanced Biology, or 562 Developmental Biology)

Research ( 6 cr ):
BIO 599 Thesis (6 credits) and thesis defense
or
BIO 598 Research in Biology and BIO 599 Thesis (3 credits) and thesis defense

## 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.

## OFFICIAL CERTIFICATE PROGRAM: POST-BACCALAUREATE CERTIFICATE IN CELL AND MOLECULAR BIOLOGY <br> Program Overview

This non-degree certificate program is designed for college graduates wishing to expand or update their knowledge of modern cell and molecular biology, but who are not ready to commit to a graduate program leading to a master's degree. This post-baccalaureate certificate program provides these students a formal option for acquiring both advanced instruction and academic advisement.

## Admission

Students must have completed a bachelor's degree to participate in the program.
Potential students should contact the Office of Graduate Admissions to request an application packet. The application requires official transcripts from all colleges and universities attended and an essay describing why the student is interested in the program. Completed applications will be filed with the Graduate Admissions Office. The Cell, Molecular and Physiological Biology (C/M/P) Coordinator in Biological Sciences will schedule an interview with the applicant, during which an advisory committee of C/M/P faculty will work with the candidate to develop an individualized planned program of study in keeping with their aca-
demic background and professional goals. The C/M/P Coordinator will make admission recommendations to the Department Graduate Studies Committee which will make final admission decisions on a rolling basis. Successful applicants will have a 2.70 undergraduate cumulative grade point average and course prerequisites must be met, including BIO 121, 122 and 201; and CHEM 121 and 122; or equivalent. Postbaccalaureate students will be classified as graduate students but need not be matriculated. However, only matriculated graduate students may take a full-time (minimum 9 credits/academic semester) load and may qualify for financial aid.

## Program Requirements

The Official Certificate Program in Cell and Molecular Biology will require 18-20 credits in approved cell and molecular biology courses (see below), including BIO 572, BIO 590 and at least two cell and molecular biology courses that include laboratory instruction. Any individual program must be selected and approved in consultation with the $\mathrm{C} / \mathrm{M} / \mathrm{P}$ adviser. A minimum of 15 credits in the planned program must be taken at CCSU.

## Program

The Official Certificate Program in Cell and Molecular Biology will require 18-20 credits in cell and molecular biology, including:

Research Component:
BIO 572 Laboratory Rotation in Cell and Molecular Biology 1
BIO 590 Research Problem
(independent research in cell and molecular biology)

Laboratory Science Component:
2 courses with lab from the following:
BIO 411 Cellular Physiology and
Metabolism
BIO 416 Immunology 3
and
BIO 417 Immunology Laboratory
BIO 449 Plant Physiology
1
and
BIO 450 Investigations in Plant Physiology
BIO 495 Molecular Biology 4
BIO 540 Topics in Advanced Biology 4 (with a cell and molecular biology topic, and with a laboratory component only)

## Elective Component:

7-9 credits elected from any additional
Laboratory Science course(s) listed above
and/or from the following:
BIO 416 Immunology
BIO 449 Plant Physiology
BIO 570 Advanced Genetics
BIO 562 Developmental Biology
CHEM 454 Biochemistry
CHEM 456 Toxicology
BIO 540 Topics in Advanced Biology (with a cell and molecular biology topic)

Note: To enroll in BIO 572, students need to have a planned program approved by the C/M/P adviser.

The student must maintain a 3.00 (B) cumulative grade point average in order to be in good academic standing and to receive the post-baccalaureate certificate. Upon completion of the planned certificate program, a certificate will be issued from the Office of Continuing Education. (While completion of this program does not lead to a graduate degree, courses at the 400 -level or above that are taken as part of the post-baccalaureate certificate program may be counted towards a master's degree, provided that the graduate-syllabus option is elected at the time of course registration in all 400-level courses; no more than 3 courses at the 400 level are included in the planned program; all master's program admissions and degree requirements are met; and the courses are part of a planned program of study approved by the master's degree adviser.)

## OFFICIAL CERTIFICATE PROGRAM: POST-BACCALAUREATE CERTIFICATE IN PRE-HEALTH STUDIES

The Pre-Health Professions Advisory Committee (Pre-PAC) individually advises post-baccalaureate students seeking to prepare themselves for entry into professional training programs in the health sciences. The Pre-PAC is composed of eight faculty members (three from Biological Sciences, two from Chemistry, one from Physics and Earth Sciences, and two from Psychology), including the Chief Health Professions Adviser (P. Osei, Biological Sciences; Copernicus 339; 832-2657) and the PrePAC Chair (R. Troy, Chemistry; Copernicus 434; 832-2684).

## Program Overview

This non-degree certificate program is designed for college graduates whose under-
graduate background does not meet the requirements for admission to professional schools of medicine, dentistry, veterinary medicine, etc. This rigorous program provides post-baccalaureate students with the foundational courses and the advisement they need to prepare for applying to professional training schools.

## Admission

Students must have completed a bachelor's degree to participate in the program.
3 Potential students should contact the Graduate Admissions Office to request an application packet. The application requires official transcripts from all colleges and universities attended and an essay describing why the student is interested in the program. File completed applications with the Graduate Admissions Office. The Pre-PAC Chair will schedule an interview with the applicant, during which an advisory committee (including the Chief Health Professions Adviser) will work with the candidate to develop an individualized planned program of study in keeping with their academic background and professional goals.

To begin the program during the summer session, applications must be received by April 15. If students wish both to begin during the summer session and to be considered for financial aid, applications must be received by January 15 . However, students may begin the program in any semester and applications will be accepted throughout the year. Post-baccalaureate students in this program are classified as graduate students but need not be matriculated. However, only matriculated graduate students may take a full-time (minimum 9 credits/academic semester) load and may qualify for financial aid.

## Program Requirements

While each student's academic program will be tailored to meet the individual's specific academic needs and professional goals, a model program that would be appropriate for a student with a minimal science background is shown below. This model program also illustrates the 45 -credit upper limit for this certificate program. Smaller academic programs may be possible for students with some science background, with a lower limit of 26 credits. All individual programs must be designed and approved in consultation with the Pre-PAC advisory committee at the admission interview. A minimum of 18 credits in the planned program must be taken at CCSU.

Model Program*<br>(45 credits)

Biology ( 21 cr .), including:
BIO 122 General Biology II
BIO 201 Principles of Cell and Molecular Biology
BIO 306 Genetics
or
BIO 316 Microbiology
BIO 318 Anatomy and Physiology I
BIO 490 Studies in Biology
BIO 319 Anatomy and Physiology II
or
BIO 411 Cellular Physiology and Metabolism
or
BIO 412/413 Human Physiology
Chemistry ( 16 cr .), including:
CHEM 121 General Chemistry I
CHEM 122 General Chemistry II
CHEM 311 Organic Chemistry I
CHEM 312 Organic Chemistry II
Physics (8 cr.) including:
PHYS 121 General Physics I
PHYS 122 General Physics II
*For course descriptions and prerequisites for courses numbered lower than 400, please see the Undergraduate Catalog.

Students must maintain a 3.00 (B) cumulative grade point average in order to be in good academic standing and to receive the post-baccalaureate certificate. Upon completion of the planned certificate program, a certificate will be issued from the Office of Continuing Education. (While completion of this program does not lead to a graduate degree, courses at the 400 -level or above that are taken as part of this program may be counted towards a master's degree, provided that the graduate-syllabus option is elected at the time of course registration in 400-level courses.)

## CHEMISTRY

## Faculty

Timothy D. Shine (Chair, Copernicus 438), James V. Arena, Thomas R. Burkholder, Guy Crundwell, Neil Glagovich, Carol A. Jones, Michael LaFontaine, Robert C. Troy, Barry L. Westcott (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 40 of this catalog.

## COMMUNICATION

## Faculty

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

## Department Overview

Graduate study in communication provides students with academic experiences that enable them to evaluate, develop, shape and change the communication environment within organizations (internal communication) as well as between organizations and their target audiences (external communication). Students will learn to understand communication processes internal and external to an organization; employ research methods in the diagnosis of communication problems within organizations and between organizations and their target audiences, including those resulting from intercultural differences; apply problem-solving, decisionmaking and negotiation strategies in complex relational situations within organizations; examine the use and impact of information and communication technologies in the design and evaluation of strategic communication campaigns and other organizational applications; and develop and practice sound and ethical reasoning.

## Program

THE MASTER OF SCIENCE IN ORGANIZATIONAL COMMUNICATION
The thirty-six (36) credit Master of Science program is comprised of two sections, a 15credit core of foundational courses and 21 credits of adviser-approved directed electives. The student may opt to emphasize their coursework of directed electives in either the internal or the external communication area. A capstone experience consisting of Plan A (6-credit Thesis) or Plan B (Comprehensive Examination) is required for graduation. Program requirements and electives are provided below.

Core Courses ( 15 credits):
COMM 500 Introduction to Graduate Studies in Organizational Communication
COMM 501 Theories of Human Communication Within an Organizational Context
COMM 503 Research Methods in Communication
COMM 505 Social and Behavioral Dimensions of Persuasive Communication
COMM 504 Organizational Communication Audits or
COMM 507 Campaign Monitoring and Evaluation

Directed Electives (15-21 credits):
Students will select from the following courses approved by the faculty adviser. A planned program of study must be completed no later than six credits into the student's program. The student may specialize in either track or may select courses from both tracks.

## Internal Track

COMM 502Theories of Communication and Information Management
COMM 504 Organizational Communication Audits
COMM 522Corporate Communication
COMM 551 Policy Issues in Organizational and Managerial
Communication
COMM 562 Communication and HighSpeed Management

## External Track

COMM 506 Principles and Processes of Communication Campaigns
COMM 507 Campaign Monitoring and Evaluation
COMM 512 Communication and Change

COMM 543 Intercultural Communication
COMM 544 Strategies in Negotiation and Conflict Resolution

## General

COMM 585 Special Topics
COMM 590 Independent Study

## Outside

| MGT 500 | The Role of Management in <br> Contemporary Society |
| :--- | :--- |
| AC 510 | Accounting and Control <br> IT 464 <br> Continuous Process <br> Improvement |
| IT 500 | Industrial Applications of <br> Computers |
| IT 502 | Human Relations and <br> Behavior in Complex |
| IT 564 | Organizations <br> Quality Systems Management |
| STAT 453 | Applied Statistical Inference |

Capstone ( $0-6$ credits):
Plan A: COMM 590 Independent Study
( 3 cr.) and COMM 599 Thesis/Special
Project (3 cr.)
or
Plan B: Comprehensive Examination
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.

Note: COMM 504, 507 and 590 may not be double counted.

## Admission

Students seeking admission to the M.S. in Organizational Communication program must present an undergraduate average of $B$ (3.00). Students with an undergraduate GPA of 2.70 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 recommenda-
tion 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 INFORMATION TECHNOLOGY

## Faculty

Computer Science: Joan Calvert
(Director, Maria Sanford 206, 832-2715),
Fatemeh Abdollahzadeh, William Jones,
Bradley Kjell, Zdravko Markov, Charles
Neville, Brian O'Connell, Irena Pevac,
Neli Zlatareva
Management Information Systems: Marianne D'Onofrio, Raymond Papp

Industrial Technology: James DeLaura, Paul Resetarits, Karen Tracey, Michael Vincenti, Deborah Zanella
(web site address: www.cs.ccsu.edu/cit/ index.htm)

## Overview

The Computer Science, Management Information Systems and Industrial Technology Departments jointly offer a Master of Science degree in Computer Information Technology. Computer science is focused on the study of algorithms, the software that implements them, the properties of computers and the processes for creating these technologies. Industrial technology focuses on computer networking and the hands-on manipulation of the components and hardware systems that make up a computer and computer network. Management information systems focuses on the use of information technology for end-users and manipulating data for decision making.

## Program

## MASTER OF SCIENCE IN

 COMPUTER INFORMATION TECHNOLOGY33 credits as follows:
Core Courses (18 credits):
CS 501 Foundations in Computer Science I
CS 502 Computing and Communications Technology
MIS 501 Foundations of MIS

MIS 502 e-Business and Information Technology
Industrial Applications of Computers
Applied Networking Technology

Specialization (12 credits):
Students select 12 credits from one of the three following specializations in consultation with an adviser.

## Specialization 1 - Computer Science

 electives:CS 410, 423, 460, 462, 463, 473, 481, 490, 530, 550, 570, 580, 590

Specialization 2 - Industrial Technology electives:
TC 414, 416, 436, 443, 449, 453, 479,
526; IT 480, 481, 513, 521, 551, 564, 596, 598, 664

Specialization 3 - MIS electives:
MIS 400, 460, 494, 510, 515, 550, 561,
565, 569
Capstone (3 credits):
Students may register for this course upon completion of core requirements.
CIT 599 Integrative Experience in CIT
Note: A maximum of 6 credits at the 400level is allowed.

## 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 Master of Science degree provides students with the knowledge and skills required for leadership positions in the Criminal Justice System or continued study at the doctoral level. The program strongly emphasizes the application of theory and research in executive decision making, policy development and analysis, and the treatment of offenders. While all students are
required to complete core courses, students are allowed to select elective courses that match their individual academic and career interests. Students without previous work experience in the field are encouraged to participate in the field placement program, whereas students already working in the field develop an original research project.

Consideration for 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. No students may register for criminal justice courses without first being admitted to the program.

## Program <br> MASTER OF SCIENCE IN CRIMINAL JUSTICE <br> Core Courses (18 cr.): <br> CJ 501 Proseminar on the <br> CJ $510 \quad$ Proseminar on Law and Social Control <br> CJ 520 Proseminar on the Administration of Justice <br> CJ 533 Research Methods in Criminal Justice <br> STAT 453 Applied Statistical Inference (Prereq.: STAT 104)

Specialization (9 cr.):
Students develop an area of specialization in consultation with an academic adviser. Those students seeking to advance their careers as administrators and policy makers may choose courses designed to enhance their administrative skills. Other students, interested in careers as probation officers, counselors or juvenile and adult case workers in correctional institutions, detention centers, alternative sanction programs and substance abuse treatment centers, may
choose courses that help them plan and evaluate programs designed to encourage behavioral change in criminal and juvenile populations or courses that help sharpen their counseling skills with involuntary clients. Students choose three courses from the following:
CRM 450 Drugs and Society
CRM 475 Controlling Anger and Aggression
CJ 525 Program Planning and Evaluation
CJ 530 Offender Profiles
CJ 535 Correctional Counseling
CJ 570 Leadership and Supervision of Criminal Justice Organizations
CJ 575 Organizational Development and Evaluation of Criminal Justice Organizations
CJ 580 Public Policy in the Criminal Justice System
PS 446 The Budgetary Process
SPED 578 The Juvenile Offender as an Exceptional Learner

Capstone ( 3 cr .):
Students 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

## DESIGN (GRAPHIC/ INFORMATION)

## Faculty

Susan Vial (Chair, Maloney 139), Edward Astarita (Marketing), Joan Calvert
(Computer Science), Eleanor Thornton
(Design), C. Benjamin Tyson
(Communication) (Dept. phone: 832-2557)

## Department Overview

The Department of Design provides an academic structure for the advancement of graphic and information design training and degrees at the University. The Department of Design was established to promote professional training in the expanding areas of graphic design, web site design, multimedia design and digital imaging. Faculty members have backgrounds in graphic design, fine art, advertising, illustration, communications,
marketing, computer science, management information systems, web site design, multimedia design and CD ROM presentation.

## Program Overview

The study of Information Design at CCSU includes the design of traditional graphic (print) material as well as other forms of digital information, including web site design and multimedia design. Graduates are expected to take leadership positions in the design industry, including graphic design, publishing, advertising, multimedia design, web design, digital imaging and corporate information design.

The degree program is unique in curriculum and structure, including course work in design practice, marketing, management, computer applications, design theory, research methods, history of design and Internship. The program, similar to the actual practice of design, addresses not only the theoretical, creative and technical aspects of visual design, but business applications as well. This unique degree program promises to deliver graduates who will meet and exceed the challenges of this rapidly evolving field.

## Facilities

The Department of Design maintains state-of-the-art computer laboratories and a print center that are dedicated to various aspects of design training. Faculty and staff with professional software training and design background operate these facilities.

## Admission Requirements

Applicants for the Master of Arts degree in Information Design 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 advanced study in the graduate field. In addition to standard university graduate admission requirements, the Department of Design requires that successful applicants submit the following materials to the Admissions Office:

1. Minimum undergraduate grade point average of 3.0 on a 4.0 scale.
2. 12 credits of undergraduate course work in design with a grade of " $B$ " or better. These courses will be reviewed by the Department for appropriate content.
3. Application essay including applicant's reasons for pursuing graduate study in Information Design and future career goals,
to be submitted directly to the Department of Design (Graphic/Information).
4. A slide or CD ROM Portfolio (Macintosh compatible), containing ten examples of applicant's design work, to be submitted directly to the Department of Design (Graphic/Information).

Note: Successful applicants will be expected to take a technical competency test prior to admission to DES designated courses requiring computer use.

## Program

MASTER OF ARTS IN INFORMATION
DESIGN (36 credits)
Core Courses ( 24 cr .):
MKT 470 Marketing Communications Campaign
MGT 552 Management Theory and Practice
DES 499 Computer Applications for Graphic/Information Design
DES 501 Graphic/Information Design Theory I
DES 502 Graphic/Information Design Theory II
DES 520 Advanced History of Design
DES 598 Research Methods in Design
Specialization ( 9 cr ):
DES 503 Graphic/Information Design Practice I
DES 504 Graphic/Information Design Practice II
DES 437 Design Internship or 537 ir/6700
DES 465 Topics in Graphic/Information chaph Design

Directed Elective ( 3 cr .):
MGT, MKT, BUS or ART course as approved by adviser

Capstone ( 3 cr .):
DES 59 Design Thesis

## 597

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

## ENGLISH

## Faculty

Loftus Jestin (Chair, Willard 303A), Stuart Barnett, Richard Blanco, Richard L. Bonaccorso, Anthony Cannella, John D. Conway, Dorothy Cook, Wayne Cook, Christine Doyle, Robert Dunne, Gilbert Gigliotti, Susan Gilmore, Thomas Hazuka, Jon R. Hegglund, John A. Heitner, Beverly A. Johnson, Barry H. Leeds, Denise M. Lynch, Kevin M. Lynch, Donald P. McDonough, Melissa A. Mentzer, Mary Anne Nunn, Andrea G. Osburne, Steven D. Ostrowski, Rae C. Schipke, 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 Masier of Science Degree in Teaching English to Speakers of Other Languages (TESOL); a Master of Science degree in English; and a Master of Arts degree in English.

## 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 nroorame non............. approp
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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 "PreProfessional 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 com-

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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by adviser
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
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 History of Educational Ideas
EDF 525 History of American
Education
EDF 538 The Politics of Education
EDSC 556 Instructional Theory and Practice

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) ( 36 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.): One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education

EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by 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, Timothy Rickard, Xiaoping Shen, James Snaden, Brian Sommers, Philip Van Beynen (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 $19^{-} 6$ 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 PC-compatible computers, to include an extensive software collection along with digitizers and plotters for automated cartography, computer graphics and geographic information systems. 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 parttime 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. GEOG 500 and 598 is required of all students, and at least half of the credits must be at the 500 level.

## ENGLISH

## Faculty

Loftus Jestin (Chair, Willard 303A), Stuart Barnett, Richard Blanco, Richard L.
Bonaccorso, Anthony Cannella, John D. Conway, Dorothy Cook, Wayne Cook, Christine Doyle, Robert Dunne, Gilbert Gigliotti, Susan Gilmore, Thomas Hazuka, Jon R. Hegglund, John A. Heitner, Beverly A. Johnson, Barry H. Leeds, Denise M. Lynch, Kevin M. Lynch, Donald P. McDonough, Melissa A. Mentzer, Mary Anne Nunn,

Revlse M.S.in English, to;
Admissions: add "receipt of Baccalaureate degree from an accredited college or university in English and American literature, or with 30 hours of appropriate undergraduate course work in the discipline (as approved by the departmental review)". 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. ( 36 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.): One of the following: EDF 500 Contemporary Educational Issues; EDF 516 School and Society; EDF 524 Foundations of Contemporary theories of Curriculum; EDF 525 History of American Education; EDF 538 The Politics of Education; EDF 583 Sociological Foundations of Education; and additional courses as approved by adviser.
Professional course work, English Department: Two electives as approved by the faculty adviser ( 6 cr .). Eng 500 and Eng 501, Seminar in American or Seminar in British Literature (6 cr.); Eng 598 Research in English (Lit. section)* (3 cr.); 4-5 English electives as approved by the faculty adviser, with no more than 3 courses on the 400 level ( $12-15 \mathrm{cr}$.). *To be completed in the first semester of graduate study.
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 "PreProfessional 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.

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( 33 credits plus dits and a com-

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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by adviser
One elective selected from among the following (3 cr.):
EDT 490 Instructional Computing
ED 511 Principles of Curriculum Development
EDF 516 School and Sociery
EDF 522 Comparative Education
EDF 530 Multicultural Education
EDF 583 Sociological Foundations of 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 History of Educational Ideas
EDF 525 History of American Education
EDF 538 The Politics of Education
EDSC 556 Instructional Theory and Practice
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.

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## 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)
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ENG 598 Research in English (literature section)* (3)

## MASTER OF SCIENCE IN ENGLISH

(Generally for elementary and secondary school teachers) ( 36 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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education

EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by 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, Timothy Rickard, Xiaoping Shen, James Snaden, Brian Sommers, Philip Van Beynen (Dept. phone: 860/832-2785)

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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 PC-compatible computers, to include an extensive software collection along with digitizers and plotters for automated cartography, computer graphics and geographic information systems. 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 parttime 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 $\mathrm{Ph} . \mathrm{D}$. 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. GEOG 500 and 598 is required of all students, and at least half of the credits must be at the 500 level.Admissions requirements: add "receipt of Baccataureate degree from an accredited college or university in English and American literature, or with 30 hours of SCHOOL OF ARTS AND SCIENCES appropriate undergraduate course work in the discipline (as approved by the departmental review)". The Master of Arts degree in English is offered to students who which 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. ( 30 cr .) PLAN A (Thesis): Eng 598 Research in English (literature section)* (3); Eng 500 and 501 Seminar in American and Seminar in British Literature (6); 3-4 500-level English electives as approved by the faculty adviser ( $9-12 \mathrm{cr}$.); 2-3 400 -level English electives as approved by the faculty adviser ( $6-9$ cr.); Eng 599 Thesis (3). PLAN B (Comprehensive Examination): Eng 598 Research in English (literature section)* (3); Eng 500 and 501 Seminar in American and Seminar in British Literature (6); 4500 -level English electives as approved by the faculty adviser ( 12 cr.); 3400 -level English electives as approved by the faculty adviser ( 9 cr .). *To be completed in the first semester of graduate study.

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.): One of the following: EDF 500 Contemporary Educational Issues; EDF 516 School and Society; EDF 524 Foundations of Contemporary theories of Curriculum; EDF 525 History of American Education; EDF 538 The Politics of Education; EDF 583 Sociological Foundations of Education; and additional courses as approved by adviser. Professional course work, English Department: Two electives as approved by the faculty adviser ( 6 cr .). Eng 500 and Eng 501, Seminar in American or Seminar in British Literature ( 6 cr ); Eng 598 Research in English (Lit. section)* (3 cr.); 4-5 English electives as approved by the faculty adviser, with no more than 3 courses on the 400 level (12-15 cr.). *To be completed in the first semester of graduate study.

(TESOL Practicum-course renumberng); | 5498 with ENG 596 |
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| ENG 431 from list | (TESOL Practicum-course renumbering); עclete ENG 431 from list.

| 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
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ENG 533 Second Language Composition
ENG 535 Second Language Testing
Research ( 3 cr .):
ENG 598 Research in English (TESOL section)

Professional Education (6 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary
EDF 525 Theories of Curriculum
EDF 525 History of American
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of
and
Additional course as approved by adviser
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
RDG 591 Developmental Reading in Primary Grades
RDG 593 Developmental Reading in Secondary Schools
SPED 506 Foundations of Language for
EDF 521 the Exceptional Child
EDF 521 History of Educational Ideas
EDF 525 History of American Education
EDF 538 The Politics of Education EDSC 556 Instructional Theory and Practice
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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.

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and
Additional course(s) as approved by 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, Timothy Rickard, Xiaoping Shen, James Snaden, Brian Sommers, Philip Van Beynen (Dept. phone: 860/832-2785)

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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 PC-compatible computers, to include an extensive software collection along with digitizers and plotters for automated cartography, computer graphics and geographic information systems. 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.

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## GOALS AND OBJECTIVES

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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. GEOG 500 and 598 is required of all students, and at least half of the credits must be at the 500 level.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: 12 credits of core courses, including GEOG 500, 514 or 516 or 518,530 or 542,598 ; $9-12$ credits of geography electives selected in consultation with an adviser; and 3-6 credits selected from other disciplines in consultation with an adviser. 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

Heather Munro Prescott (Chair, DiLoreto 208), Jay Bergman, Stanislaus Blejwas, Gloria

Emeagwali, Victor Geraci, Katherine
Hermes, Elias Kapetanopoulos, Norton
Mezvinsky, Alfred Richard, Glenn Sunshine,
Matthew Warshauer, Louise Williams,
Robert Wolff (Dept. phone: 832-2800)

## Il Data

Department Overview
nd Pul
Politics M.A. degree in History, and an M.S. pro-
gram 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 taking a major or a concentration in History will be assigned to a graduate adviser who will assist the student in designing the planned program of graduate study. All graduate student planned programs in History require the approval of the adviser and department chair.

## Programs

## MASTER OF ARTS IN HISTORY

(30 s. h., including a thesis)
Three 500-level History courses ( 9 cr.)
Three additional History courses (including 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.)
No more than three courses ( 9 credits) may be taken at the 400 -level in this program. All masters theses require an adviser and second reader.

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 U.S. History, European History, and Comparative World History.
concentration are U.S. History, European History, and Comparative World History.

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

Professional Education (6 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by 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 <br> HIST 598 Research in History

No more than three courses ( 9 credits) may be taken at the 400 -level in this program. All HIST 598 projects require an adviser and second reader.

## 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 .):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary
Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education

## MASTER OF SCIENCE IN HISTORY

 (Certified Secondary Teachers)Students in this specialization are required to follow Plan C which requires 36 credits, including HIST 593 and 598. The fields of

## EDF 583 Sociological Foundations of Education

and
Additional course as approved by 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 593 Directed Study in History
HIST 598 Research in History

No more than three courses ( 9 credits) may be taken at the 400 -level. All 598 projects require an adviser and second reader.

## 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

Timothy Craine (Chair, Marcus White 110), Stephen Bacon, Nelson Castaneda, Yuanqian Chen, Penelope Coe, Robert Crouse, Katherine Gavin, Philip Halloran, Chun Jin, Robin Kalder, Dix Kelly, Daniel Larose, Stephen Lewis, Jeffrey McGowan, Daniel S. Miller, George B. Miller, Narasimhachari Padma, Angela Shaw, David Smith, Ann Marie Spinelli, Victor Sung, 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 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by adviser
Mathematics Specialization (12-18 cr., including at least 6 cr . of 500 -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 <br> (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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by 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 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, 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 ( $3-6 \mathrm{cr}$ ):
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 $12-18 \mathrm{cr}$. 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

Revise M.S. In Geography, to;
Students may select Plan A or C. Plan A (30 cr.) includes: or 518; GEOG 530 or 542 ; GEOG 598
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- Geography electives ( $9-12 \mathrm{cr}$.) selected in consultation with an advisor
-Electives from other disciplines (3-6 cr.) selected in consultation with an advisor Thesis guidelines are available from the appropriate Dean's office. Plan C (30 cr.)substitutes a special project (GEOG 595) for the thesis (GEOG 599).
No more than 9 credits may be taken at the 400 level.
selectea rrom other disciplines in consultation with an adviser. 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.

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 taking a major or a concentration in History will be assigned to a graduate adviser who will assist the student in designing the planned program of graduate study. All graduate student planned programs in History require the approval of the adviser and department chair.

## Programs

 MASTER OF ARTS IN HISTORY(30 s. h., including a thesis)
Three 500-level History courses ( 9 cr.)
Three additional History courses (includ-

Revise M.A. in History. to;

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30 s.h., including a thesis. Three 500 -level History courses ( 9 cr .). Three additional History courses (including HST 501) (9cr.). 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, Modern Europe, and Public History. No more than 9 credits can be taken at the 400 level.

## HISTORY

## Add M. A. in Public History;

Admission criteria: Acceptance into the CCSU Graduate Program and approval of the Historydepartment. Plan C ( 30 s.h., including an internship and project):

- Five Public History courses ( 15 cr ) ) including: HIST 510 (Seminar vailable in in Public History) ( 3 cr ); HIST 511 (Topics in Public History, ory. may be taken twice with different topics for a total of 6 cr .) ( 3 cr .); ative HIST 521 (Public History Internship) (3 cr.); HIST 595 (Research Project in Public History) ( 3 cr .)
Two 500-level History courses ( 6 cr .), from among the following: HIST 560; HIST 564; HIST 565; HIST 567: HIST 568; HIST570.
- Two Social Sciences courses ( 6 cr ), from among the following: GEOG 433: GEOG 439; GEOG 440; GEOG 441: GEOG 445; GEOG 450: GEOG 455; ANTH 450; ANTH 451: ECON 420: ECON 455; PS 432; PS 492; PS 561.

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demonstrate in their field in those $f$ a candidate
in U.S. history, a substitute skill or subject is approved bv the Nam-. Candidates partment . Deadlines ination;

## SCHOOL OF ARTS AND SCIENCES

concentration are U.S. History, European History, and Comparative World History.

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

Professional Education (6 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by 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

No more than three courses ( 9 credits) may be taken at the 400 -level in this program. All HIST 598 projects require an adviser and second reader.

## 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 $\zeta$ by the faculty adviser

Professional Education (6 cr.): One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education


Revise M.A. in Mathematics, to;

## SCHOOL OF ARTS AND SCIENCI

EDF 583 Sociological Foundationo u Education
and
Additional course as approved by advise
History courses ( 21 cr ):
In undergraduate and graduate work, co bined, the candidate must have com pleted 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 593 Directed Study in History
HIST 598 Research in History
No more than three courses ( 9 credits) be taken at the 400 -level. All 598 proje require an adviser and second reader.

## CERTIFICATION

The Department of History in cooperati with the School of Education and Professional Studies offers courses of stur leading to secondary teacher certificatior History and in History and Social Studi Information about current Connecticut teacher certification requirements may $t$ obtained from the Office of the Dean, ! of Education and Professional Studies.

## POST-MASTER'S STUDY

Individually designed 30 -credit progr: post-master's study are available for $\mathrm{q}^{i}$ fied students.

## MATHEMATICAI SCIENCES

## Faculty

Timothy Craine (Chair, Marcus Whi Stephen Bacon, Nelson Castaneda, Yi Chen, Penelope Coe, Robert Crouse, Katherine Gavin, Philip Halloran, C Robin Kalder, Dix Kelly, Daniel Lard Stephen Lewis, Jeffrey McGowan, D Miller, George B. Miller, Narasimha Padma, Angela Shaw, David Smith, Marie Spinelli, Victor Sung, Charles (Dept. phone: 832-2835)

Master of Arts in Mathematics This program is designed for those students who wish to expand their knowledge of mathematics beyond the level ${ }^{\circ}$ of undergraduate study, either as preparation for 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 course required in the planned program of graduate study. MA Program in Mathematics ( 30 cr .). Requirements ( 18 cr .): MATH 515 Abstract Algebra I; MATH 516 Abstract Algebra II; MATH 519 Principles of Real Analysis I; MATH 520 Principles of Analysis II; MATH 523 General Topology; MATH 526 Complex Variables. Electives as approved by faculty advisor (12-21 cr.). No more than 9 of the above credits may be earned in 400-level courses. 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 advisor 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 515, 516, 519, and 520 and one (1) of MATH 523, 526, and STAT 551. Electives appropriate to the area of specialization as approved by the faculty advisor ( 18 cr .). No more than 9 of the above credits may be earned in 400 -level courses. Comprehensive Examination. M.A. Program in Mathematics with Specialization in Statistics, Actuarial Science 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 Science, or Operations Research. The student and faculty advisor will then work out an appropriate plan of study within the framework of the following requirements. Requirements One of the following two-semester sequences ( $6-8 \mathrm{cr}$.):

Revise M.S. In Geography, to;
Students may select Plan A or C. Plan A (30 cr.) includes:
-a thesis (GEOG 599)
-core courses ( 12 cr .) including GEOG 500; GEOG 514 or 516 or 518; GEOG 530 or 542; GEOG 598

- Geography electives ( $9-12 \mathrm{cr}$.) selected in consultation with an advisor
-Electives from other disciplines (3-6 cr.) selected in consultation with an advisor Thesis guidelines are available from the appropriate Dean's office. Plan C ( 30 cr .) substitutes a special project (GEOG 595) for the thesis (GEOG 599).
No more than 9 credits may be taken at the 400 level.
serected trom other disciplines in consultation with an adviser. 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.

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 taking a major or a concentration in History will be assigned to a graduate adviser who will assist the student in designing the planned program of graduate study. All graduate student planned programs in History require the approval of the adviser and department chair.

## Programs

## MASTER OF ARTS IN HISTORY

(30 s. h., including a thesis)
Three 500-level History courses ( 9 cr.) Three additional History courses (includ-

## Revise M.A. in History. to; $11-6-50$

30 s.h., including a thesis. Three 500 -level History courses (9cr.).
Three additional History courses (including HIST 501) (9cr.). 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, Modern Europe, and Public History. No more than 9 credits can be taken at the 400 level.

## HISTORY

Add M. A. in Public History;
Admission criteria: Acceptance into the CCSU Graduate Program and approval of the Historydepartment. Plan C (30 s.h., including an internship and project):

- Five Public History courses ( 15 cr .) including: HIST 510 (Seminar in Public History) ( 3 cr ); HIST 511 (Topics in Public History, may be taken twice with different topics for a total of 6 cr .) ( 3 cr .); Ative HIST 521 (Public History Internship) ( 3 cr.); HIST 595 (Research Project in Public History) (3 cr.)
- Two 500-level History courses (6cr.), from among the following: HIST 560; HIST 564; HIST 565; HIST 567; HIST 568; HIST570.
- Two Social Sciences courses ( 6 cr .), from among the following: GEOG 433; GEOG 439; GEOG 440; GEOG 441: GEOG 445; GEOG 450; GEOG 455; ANTH 450; ANTH 451; ECON 420; ECON 455; PS 432; PS 492; PS 561.


## SCHOOL OF ARTS AND SCIENCES

concentration are U.S. History, European History, and Comparative World History.

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

Professional Education ( 6 cr ):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by 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 <br> HIST 598 Research in History

No more than three courses ( 9 credits) may be taken at the 400 -level in this program. All HIST 598 projects require an adviser and second reader.

## 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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education


## Revise M.S. in Mathematics for Certified Elementary

## Teachers, to;

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## CERTIFICATIC

The Department with the School c Professional Stud leading to second History and in H Information abol teacher certificatis obtained from th of Education and

## POST-MASTER

Individually desi post-master's study are available fo fied students.

## MATHEMATIC SCIENCES

## Faculty

Timothy Craine (Chair, Marcus W. Stephen Bacon, Nelson Castaneda, Chen, Penelope Coe, Robert Crous Katherine Gavin, Philip Halloran, Robin Kalder, Dix Kelly, Daniel La Stephen Lewis, Jeffrey McGowan, Miller, George B. Miller, Narasimh Padma, Angela Shaw, David Smith. Marie Spinelli, Victor Sung, Charle (Dept. phone: 832-2835)

Master of Science in Mathematics for Certified Elementary Teachers (Plans A, B, and C are offered as options). The program consists of 30 credits (Plans A and B) or 33 credits (Plan C). No more than 9 credits may be earned in $400-\mathrm{level}$ courses. General Education (0-9 cr.): Elective(s) as approved by faculty advisor. Professional Education (3-9 cr.) One of the following: EDF 500 Contemporary Educational Issues EDF 516 School and Society EDF 524 Foundations of Contemporary Theories of Curriculum EDF 525 History of American Education EDF 538 The Politics of Education EDF 583 Sociological Foundations of Education, and additional course(s) ( $0-6 \mathrm{cr}$.) as approved by advisor. Mathematics Specialization (9-18 cr): department offerings from the following: MATH $404,441,442,446,449,505,531,532,534$, 580. Capstone: Plan A ( 30 cr .) includes 21 credits in courses from the above and Applied Statistical Inference, STAT 453, Research in Mathematics, MATH 598 (cr.), and Thesis, MATH 599 ( 3 cr .). Plan B ( 30 cr .) includes 24 credits in courses from the above and Applied Statistical Inference, STAT 453, Research in Mathematics, MATH 598 ( 3 cr .), 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.
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 520 and one (1) of MATH 523, 526, and STAT 551. Electives appropriate to the area of specialization as approved by the faculty advisor ( 18 cr .). No more than 9 of the above credits may be earned in 400-level courses. Comprehensive Examination. M.A. Program in Mathematics with Specialization in Statistics, Actuarial Science or Operations Research (Plans $\mathrm{A}, \mathrm{B}$, and C are offered as options). The student will choose a specialization in one of the following areas of mathematical science: Statistics, Actuarial Science, or Operations Research. The student and faculty advisor will then work out an appropriate plan of study within the framework of the following requirements. Requirements One of the following two-semester sequences (6-8 cr.):

Revise M.S. In Geography, to;
Students may select Plan A or C. Plan A (30 cr.) includes
-a thesis (GEOG 599)
-core courses ( 12 cr .) including GEOG 500; GEOG 514 or 516 or 518 ; GEOG 530 or 542; GEOG 598

- Geography electives ( $9-12 \mathrm{cr}$.) selected in consultation with an advisor
-Electives from other disciplines (3-6 cr.) selected in consultation with an advisor
( Thesis guidelines are available from the appropriate Dean's office.
( Plan C (30 cr.) substitutes a special project (GEOG 595) for the thesis
i (GEOG 599).
t No more than 9 credits may be taken at the 400 level.
selected from other disciplines in consultation with an adviser. 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.

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 taking a major or a concentration in History will be assigned to a graduate adviser who will assist the student in designing the planned program of graduate study. All graduate student planned programs in History require the approval of the adviser and department chair.

## Programs

## MASTER OF ARTS IN HISTORY

(30 s. h., including a thesis) Three 500-level History courses ( 9 cr.) Three additional History courses (includ-

## Revise M.A. in History, to: <br> $11-6$ - 50

30 s.h., including a thesis. Three $500-\mathrm{level}$ History courses ( 9 cr .).
Three additional History courses (including HIST 501) (9cr.). 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, Modern Europe, and Public History. No more than 9 credits can be taken at the 400 level.

HISTORY
Add M. A. in Public History:
Admission criteria: Acceptance into the CCSU Graduate Program and approval of the Historydepartment. Plan C ( 30 s.h., including an internship and project):

- Five Public History courses ( 15 cr .) including: HIST 510 (Seminar ivailable in in Public History) ( 3 cr .); HIST 511 (Topics in Public History, fory, may be taken twice with different topics for a total of 6 cr .) ( 3 cr .); ative HIST 521 (Public History Internship) ( 3 cr.); HIST 595 (Research Project in Public History) ( 3 cr.)
- Two 500 -level History courses ( 6 cr .), from among the following: HIST 560; HIST 564; HIST 565; HIST 567; HIST 568; HIST570.
- Two Social Sciences courses ( 6 cr .), from among the following: GEOG 433; GEOG 439; GEOG 440; GEOG 441: GEOG 445; GEOG 450; GEOG 455; ANTH 450; ANTH 451; ECON 420 : ECON 455; PS 432; PS 492; PS 561.

SCHOOL OF ARTS AND SCIENCES
concentration are U.S. History, European History, and Comparative World History.

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

Professional Education (6 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by 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

No more than three courses ( 9 credits) may be taken at the 400 -level in this program. All HIST 598 projects require an adviser and second reader.

## 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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education


Revise M.S. in Mathematics for Cert Teachers, to;

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The Department with the School, Professional Stud leading to seconc History and in F Information abol teacher certificati obtained from th of Education anc

## POST-MASTEI

Individually des post-master's stu

## MATHEMATIC SCIENCES

## Faculty

Timothy Craine (Chair, Marcus W
Stephen Bacon, Nelson Castaneda Chen, Penelope Coe, Robert Crou Katherine Gavin, Philip Halloran, Robin Kalder, Dix Kelly, Daniel L. Stephen Lewis, Jeffrey McGowan, Stephen Lewis, Jeffrey McGowan,
Miller, George B. Miller, Narasimh Padma, Angela Shaw, David Smith
Marie Spinelli, Victor Sung, Charl Padma, Angela Shaw, David Smith
Marie Spinelli, Victor Sung, Charl (Dept. phone: 832-2835)

Master of Science in Mathematics Elementary Teachers (Plans A, B offered as options). The program credits (Plans A and B) or 33 cre No more than 9 credits may be e 400-level courses. General Edur Elective(s) as approved by facu: Professional Education (3-9 cr.' following: EDF 500 Contempo Issues EDF 516 School and So Foundations of Contemporary! Curriculum EDF 525 History c Education EDF 538 The Politi EDF 583 Sociological Founda and additional course(s) (0-6 by advisor. Mathematics Sper department offerings from the 404, 441, 442, 446, 449, 505 580. Capstone: Plan A (30 cı credits in courses from the al Statistical Inference, STAT Mathematics, MATH 598 (c MATH 599 (3 cr.). Plan B ( credits in courses from the $a$ Statistical Inference, STAT Mathematics, MATH 598 (' Comprehensive Examinatio the same General Education Education, and Mathematic requirements as Plan B, ex the Comprehensive Examil complete an additional 3 c Special Project in Mather fied studenss.
cr.)- Three 520 and ons 551. Electir specializati ( 18 cr .). N may be ea Compreh M.A. Program in iviaunappropriate dean.

Statistics, Actuarial Science or Operations Kescun ... .-
$\mathrm{A}, \mathrm{B}$, and C are offered as options). The student will choose a specialization in one of the following areas of mathematical science: Statistics, Actuarial Science, or Operations Research. The student and faculty advisor will then work out an appropriate plan of study within the framework of the following requirements. Requirements One of the following two-semester sequences ( $6-8 \mathrm{cr}$.):

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 Specialization in Statistics, Actuarial Science 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 Science 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 (6-8 cr.):
Statistics Specialization: STAT 467 and 475
Actuarial Specialization: ACTL 465 and 466
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 ( $10-15 \mathrm{cr}$.)

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 <br> LANGUAGES 

## Faculty

Louis Auld (Chair, Davidson 212), Gloria Caliendo-Reed, Edward Force, Antonio García-Lozada, Paul Karpuk, Paloma Lapuerta, Cheng Sing Lien, Gustavo Mejía, Ángela Morales, Maria Passaro, Carmela Pesca, Marie-Claire Rohinsky, Samuel Schulman, Shizuko Tomoda, Lilián Uribe, Martha Wallach (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 non-degree 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 Foreign Language Proficiency Tests may be obtained from the Modern Languages Department and the Educational Testing Service, Princeton, New Jersey 08540.

## Graduate Certification in <br> French, German, Italian and Spanish

Students 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 Spanish.

30 credits (Plan A or B), as follows:

Professional Education (6-9 credits):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society 3
EDF 524 Foundations of Contemporary Theories of Curriculum3

EDF 525 History of American Education
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by adviser
Core (6 credits):
SPAN 460 The Structure of the Spanish Language
ML 598 Research in Modern Language (must be completed within the first 15 credits of planned program)

Directed Electives (9 credits):
One culture/civilization course and two literature courses as approved by adviser

Electives (3-9 credits):
As approved by adviser
Capstone ( $0-3$ credits)
SPAN 599 (Plan A) or Comprehensive
Examination (Plan B)

Note: A maximum of 9 credits at the $400-$ level is allowed.

## 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, Italian 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 graduate courses 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.

Note: A maximum of 9 credits at the 400 level is allowed.

## Specialization in French

30 credits (Plan A or Plan B), as follows:
Core (6 credits):
FR 460 Advanced Grammar and Composition
ML 598 Research in Modern Language

Directed Electives ( 15 credits):
Literature - Choose 12 cr. from FR 471,510,561,571,581
Culture and Civilization - FR 472 or 588

Electives (6-9 credits):
Selected in consultation with adviser
Capstoné ( $0-3$ credits):
FR 599 (Plan A) or Comprehensive Examination (Plan B)

## Specialization in Italian

(pending DHE approval)
30 credits (Plan A or Plan B), as follows:
Core ( 6 credits):
ITAL 460 Advanced Written Italian
ML 598 Research in Modern Languages

Directed Electives ( 15 credits):
Literature - Chose 12 cr. from ITAL 470, 476, 561 (up to 3 times), 571
Culture and Civilization - ITAL 488 or 588

Electives (6-9 credits):
Selected in consultation with adviser
Capstone (0-3 credits):
ITAL 599 (Plan A) or Comprehensive
Examination (Plan B)

## Specialization in Spanish

30 credits (Plan A or Plan B), as follows:
Core ( 6 credits):
SPAN 460 The Structure of the Spanish

## Language

ML 598 Research in Modern Language

Directed Electives (15 credits):
Literature - Choose 12 cr. from SPAN 426, 461, 471, 472, 476, 515, 520, 525, 530, 535, 545, 551, 553
Culture and Civilization - SPAN 434 or 588

Electives (6-9 credits):
Selected in consultation with adviser
Capstone ( $0-3$ credits):
SPAN 599 (Plan A) or Comprehensive
Examination (Plan B)

## MUSIC

## Faculty

Pamela Perry (Chair, Welte 212), Daniel
D'Addio, Robert Glarner, Carl Knox, Linda
Laurent, Helen Myers, N. Carlotta Parr,
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

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

 MATHEMATICSThis program is designed for those students who wish to expand their knowledge of mathematics beyond the level of undergraduate study, either as prepara graduate study or to incré of mathematics for teachir. knowledge of higher math ed mathematical sciences a ence for a career in industr

Applicants to the Mast gram are expected to have equivalent of MATH 122, and 366 in addition to any requisites for courses requi planned program of gradu:

## M.A. Program in Mathem

 (30 cr.)Requirements ( 18 cr.):
MATH 483 General Topolı
MATH 486 Complex Varia
MATH 515 Abstract Algebra
MATH 516 Abstract Algebr
MATH 495 Principles of Real
MATH 520 Principles of An
Electives as approved by facul (12-21 cr.)

Comprehensive Examination
M.A. Program in Mathematic Specialization in Computer $S$ (30 cr.)
The student will choose a speci: Computer Programming Technj Numerical Methods or Comput and Software Engineering. The : faculty adviser will work out an . plan of study within the framew following requirements.
c. Revise M.A. in Modern Languages, to; Add Specialization in Hispano-North American InterUniversity Master's Degree in Spanish Language And Hispanic Cultures. Admissions Criteria: Applicants for this degree should have a baccalaureate degreee with a minimum of 24 cr . preparation in Spanish. With approval of the adviser, candidates with sufficient background in a second language may be permitted to include up to two appropriate graduate courses 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 Spanish. Special Conditions: Students must complete 9 cr . of their planned program of studies at the University of Salamanca during a six week summer session. Program Description: 30 cr. (Plan A or B) as follows: Core ( 6 cr .): Span 460 The Structure of Spanish Language. ML 598: Research in Modern Languages. Directed Electives ( 15 cr .): Literature - Choose 12 cr. from Span 426, 461, $471,472,476,515,520,525,530,535,545$, 551,553 . Culture and Civilization - Choose 3 cr . from Span 434, 588, ML 550. Electives (6-9 cr.): Selected in consultion with adviser. Capstone ( $0-3$ cr.): Span 599 (Plan A) or Comprehensive Examination (Plan B). Nine credits will be transferred as substitutes from the University of Salamanca as electives. No more than 9 credits at the 400 level may be counted toward degree program.

## MODERN

 LANGUAGES
## Faculty

Louis Auld (Chair, Davidson 212), Gloria Caliendo-Reed, Edward Force, Antonio García-Lozada, Paul Karpuk, Paloma Lapuerta, Cheng Sing Lien, Gustavo Mejía, Ángela Morales, Maria Passaro, Carmela Pesca, Marie-Claire Rohinsky, Samuel Schulman, Shizuko Tomoda, Lilián Uribe, Martha Wallach (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 wichine on ...rsue language and litFaduate level. Its offerto non-degree candirerequisites for any
alize in a modern lan$h$ their adviser a proakes into considerabackground and in the language.
in a program leading 1 language in the eler schools should first te Dean of Education $s$.
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tion to teach for-

[^0]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

Note: A maximum of 9 credits at the 400level is allowed.

## MASTER OF ARTS IN MODERN

 LANGUAGEDirected Electives ( 15 credits):
Literature - Chose 12 cr. from ITAL 470, 476, 561 (up to 3 times), 571
Culture and Civilization - ITAL 488 or 588
a graduate degree.

## Programs <br> MASTER OF SCIENCE IN FOR CERTIFIED TEACHE

Elementary or secondary scho electing a specialization in Sp : expected to have a baccalaure: with at least 24 credits of the college or equivalent preparat being admitted to this progral

Before admission to candis degree, students must contact Department for evaluation of tence in listening comprehensi reading, and writing in Spanis

30 credits (Plan A or B), as fol
Professional Education (6-9 cr ... .
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society 3

EDF 524 Foundations of Contemporary Theories of Curriculum 3
EDF 525 History of American Education
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education

## and

Additional course(s) as approved by adviser
Core ( 6 credits):
SPAN 460 The Structure of the Spanish Language
ML 598 Research in Modern Language (must be completed within the first 15 credits of planned program)

Directed Electives (9 credits):
One culture/civilization course and two literature courses as approved by adviser

Electives (3-9 credits):
As approved by adviser

Capstone (0-3 credits)
SPAN 599 (Plan A) or Comprehensive
Examination (Plan B)

## b. Addition of Accelerated Teacher Certification Program In Spanish;

Admissions criteria: BS degree in Spanish; minimum 2.70 GPA; satisfactory completion of Praxisl. Total Credits: 45. Summer One: EDF 415, EDT 315, ML428, ML490 (or, if taken in Fall or Spring, ENG 300) $=10$ credits. Fall : EDTE 315, EDSC 425, ML429, Spanish course at 400/500 level* $=13$ credits. Spring: EDSC 435 , ML $440=10$ credits. Summer Two: RDG 593, SPED 501, 2 Spanish courses at 400/500 level* $=12$ credits. ${ }^{*}$ Certification requirements such as PSY 236 or HIST 261/262 may need to be taken instead of the Spanish courses. NOTE: ML428, ML490, RDG 593, and SPED 501 may be applied as 12 credits of electives toward M.S. Program. SPA460, ML428, and ML490 will be the only 400 level courses that may be applied to the M.S. in Spanish, with approval of the advisor.

Note: A maximum of 9 credits at the 400
level is allowed.
$525,530,535,545,551,553$
Culture and Civilization - SPAN 434 or 588

Speciali
30 credi Revise MA in Spanish, to;

- Add to Directed Electives, Culture And Civilization: "or ML

Core (6 550'.
FR 460 - Add: No more than 9 credits at the 400 level may be counted
ML 59ع

## Language

Directed Electives (15 credits):
Literature - Choose 12 cr. from FR 471,510,561,571,581
Culture and Civilization - FR 472 or 588

Electives (6-9 credits):
Selected in consultation with adviser
Capstone ( $0-3$ credits):
FR 599 (Plan A) or Comprehensive Examination (Plan B)

## Specialization in Italian

(pending DHE approval)
30 credits (Plan A or Plan B), as follows:
Core ( 6 credits):
ITAL 460 Advanced Written Italian
ML 598 Research in Modern Languages

## 3

## MUSIC

## Faculty

Pamela Perry (Chair, Welte 212), Daniel D'Addio, Robert Glarner, Carl Knox, Linda Laurent, Helen Myers, N. Carlotta Parr, 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 program, 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 cr.):
Elected with adviser's approval
Professional Education (3-9 cr.):
One of the following:
EDF 500 Contemporary Educational EDF 516 School and Society 3
EDF 524 Foundations of Contemporary
Theories of Curriculum 3
EDF 525 History of American Education
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education
and
up to 6 additional credits, to be selected with adviser's approval.

Music (15-27 cr.):
MUS 470 Music Structure and Style
MUS 509 Comparative Music Studies
MUS 504 Principles and Foundations of Music Education
MUS 510 Current Issues in Music Education
MUS 598 Research in Music Education 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

Note: Students enrolled in the following courses will be assessed an Applied Music Fee - $\$ 200.00$ for $1 / 2$ hour lesson (MUS 577 ) and $\$ 400.00$ for full hour lesson (MUS 578). Contact the Department for additional information.

## 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 program. 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 47.

## 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 30credit planned program.

## NATURAL

 SCIENCES
## Faculty

Faculties of the departments of Chemistry (Dept. phone: 832-2675) and Physics and Earth Sciences, including Science Education (Dept. phone: 832-2930.) See departmental listings for details.

## Overview

Track I provides for advanced study in physics or earth sciences. Track II is for certified teachers in elementary and secondary schools. This program is developed on an individual basis according to goals identified by the student and the adviser. Track III provides for advanced study in chemistry.

## Program

MASTER OF SCIENCE IN NATURAL SCIENCES
Core Requirements:
SCI 500 Science, Technology and Society
Either Track I, Track II or Track III

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

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

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

Note: Plan A requires 3-6 credits of Thesis; Plan B requires a comprehensive exam.

## Track II: Science Education

Professional Education (6-9 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538. The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course(s) 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

## Track III: Chemistry

(27 credits, no more than 6 credits at the 400 level)
Specialization ( 15 credits, with 12
credits at the 500 level):
Courses in chemistry as approved by adviser
Cognate (6 credits):
Courses selected from BIO, CHEM, EDF,
ESCI and PHYS, as approved by adviser.
Capstone (6 credits):
CHEM 599 Thesis (Plan A)

## POST-MASTER'S STUDY

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

## 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, Nimmi Parikh, 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 -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 40 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 MateKole, Lauren Perdue. Moises Salinas, 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 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 Gencral 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 a 3.00 in psychology courses, three letters of reference and a personal statement are required. Application deadline for spring admission is November 10, and March 31 is the deadline for fall admission.

## MA Program ( 36 s. 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 (defense required)
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 EDUCATION

## Faculty

Sandra F. Burns (Coordinator, Physics and Earth Sciences Dept., Copernicus 533, 8322934); Adviser: Marsha Bednarski (Physics and Earth Sciences Dept., 832-2943)

For details of the program, see Natural Sciences: Track II on page 40 of this catalog.

## POST-MASTER'S STUDY

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

## SOCIAL SCIENCE

## Faculty

Victor Geraci (Program Coordinator, History Dept., phone: 832-2808)

## 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.):


One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by 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

General Education (3 cr.):
Elective approved by adviser
Professional Education (6 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education

## EDF 538 The Politics of Education <br> EDF 583 Sociological Foundations of Education

and
Additional course as 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).

## 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 non-profit 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. The Partners in Science program for middle school students presents interdisciplinary explorations of science in Saturday morning workshops. Science faculty and students
work with middle and secondary school teachers on topics to enhance pre-college 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 PolishAmerican 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 Pol-ish-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, two inkjet printers, a scanner 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 community as well as faculty and student research in the atmospheric sciences.

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

## Revise MaS. in Social Science with a Concentration in Geograph $\begin{aligned} \boldsymbol{z} \text { 热; }\end{aligned}$

 M.S. in Social Science with a Specialization in Geography. two profram requires 30 credits of course work, distributed as follows t) Geography courses. GEOG 500 and 5 graduate elective, and seven are required, and no more than 9 credits can be at the 400 level.PSY 545
PSY 550 Introduction to Community Psychology
PSY 596
PSY 597

PSY 599
Introd Psychuivy

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

EDUCATION

## Faculty

Sandra F. Burns (Coordinator, Physics and Earth Sciences Dept., Copernicus 533, 8322934); Adviser: Marsha Bednarski (Physics and Earth Sciences Dept., 832-2943)

For details of the program, see Natural Sciences: Track II on page 40 of this catalog.

## POST-MASTER'S STUDY

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

## SOCIAL SCIENCE

## Revise MS in Social Science for Certified

may de requirea to complete aumuona 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.):


One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course(s) as approved by 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

General Education (3 cr.):
clantive androved by adviser

MS in Social Science for Certified Elementary 30 cr. as follows: Professional Educationtary \& Secondary School Teachers. course chosen from the following list: EDF (6cr.) Educational Foundations Elective as approved by the advisor list: EDF 500, 516, 524,525,538, or 583. th an 9 credits to be taken at the 400 Social Science Major (18cr., no more at the 500 level). Non-American History). United States History ( 6 cr. , taken Science ( 6 cr ., taken at the 400 or 500 ( 6 cr ., taken at the 500 level). Social from the following departments: Anthrovel and approved for graduate credit) History, International Studies, or Political Sogy, Economics, Geography,

нй
The Politics of Education Sociological Foundations of Education
and
Additional course as 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).

## SCHOOL OF ARTS AND SCIENCES CENTERS

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research papers and taking essay exams. Appointments for tutorials are available Monday through Friday from 9 a.m. to 4 p.m. by calling 832-2765.

Daniel J. Miller, Dean<br>George F. Claffey, Associate to the Dean<br>Sharon R. Braverman, Assistant 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 requests for the MBA program can be obtained from the Graduate Admissions Office (860-832-2356). When requesting material, individuals should note their interest in the MBA degree in order to ensure receipt of a separate insert pertaining to additional requirements for the MBA degree. All materials should be returned to the Graduate Admission Office. Admission decisions are made when all materials are received, including GMAT scores, official transcripts, application fee, etc. Questions pertaining to the MBA degree program should be referred to the MBA Director at 860-832-3210.

Applicants to the MBA should hold a four-year bachelor's degree, have a GPA of 2.70 or higher, and score 500 or higher on the GMAT. All applicants are expected to be current in computer software and hardware usage. Additional requirements include 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, including a TOEFL of 213 or higher. International applicants generally are required to have a transcript evaluation from an outside agency, such as the World Education Association. Suggested deadlines for admission are May 1 for fall classes and October 1 for spring classes. Domestic part-time applicants may contact the MBA Director regarding admission beyond the suggested deadlines.

## MASTER OF BUSINESS

 ADMINISTRATION
## Faculty

Contact George F. Claffey (MBA Director, Maria Sanford 102, 832-3210) or Steve Moscove (Chair, Accounting Dept., 8323221) 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. An MBA Accounting Concentration is available to fulfill the 150 -hour education requirement to sit for the CPA examination. 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 .:
AC 531 Accounting Information for Decision Making
FIN 541 International Financial Management
MGT 551 Management for Global Operations
MKT 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. The Accounting Concentration requires AC 532 and AC 537. Students in Accounting
should consult with Dr. Steve Moscove, Department Chair.

## Directed Electives

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

## Integrative Experience

All students must successfully complete an integrative experience.
MGT 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.

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

## Programs <br> 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.

Requirements for business education teacher certification must be completed before a student may matriculate into a master's or post-master's degree program.

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

Professional Education (6-9 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
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

## COMPUTER

 INFORMATION TECHNOLOGY
## Faculty

Computer Science: Joan Calvert
(Director, Maria Sanford 206, 832-2715),
Fatemeh Abdollahzadeh, William Jones,
Bradley Kjell, Zdravko Markov, Charles
Neville, Brian O'Connell, Irena Pevac,
Neli Zlatareva
Management Information Systems:
Marianne D'Onofrio, Raymond Papp
Industrial Technology: James DeLaura,
Paul Resetarits, Karen Tracey, Michael
Vincenti, Deborah Zanella
(web site address: www.cs.ccsu.edu/cit/ index.html)

## Program

For details of the program, see page 32 of this catalog.

Ellen V. Whitford, Dean
To be named, Associate Dean Ronald J. Moss, Assistant Dean
Mary Pat Hager, Associate Counselor
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 59) 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 Foundations/ Secondary Education


## 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
- 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 Irogram by completiny 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 (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, and the grade point average of college work requirements will be verified.
A letter will be sent to each student indicating whether the student has been admitted, deferred until certain specified requirements have been fulfilled, or rejected.

Admission to the 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 , EDTE 315 , methods courses, student teaching, a course in educational technology (such as EDT $210,315,415,490$ ), and other courses as required by the student's adviser. Special Education programs have different requirements.
- Post-baccalaureate students seeking certification in Art, Music, Physical Education, and Technology Education should meet with the chair of the department that houses their program for advice on how to complete the "Program of Study."
- Post-baccalaureate students in elementary and secondary education should meet with the post-baccalaureate adviser in the School of Education and Professional Studies to complete the "Program of Study."


## Restricted Professional Course Work.

Most courses offered in particular teacher education programs are closed to baccalaureate students except those who have been formally admitted to a teacher education program. Students who have not been admitted to a teacher education program should not enroll in restricted courses.

Retention Criteria. Once admitted to a particular teacher education program a postbaccalaureate 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. 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 number, 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, Richard Arends, Karen Beyard, Carol J. Carter-Lowery, Penelope Lisi, 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 only to certification 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

( 30 cr .): Graduates are prepared to assume 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 EDF 516, 524, $525,538,583$ )
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 semester must be received by the Graduate Office by October 1 for spring admission and April 1 for fall admission. The applicant's essay, supporting letters, interview and professional 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.

Professional Core (21-24 cr.):
EDL 617 Personnel and Program Evaluation
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 |
| Eractice |  |
| 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)

Note: It is expected that ED 511, EDL 513, EDL 514, ED 540 and ED 598, or equivalent coursework or experiences determined by the student's adviser, will have been satisfied prior to admission to the program. A maximum of 9 credits of these courses, approved by the adviser, may be applied to the planned program.

Note: To receive certification, student must also pass a performance-based examination administered by the Connecticut State Department of Education.

Note: A change to the sixth year certification program as currently offered by the Department of Educational Leadership is planned to begin Fall 2001. Those students who are enrolled after that time should consult with an adviser.

## MASTER OF SCIENCE IN 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 catalog for a complete description of the course of study leading to this master's degree.

## MASTER OF SCIENCE IN 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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
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 EDF
$516,524,525,538,583$ ) or COMM
502, ED 598 and EDT 597, Final
Project
Plan B: 33 cr., including EDF 500 (or EDF
$516,524,525,538,583$ ) 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
The following courses offered at Southern Connecticut State University may be used to fulfill requirements for school 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 HUMAN SERVICE PROFESSIONS 

## Faculty

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

## Department Overview

The counseling programs at Central Connecticut State University prepare students for professional careers in Marriage and Family Therapy, School Counseling, Rehabilitation Counseling, Substance Abuse Counseling, Mental Health Counseling and Student Development in Higher Education. Courses are designed to develop student competence in the application of theorybased counseling models, to understand the concerns of diverse client populations and to enhance students' personal and professional development. The practicum and clinical internship provide students with valuable opportunities to apply their skills in a fieldbased setting under close supervision.
Programs are accessible to full- and part-time students, offering flexible advising hours and classes in the late afternoons and evenings.

## Admissions

The admission standard for the Counselor Education program requires a minimum of 2.70 GPA based on a 4.00 point scale where A is 4.00 . Applicants for the school counseling program have the additional requirement of providing evidence that they have passed the PRAXIS I CBT test or that they qualify for a waiver. (See page 47 for the criteria for a waiver.) Admission to the graduate school automatically places students in a pre-candidacy status and allows
revise, program in Counselor Education with sperialization in Professional Counseling (M.S.), to;
SCHOOL OF EDUCATI Fifty-one/fifty-four (51-54) credits (Plan A or C) as 51 follows;
students to begin taking ، a must apply directly to the Health and Human Servi full candidacy after comp site courses and CNSL 5( addition to meeting acad didates are expected to be in the welfare of others an psychological problems th their effectiveness as a cou admitting the student intc faculty evaluate all student personal characteristics thaC. deemed essential to becom counseling professionals us ment's Attitudes and Attrib
a. Core (33 s.h.) : Cnsl 500, 501, 503, 504, 507, 521, JG 522, 568; Psy 598
b. Specialization (9-12 s.h.): either,

1. Mental Health Counseling: Cnsl 560, 571, MFT 541, either Psy 530 or MFT 556
2. Rehabilitation Counseling: Cnsl 560, 561, 562, 563, 571
3. Rehabilitation Counseling/Substance Abuse: Cnsl 560, 561, 562, 563, 571; Psy 454
```
Internship (6 s.h.): Cnsl }594\mathrm{ (two semesters)
Capstone (0-3 s.h.): either,
1. Ed 599 (Plan A)
2. Cnsl 595 (Plan C)
```


## Field Experience

The supervised practicum are considered to be the $r$ ence elements in the prog, must submit their applicat practicum or internship tc ${ }^{r}$ secretary before March 15 summer semesters and bel for the spring semester. $\mathbf{S t}$ maintain a grade of $B$ or $a$ fieldwork course in orde the program.

Note: It is expected that prior to applying for candidacy into the program, the applicant will have successfully completed Psy 236 or 512.
revise program in Counselor Education with specialization in School Counseling (M.S.), to;
Fifty-four (54) credits (Plan A or C) as follows;
roup
3
iques in
6
ing
b. Specialization ( $36 \mathrm{s.h}$. ) $\mathrm{Cnsl} 504,507,520,521$, 6 522, 524, 525, 526, 591 (two semesters); MFT 541; in Ed 598
c. Capstone (3 s.h.) : either,

1. Ed 599 (Plan A) and
2. Cnsl 595 (Plan C)

Note: It is expected that prior to applying for $\quad$ is in candidacy into the program, the applicant will have successfully completed the following; EdTE 315 or 3 Psy 526; one of EdF 415, 500, 510, 516, 583; Psy 236 logy 3 or 512 ; SpEd 315 or 501 .
CNSL 500 The Dynam Behavior
CNSL 501 Theories and Techniques in Counseling
CNSL 503 Supervised Counseling Practicum

Specialized Courses (33 cr.):
CNSL 504 Professional Studies in Counseling
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

3
CNSL 524 Consulting in the Schools 3

3

3

3
Plan C: CNSL 595 Applied Research in
3
CNSL 532 Program Design in Student Services
CNSL 592 Supervised Internship in Higher Education (two semesters)
ED 598 Research in Education
Capstone ( 3 cr .):
Plan A: ED 599 Thesis
or
Counseling

3 Mental Health Counseling:
CNSL 560 Intro. to Rehabilitation
$\begin{array}{llll}3 & \text { Counseling } & 3 \\ & \text { CNSL } 571 & \text { Mental Health Counseling } & 3\end{array}$
$\begin{array}{llll}3 & \text { Counseling } & 3 \\ & \text { CNSL 571 } & \text { Mental Health Counseling } & 3\end{array}$
3 MFT 541 Intro. to Theories of Family Systems
PSY 530 Psychopathology 3
$\begin{array}{lcl}3 & \text { or } & \\ 3 & \text { MFT } 556 & \text { Systemic Perspectives on }\end{array}$ Mental Disorders

3 Rehabilitation Counseling:
CNSL 560 Introduction to Rehabilitation Counseling 3
3 CNSL 561 Advanced Rehabilitation Counseling
CNSL 562 Case Management in Rehabilitation Counseling

CNSL 563 Medical Aspects of Rehabili- $\begin{aligned} & \text { tation Counseling }\end{aligned}$
CNSL 571 Mental Health Counseling 3
Rehabilitation Counseling/Substance Abuse:
CNSL 560 Introduction to Rehabilitation Counseling
CNSL 561 Advanced Rehabilitation Counseling
CNSL 562 Case Management in Reha-

CNSL 563 Medical Aspects of Rehabilitation Counseling
CNSL 571 Mental Health Counseling
PSY 454 Drugs and Behavior
Internship (6 cr.):
CNSL 594 Supervised Clinical
Practice - Professional Counseling (two semesters) 3

> Capstone (3 cr.): either
> Plan A: ED 599 Thesis or
> Plan C: CNSL 595 Applied Research in Counseling

Note: It is expected that prior to applying for candidacy into the program, the applicant will have successfully completed PSY 236 or 512.

## POST MASTER'S STUDY

Candidates who complete the master's degree in counseling 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 (MFT) program is a 51-credit program leading to a Master's of Science in Marriage and Family Therapy (M.S.M.F.T). The MFT program 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 experiences 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.

On completion of 300 of the 500 clinical hours required for graduation, each student completes a capstone project consisting of a comprehensive written examination of a clinical case seen by the student as well as an oral presentation of the case to MFT faculty and peers. This project is designed to help the student integrate his/her learning experiences in the program.

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 3
MFT 544 Families in Context: Gender and Cultural Dimensions 3
MFT 551 Structural/Strategic \& Behavioral Family Therapies 3
MFT 552 Experiential, Intergenerational and Psychodynamic Family Therapies
MFT 554 Couples Therapy
MFT 555 Dysfunctional Family Processes
MFT 556 Systemic Perspectives on Mental Disorders AND HEALTH FITNESS STUDIES

## Faculty

David Harackiewicz (Chair, Kaiser 114), Antone Capitao, Catherine Fellows, Frank Frangione, Judith Bourell Miller, Victoria Morley, Jack Olcott, 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 the allied field of health fitness. Also available is undergraduate course work leading to Connecticut teacher certification in physical education.

## Programs

The graduate program of Physical Education is designed to: (1) increase the competency of teachers of physical education and (2) provide valuable subject matter for profeśsionals in 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 either EDF $500,516,524$, 525,538 or 583); Specialization (15-18 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 pre-K-12 teacher certification and does not result in a master's degree. For information on admission to this program, see page 47.

## 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, Catherine Kurkjian, Patti Lynn O'Brien, Jesse Turner (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

Note: A change to the programs offered by the Department of Reading and Language Arts is planned for 2003. Those students who will graduate after July 1, 2003, should consult with an adviser.

## 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) depart-
ment 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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by adviser

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 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.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education
and
Additional course as approved by adviser
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 sixth-year 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 600level 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 cr.):
RDG 680 Current Trends and Issues in Reading and Language Arts

Electives (3-6 cr.)

## SPECIAL EDUCATION

## Faculty

To be named (Chair, Barnard 224), Mitchell Beck, Laura Boynton Hauerwas, Ernest Pancsofar, Mae Williams, Michael Williams (joint appointment) (Dept. phone: 832-2400)

## Department Overview

The Department of Special Education offers two programs leading to a Master of Science degree. One program is designed for students who already hold certification in special education. In this program students take coursework designed to broaden and/or deepen their knowledge of the field.

The second program is designed for students who have Connecticut certification in elementary education or a Connecticut 7-12 secondary subject certificate in biology, business, chemistry, earth science, English, history/social science, integrated science, mathematics, or physics. This program leads to both a Master's degree and a cross-endorsement for either elementary or secondary (including middle level) special education.

## Programs

## MASTER OF SCIENCE PROGRAM WITH CROSS-ENDORSEMENT IN SPECIAL EDUCATION, PLAN C*

36-39 credits as follows:
Core Requirements ( 6 cr .):
One of:
$\begin{array}{ll}\text { EDF } 500 & \text { Contemporary Educational } \\ & \text { Issues }\end{array}$
EDF 516 School and Society 3

EDF 524 Foundations of Contemporary Theories of Curriculum

3
EDF 525 History of American Education
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education
and
ED 598 Research in Education
Specialization (27-30 cr.):
$\begin{array}{ll}\text { SPED } 511 & \text { Behavioral/Emotional } \\ & \text { Disorders }\end{array}$
SPED 512 Learning Disabilities 3
SPED 513 Developmental Disabilities 3
SPED 514 Cognitive Behavior Management and Social Skills Strategies
SPED 515 Assessment in Special Education
SPED 516 Instructional Programming for Students with Exceptionalities
SPED 517 Instructional Methods for Students with Special Needs-Elementary

SPED 518 Instructional Methods for Students with Special Needs-Secondary
SPED 520 Seminar for Special Educators
SPED 521 Student Teaching in Special Education-Elementary
or
SPED 522 Student Teaching in Special Education-Secondary or
SPED 523 Practicum in Elementary Special Education
or
SPED 524 Practicum in Secondary Special Education

Capstone Requirement ( 3 cr .):
SPED 519 Action Research in Special Education

6

3
EDF 538 The Politics of Education 3
3 EDF 583 Sociological Foundations of Education 3
and
ED 598 Research in Education 3
3 SPED 566 Pupil Personnel Services in
Special Education 377

* Pending approval by State Department of Education and State Department of Higher Education


## MASTER OF SCIENCE PROGRAM FOR STUDENTS ALREADY CERTIFIED IN SPECIAL EDUCATION

General Education (3 cr.):
Elective
Professional Education (6 cr.):
EDF 500 Contemporary Educational Issues
SPED 566 Pupil Personnel Services in Special Education

Specialization (12-18 cr.):
SPED 577 Integrative Seminar 3
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 3 (required for Plan A and B)
ED 599 Thesis (required for Plan A only)

The following two programs are being phased out by July 1, 2003, and will be replaced by programs that meet the new special education certification guidelines established by the Connecticut State Department of Education.

Admission to these programs is now closed.
3 MASTER OF SCIENCE PROGRAM FOR STUDENTS WITH CERTIFICATION IN
3 OTHER AREAS OF EDUCATION
Professional Education (12 cr.):
6 One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society 3
EDF 524 Foundations of Contemporary
Theories of Curriculum 3
EDF 525 History of American
Education

SPED 577 Integrative Seminar 3
Specialization (15 cr.):
Choose 6 credits from:
SPED 430 Characteristics and Education of Individuals with Behavioral/ Emotional Disorders 3
SPED 432 Characteristics and Education of Individuals with Learning Disabilities
SPED 434 Characteristics and Education of Individuals with Developmental Disabilities 3

3 SPED 530 The Family, the School and the Handicapped Child
SPED 536 Introduction to the Autistic Child

3
SPED 560 Crisis Intervention in the Schools3

SPED 578 The Juvenile Offender as an Exceptional Learner
SPED 580 The Special Education Teacher as Consultant

3
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

Professional Requirements ( 13 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 3
RDG 315 Introduction to Literacy 3 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 | $\begin{array}{l}\text { Behavior Management and } \\ \text { Social Skills Development }\end{array}$ |
| :--- | :--- |

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 3
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.
2. In addition to maintaining a 3.00 overall average, students must maintain a B- (2.07) average in special education courses to be recommended for certification.
3. Admission to the professional program is a prerequisite for SPED 433-SPED 439.

4 TEACHER EDUCATION

## Faculty

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 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

## MASTER OF SCIENCE IN EARLY

 CHILDHOOD EDUCATIONCoordinator: Claudia Shuster
6 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, Karen Riem

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 $\mathbf{1}$ 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: Nancy Hoffman

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.

Teacher certification in either elementary education, early childhood education, middle level education or a $\mathrm{NK}-12$ special area is required for admission to the program.

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
- Secondary Education in the following subjects: Biology, Business, Chemistry, Earth Sciences, English, French, Integrated Science, German, History, Italian, Mathematics, Physics, Social Science and Spanish
- NK-12 Education in the following subjects: Art, Music, Physical Education, TESOL, Technology Education
Information on admission to the post-baccalaureate programs can be found on page 47. Students have options of varying lengths to complete their certification program of study. They are as follows.

Option 1: This option involves part- or fulltime 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. 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. However, fall applications are strongly encouraged to allow students to take full advantage of financial aid and complete needed prerequisites.

## SUMMER THROUGH SUMMER POST-BACCALAUREATE 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 Practicum in Elementary Education II
EDTE 510 Methods of Inquiry into Pedagogy and Leadership in Diverse Communities (field experience required)*
RDG 315
EDT 490
EDTE 540 Instructional Computing Advanced Seminar in Leadership 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
EDTE 540 Advanced Seminar in Leadership and Learning Communities*

MATH 412 Elementary Mathematical Methods

Spring (13 cr.):
EDEL 430 Elementary Education Student Teaching
EDTE 540 Advanced Seminar in Leadership 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

This program is currently on hold. No new students will be admitted to this program.

## SUMMER THROUGH SUMMER POST-BACCALAUREATE 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 Practicum in Elementary Education II
EDTE 510 Methods of Inquiry into Pedagogy and Leadership in Diverse Communities (required field experience)*

EDF 510

EDTE 540
Advanced Seminar in Leadership and 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 Elementary Science Methods
RDG 586 Literacy Instruction for Diverse Populations I* Developing Instructional Materials

EDTE 540 Advanced Seminar in Leadership and Learning Communities*

Spring (13 cr.):
EDEL 422 Elementary Education General Methods
EDEL 430 Elementary Education Student Teaching
EDTE 540 Advanced Seminar in Leadership and 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)

## 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 by 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

| EDTE 540 | Advanced Seminar in <br> Leadership and Learning <br> Communities (1 cr. taken <br> 2 times) |
| :--- | :--- |
| ED 535 | Integrating Curriculum <br> Development with Educa- <br> tional Technology |
| ED 545 | Integration of Methods of <br> 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 $500 \quad$ 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 FIELD EXPERIENCES

## Student Teaching

To be named, Director
All students in early childhood, elementary 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 Field 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, $415,417,419,420,421,428,429$ and 435) may not be taken or repeated without permission of the Director of Field 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, Dean<br>Olusegun Odesina, Associate to the Dean<br>Karen Coale Tracey, Graduate Coordinator<br>Phone: (860) 832-1800<br>Fax: (860) 832-1804<br>Web address: http://wuwwst/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.

## INDUSTRIAL TECHNICAL MANAGEMENT

## Faculty

Paul J. Resetarits, Chair, Industrial Technology (Resetarits@ccsu.edu); Graduate Advisers: Stuart Bennett, James DeLaura, Olusegun Odesina, Karen Tracey, Peter Vernesoni, Michael Vincenti (Dept. Office: 236 N. Copernicus Hall; Dept. phone: 832-1830)

## Overview

The Master of Science in Industrial Technical Management provides students with academic experiences that enable them to develop professionally and effectively direct change and productivity in business and industry. Flexibility is the cornerstone of this degree. 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. Many of the courses for this degree are offered online.

## 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 ( 18 cr .) as follows:
IT 500 Industrial Applications of Computers
IT 502 Human Relations and Behavior in Complex Organizations
IT 510 Industrial Planning and Control
IT 551 Project Management
IT 598* Research in Technology
AC 510 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-, 500and 600 -level as approved by a faculty adviser. This allows the student flexibility to develop a specialization.

* It is strongly recommended that IT 598 be taken within the first nine credits of a student's program of study.


## 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 597 Thesis
Plan B: Comprehensive exam
Plan C: 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 (Chair; williamsm@ccsu.edu), John Larkin, Peter Rodrigues (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 industry or at a community college or university 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. 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 areas.

## Master of Science in Technology Education

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

## Programs <br> MASTER OF SCIENCE IN TECHNOLOGY EDUCATION

The 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 professional 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 impacts 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 community colleges and technical schools; instructors/supervisors in government agencies; and technology education instructors in overseas dependent schools.

Professional Education (6-9 cr.):
One of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education

Additional electives as approved by the faculty adviser - students may focus on 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 GRADUATESThis post baccalaureate certification program provides courses for college graduates, regardless of previous 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 2.70 is required for admission to this program. All students must first 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 courses which incorporate certification requirements of the state of Connecticut. For additional information please contact the Chair, Department of Technology Education.

## COMPUTER INFORMATION TECHNOLOGY

## Faculty

Computer Science: Joan Calvert (Director, Maria Sanford 206, 832-2715), Fatemeh Abdollahzadeh, William Jones, Bradley Kjell, Zdravko Markov, Charles Neville,

Brian O'Connell, Irena Pevac, Neli<br>Zlatareva

Management Information Systems:
Marianne D'Onofrio, Raymond Papp
Industrial Technology: James DeLaura, Paul Resetarits, Karen Tracey, Michael Vincenti, Deborah Zanella
(web site address: www.cs.ccsu.edu/cit/ index.html)

## Program

For details of the program, see page 32 of this catalog.

## 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-forprofit 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)

African Studies: Evelyn Newman Phillips (Coordinator, Anthropology Dept.), Gabriel Alungbe, Ali Antar, Carol Austad, Walton Brown-Foster, Tennyson Darko, Ghassan El-Eid, Gloria Emeagwali, Parker English, Sheri Fafunwa-Ndibe, Peter Kyem, Peter LeMaire, C. Charles Mate-Kole, Andrew Moemeka, Segun Odesina, Peter Osei, Warren Perry, Timothy Rickard, Renee White (Phone: 832-2617)

East Asian Studies: Shizuko Tomoda (Coordinator, Modern Languages Dept.), Gavro Altman, Yanan Ju, Ki Hoon Kim, Cheng Sing Lien, Joseph McKeon, Paul Petterson, Xiaoping Shen, Caryn Stedman (Phone: 832-2892)

## European Union/West European Studies:

Carmela Pesca (Coordinator, Modern Languages Dept.), Richard Benfield, George Claffey, Paloma LaPuerta, Angela Morales, Maria Passaro, Paul Petterson, Timothy Rickard, Karen Ritzenhoff, Marie-Claire Rohinsky, Robert Stowe, Ronald Todd, Martha Wallach, G. Weinberger, Louise Williams (Phone: 832-2882)

Latin American Studies: Antonio GarciaLozada (Coordinator, Modern Languages Dept.), Walton Brown-Foster, Gloria Caliendo, Adolfo Chavarro, George Claffey, Gail Cueto, Marco Cupolo, Francisco Donis, Ronald Fernandez, Frank Gagliardi, Gustavo Mejía, Serafín Méndez-Méndez, George B. Miller, Thomas Mione, Angela Morales, Alfred C. Richard, Moisés Salinas, James N. Snaden, Lilián Uribe (Phone: 832-2895)

Middle Eastern Studies: Ali Antar (Coordinator, Physics and Earth Sciences Dept.), Fatemah Abdollahzadeh, Karen Beyard, Anthony Cannella, Ghassan El-Eid, Gloria Emeagwali, Joseph McKeon, Norton Mezvinsky, Anastasios Papathanasis, Timothy Rickard, Nanjundiah Sadanand, Leyla Zidani-Eroglu (Phone: 832-2932)

Slavic/East European Studies: Paul Karpuk (Coordinator, Modern Languages Dept.), Gavro Altman, Richard Benfield, Jay Bergman, Stanislaus Blejwas, David Kideckel (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 3

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 3

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
3
Prereq.: AC 313. Partnership accounting, consignments and installation sales, parent and subsidiary accounting, consolidations and mergers, agencies and branches.

AC 408 CONTEMPORARY ACCOUNTING PROBLEMS
3
Prereq.: Senior standing. Advanced topics in contemporary accounting theory. Integrated review for students majoring in accounting.

AC 430 ACCOUNTING FOR NON-PROFIT INSTITUTIONS
Prereq.: AC 212 and 311. Previously AC 330. Comprehensive survey of governmental and other non-profit institution accounting as it relates to budgeting, cost accounting and financial reporting. Statutory influences which direct and control operation funds, bonded debt, fixed assets, investments, revenue and expenditure classification, general property taxes and inter-fund relationships are subjected to detailed study.

## AC 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
Prereq.: AC 440. Duties and responsibilities of auditor, kinds of audits, review of accounting theory in its application to work of auditor, internal control and relationship to auditing procedures, auditing working papers, financial statements and reports.

## AC 455 INTERNAL AUDITING

Prereq.: AC 440. Duties and responsibilities of Internal Auditors within the management team of the organization are explored. Topics include the organization of the Internal Audit Department, staff qualification and development and the elements of Internal Auditing.

AC 510 ACCOUNTING AND CONTROL
Prereq.: AC 210 or 211 or permission of instructor. Previously BUS 510. The utilization of accounting data in the determination of management alternatives. Topics include analysis of financial reports and budgeting.

## AC 530 <br> FUNDAMENTALS OF FINANCIAL AND MANAGEMENT ACCOUNTING

Previously BUS 530. 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.

## AC 531 ACCOUNTING INFORMATION FOR

 DECISION MAKINGPrereq.: Admission to MBA program or permission of MBA director. Previously BUS 531. 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. [c]

AC 532
ACCOUNTING THEORY RESEARCH AND POLICY
Prereq.: AC 313 and admission to MBA program; or permission of MBA Accounting Concentration Coordinator. Previously BUS 532. 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.

## AC 534 BUDGETARY PLANNING AND CONTROL

 SYSTEMSPrereq.: AC 301, 420 or 531, and admission to MBA program; or permission of MBA Accounting Concentration Coordinator. Previously BUS 534. 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.

## AC 535 ADVANCED AUDITING

Prereq.: AC 445 and admission to MBA program; or permission of MBA Accounting Concentration Coordinator. Previously BUS 5.35. Advanced study of auditing standards, professional ethics, legal responsibility, procedures, principles and theory and practice. Emphasis is placed on understanding current trends in auditing.

## AC 536 INTERNATIONAL ACCOUNTING

Prereq.: AC 311 and permission of MBA Accounting Concentration Coordinator. Examines the environmental factors affecting international accounting concepts and standards. Includes financial reporting and other specific accounting and auditing problems. IR

## AC 537 INFORMATION SYSTEMS AUDIT AND CONTROL

3
Prereq.: AC 445 and admission to MBA program; or permission of MBA
Accounting Concentration Coordinator. Emphasizes the audit and evaluation of controls of information processing in a computerized environment. Covers the auditing standards affecting emerging technologies used in business transactions. Includes statistical applications in tests of controls. S [c]

## AC 539 CURRENT TOPICS IN ACCOUNTING

Prereq.: Admission to MBA program or permission of MBA Accounting Concentration Coordinator. Previously BUS 539. 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.

## ACTUARIAL SCIENCE

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

## ACTL 465 ACTUARIAL MODELS I

4
Prereq.: STAT 315. Topics chosen from survival distributions and life tables, life insurance, life annuities, net premiums, premium reserves, multiple life functions and multiple decrement models. $\mathrm{F}(\mathrm{o})$
$566 \quad 12 / 11 /$ ov
ACTL 466 ACTUARIAL MODELS II
Prereq.: STAT 416 (may be taken concurrently) and ACTL 465. Continuation of
ACTLL 465. Topics chosen from survival models, frequency and severity models,
compound distribution models, stochastic process models and ruin models. $S(0)$
ACTL 480 TOPICS IN ACTUARIAL SCIENCE 1-3
Prereq.: Permission of instructor. Topics chosen from theory of interest, risk theory, demography and graduation. $S$

ACTL 481 REVIEW-SOA/CAS COURSE 1
Review and extension of the principles of calculus and probability as relared to the material on the SOA/CAS Course 1 exam. S

ACTL 482 REVIEW-SOA/CAS COURSE 2 1-3
Prereq.: ACTL 335 and permission of instructor. Review and extension of the principles of theory of interest, economics and finance as related to the material on the SOA/CAS Course 2 exam. $\mathrm{F}(\mathrm{o})$

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583 \text { i2/11/v }
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ACTL $¥ 83$ REVIEW-SOA/CAS COURSE 3
Prereq.: ACTL 466 (may be taken concurrently). Review and extension of the principles of actuarial models as related to the material on the SOA/CAS Course 3 exam. S(o)
$\begin{array}{rrr}58 & 12 / 1,\left(\begin{array}{c}10 \\ \text { ACTL } 484\end{array}\right. & \text { REVIEW }\end{array}$
Prereq.: STAT 425 (may be taken concurrently), $46^{7}, 475$. Review and extension of the principles of modeling, estimation and fitting of frequency, severity and survival distributions, regression. time series, forecasting and credibility theory as related to the material on the SOA/CAS Course 4 exam. S(e) ACTL 5 so Advarned Thes in AS.(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. $S(\mathrm{o})$

ANTH 422 NATIVE AMERICANS
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. $S(\mathrm{e})$

## 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
3
Prereq.: ANTH 140 or 170 or permission of instructor. A historical survey of major schools of thought in socio-cultural anthropology. Includes critical analysis of Evolutionist, Historicist, Functionalist, Structuralist, Interpretive and Marxist explanations with focus on post-1960s period. 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
Prereq.: Permission of instructor and written acceptance of sponsoring organization. Anthropologically-relevant work experience in an appropriate local, nation-
al or international venue. Includes consultation with faculty, analysis of related resources and preparation of final report. On demand.

ANTH 440 THE SUPERNATURAL
A study of 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 445 FOLKLORE AND MYTH 3
The characteristics, meanings and functions of myths, legends, heroic epics, fairy tales, animal fables, proverbs, riddles, toasts, jokes and graffiti. From the folklorist and anthropological perspectives. S(o)

## ANTH 450 ARCHAEOLOGICAL FIELD SCHOOL

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
$\begin{array}{ll}\text { ANTH } 451 & \text { FIELD SCHOOL IN CULTURAL } \\ & \text { ANTHROPOLOGY }\end{array}$
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 3

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 ISSUESPrereq.: 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. $\mathrm{F}(\mathrm{e})$

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 3
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 411 ROMAN ART

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

ART 412 ORIENTAL ART
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
Prereq.: ART 110,112 or 113. Historical development of painting, sculpture and architecture in America from the 17th century to the present.

## ART 416 MODERN ART

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

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 424 ILLUSTRATION III 3
Prereq.: ART 324. Topics in the development of individual media techniques.

ART 430 COLOR DRAWING
3
Prereq.: ART 230 or 252 or 431 . Advanced course in drawing using a painterly approach. Strengthening of individual direction through an exploration of space composition, color and surface in a variety of color drawing mediums. 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
Prereq.: Permission of instructor. Emphasis on development of an expressive use of line and value. Various materials used, including ink, pencil, conte 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
Prereq.: ART 343, graduate standing or permission of instructor. Continuation of Silkscreen I. F

## ART 450 ADVANCED WATERCOLOR PAINTING

 AND RELATED MEDIAPrereq.: 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.
$54 \% 4 \mid 16 / 01$
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.
520
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
Prereq.: 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

3
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
3

## 559

ART $\ddagger 69$
ADVANCED CERAMICS I
3
Prereq.: ART 468. Emphasis on skills in wheel use, glazing and firing techniques.
ART 490 CURATORSHIP
Theory and practice in collection management, gallery and museum programming and exhibition design. On demand.

ART 494 LOCATION STUDIES —ART 3 or 6
Direct contact with cultural resources internationally. Consideration of principles common to all arts and those unique to art and architecture. Field trips to exhibits, private collections, artists' ateliers, operas, and museums. Preparatory reading, discussion, critical analysis and concluding projects. SS

## ART 498 INDEPENDENT STUDY

Prereq.: 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 PROBLEMS IN ART EDUCATION

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]

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 460. Thesis-clay and glaze design used to express a statement in form.

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. 571

ADVANCED SCULPTURE II
Prereq.: ART 462 or equivalent. In-depth exploration of one or possibly two sculptural processes to be announced. IR

## 572

ART 563 ADVANCED SCULPTURE III
Prereq.: ART 562. Continuation of ART 562. IR
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ART 576 INDEPENDENT STUDY IN ART AND/OR ART EDUCATION
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 will be required for graduate credit in 400-level courses.

BIO 401 HUMAN NUTRITION AND METABOLISM
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122.
Biochemical and physiological processes that affect the nourishment of humans, including newborns and the aging. Interactions among nutrients, the environment and the body resulting in perturbations affecting human health are considered. $S(o)$ [c]

BIO 405
ECOLOGY
4
Prereq.: BIO 201 and 202, or permission of department chair. Distribution and abundance of different types of organisms and the physical, chemical and biological features and interactions that determine survival, growth and reproduction in changing environments. Ecological theory and quantitative analyses included in lecture and laboratory. Three hours of lecture and one three-hour laboratory per week. F [c]

B10 410 ECOLOGICAL PHYSIOLOGY
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. A study of animal physiology in which the diversity of physiological adaptations for various habitats is stressed. Three hours of lecture and one three-hour laboratory per week. $F(e)[c]$

## BIO 411 CELLULAR PHYSIOLOGY AND METABOLISM

Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. Cellular environment, some of the homeostatic mechanisms whereby the cell maintains a steady state. Structure of a cell in terms of its chemical composition and physicochemical and functional organization and certain aspects of cellular metabolism: permeability, respiration and energy metabolism, synthesis, and growth and differentiation. Specialized cellular functions such as excitation and contraction. Three hours of lecture and one three-hour laboratory per week. $S$ [c]

## BIO 412 HUMAN PHYSIOLOGY

Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. Study of the human body and its reactions to internal and external 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.: BIO 201 and 202, or permission of department chair. Introduction to the structure of the immune system, the immunoglobulins, antigen-antibody interactions, infection immunity, Iymphocytes, histocompatibility and genetic regulation. $S$ [c]

## BIO 417 IMMUNOLOGY LABORATORY

Prereq. or Coreq.: BIO 416. Introduction to the anatomy and histology of the immune system and an introduction to some immuno-chemical and immunodiagnostic laboratory techniques involving the principles of precipitation, agglutination and immunoelectrophoresis. One three-hour laboratory per week. S

## BIO 420 ORNITHOLOGY

Prereq.: BIO 201 and 202, or permission of department chair. 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 laborato-, ry period per week. $S(e)$ [c]

BIO 425 AQUATIC PLANT BIOLOGY
Prereq.: BIO 201 and 202, or permission of department chair. Ecology and classification of microalgae, macroalgae, and vascular plants from marine, estuarine, and freshwater environments. Laboratories and field trips include collection and identification of plants from Connecticut aquatic habitats. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. $F(e)[c]$

## BIO 434 ECOLOGY OF INLAND WATERS AND

 ESTUARIESPrereq.: BIO 201 and 202, or permission of department chair; CHEM 122. A comparison of freshwater and estuarine environments with emphasis on physical and chemical parameters influencing the distribution of aquatic organisms, nutrient cycling and factors affecting aquatic productivity. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. F(o) [c]

## BIO 436 ENVIRONMENTAL RESOURCES <br> \section*{AND MANAGEMENT}

Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122. Analysis of the interactions of human population-resource depletion-pollution at local to global scales from an environmental management/protection perspective. Emphasis upon better understanding the impacts of over-population and methods for control, significance and loss of biodiversity, aquatic pollution and global climate change. $S(e)[c]$

## BIO 438 AQUATIC POLLUTION

Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122. Study of the various types of aquatic pollutants, their sources and control/treatment, and the effects of water pollution upon aquatic ecosystems; as well as Federal and State water pollution regulatory programs. Laboratory will include field collection of water samples and measurement of indicators of water quality. Three hours of lecture and one three-hour laboratory per week. S(o) [c]

BIO 440 EVOLUTION
Prereq.: BIO 201 and 202, or permission of department chair. Mechanisms of inter-generational change including mutation, selection and drift; sexual selection; speciation; and extinction. IR [c]

## BIO 444 PLANT TAXONOMY

Prereq.: BIO 201 and 202, or permission of department chair. Scientific approach to identification and classification of locally occurring plants using taxonomic keys. Includes ferns, fern allies, conifers, and flowering plants with emphasis on the last. Field walks and plant collections required. Two hours of lecture and one three-hour laboratory per week. IR [c]

BIO 449 PLANT PHYSIOLOGY
3
Prereq.: BIO 201 and 202, or permission of department chair. Basic principles of plant function. Emphasis on the soil-plant-air continuum, phloem transport, photosynthesis and mechanisms of plant responses to the environment. IR [c]

## BIO 450 INVES̄TIGATIONS IN PLANT PHYSIOLOGY

Prereq. or coreq.: BIO 449 or permission of instructor. Investigative laboratory in plant physiology. Topics include water potential, transpiration, mineral nutrition, phloem transport, photosynthetic and respirational gas exchange, photosynthetic electron transfer, plant movements and plant hormones. One threehour lab per week. IR

## BIO 468 ARTHROPOD BIOLOGY

Prereq.: BIO 201 and 202, or permission of department chair. Systematic approach to arthropods with emphasis on insects. Topics in morphology, physiology, evolution, land economics, importance of various groups are considered. Three hours of lecture and one three-hour laboratory per week. IR

## BIO 480 ANIMAL BEHAVIOR

Prereq.: BIO 201 and 202, or permission of department chair. Adaptive functions, evolutionary history, control, and development of behavior in vertebrates and invertebrates. Laboratories focus on techniques of observation, experimental design and data analysis. Three hours of lecture and three hours of laboratory per week. $F(e)$ [c]

BIO 481 COMPARATIVE VERTEBRATE ANATOMY
Prereq.: BIO 201 and 202, or permission of department chair. Comparative anatomy and functional morphology of representative organ systems of vertebrates. Laboratories include dissection and study of preserved material of representative vertebrates. Two hours of lecture and two three-hour laboratories per week. IR [c]
Beek 4 a la Capstusue in Bisusynthesiss (3) BIO 490 STUDIES IN BIOLOGY 1-4
Prereq.: BIO 201 and 202, or permission of department chair. Selected studies in the biological sciences which are not offered presently in the curriculum of the department. Course may be repeated for different topics, but students may not take this course for credit under the same topic more than once. IR [c]


Prereq.: BIO 306 or permission of department chair. Introduction to the structure and function of DNA. Emphasis on approaches currently being used to analyze the expression of genes. Examination of regulated gene expression and its relationship to cellular growth and differentiation. Three hours of lecture and one three-hour laboratory per week. IR [c]
Bio 496 Capaslone
BIO 500 SEMINAR IN BIOLOGY 1-2
Prereq.: BIO 201, 202; or permission of department chair. Previously BIO 400.
Study of contemporary topics in biology through individual readings, discussions
and presentations. IR [c]
Bin 505 tualeculare Bio (4) 517 HUMAN ANATOMY, PHYSIOLOGY AND
BIO 517
Prereq.: BIO 201, CHEM 311 or 550; or permission of department chair.
Previously BIO 418. For students in the Biological Sciences: Anesthesia (M.S.) and Biological Sciences: Health Sciences Specialization (M.S.) programs. Functional anatomy, physiology and pathophysiology of man. Review of cell physiology is followed by in-depth study analysis of muscular, circulatory, nervous, respiratory, execretory and endocrine systems with special applications to the health sciences. SS [c]

Prereq.: BIO 412 or 517 (previously BIO 418). For students in anesthesia and health sciences; others require permission of anesthesia program çoordinator. A continuation of BIO 517 with emphasis on organ system physiology and pathophysiology. Cardiac, renal and respiratory systems will be stressed. S
BIO 528 is FHARMACOLOGY 5 fens of Ecelergy (3)
Prereq.: BIO 412 or 517 (previously BIO 418), and CHEM 550 (previously CHEM 450). For students in anesthesia and health sciences; orhers require permission of anesthesia program coordinator. A comprehensive investigation into the pharmacological agents and their utilization with relevance to the health sciences. Special considerztion given to pharmacodynamics.

Prereq.: Permission of department chair. Selected topics in the biological sciences. Lectures, seminars, discussions, independent readings, reports and laboratory work as appropriate for the topic will be utilized. Four credit hour offerings will include one three-hour laboratory per week. May be repeated with different topics. IR [c]

BIO 562 DEVELOPMENTAL BIOLOGY
Prereq.: BIO 306 or permission of department chair. Previously BIO 462. Structural and functional aspects of development of organisms are studied. Emphasis on cellular differentiation and primary morphogenesis. IR [c]

## BIO 570 ADVANCED GENETICS

Prereq.: BIO 306 or permission of department chair. Study of contemporary genetic research. Readings will be assigned from various texts and journals. IR [c]

## BIO 572 LABORATORY ROTATION IN CELL

 AND MOLECULAR BIOLOGY and molecular biology laboratories as an introduction to modern research methods. One hour of seminar and three hours of research per week. On demand. [c]4 BIO 590 RESEARCH PROBLEM 1-4
Prereq.: Written permission of instructor and department chair. Advanced projects or individual student research in biology under the supervision of one or more department members selected by the student and the graduate adviser. Written and oral research report required. May be repeated for a maximum of 6 credits. On demand.

## 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 3
Prereq.: MIS 201, MKT 295. Theory and practice of effective Internet research strategies. Exploration of current practices in Internet-based information system technologies. Examination of the Internet as a marketing medium for product distribution and promotion. IR

BUS 595 FIELD STUDIES IN INTERNATIONAL BUSINESS

1-3
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

## 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 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 3 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 524 ORGANIZATION AND ADMINISTRATION OF BUSINESS AND MARKETING EDUCATION

3 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. F [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 pereceding BE 599. IR

BE 599 THESIS
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 will be required for graduate credit in 400 -level courses.

## CHEM 406 ENVIRONMENTAL CHEMISTRY

3Prereq.: 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 pollutans. 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 presentatons 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. Two lectures per week. $S$

## CHEM 451 BASIC ORGANIC AND BIOCHEMISTRY LABORATORY

1
Coreq.: 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
1
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 biotransformaton 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
3
Prereq.: CHEM 322. Electronic structure and theories of bonding as they relate to the structures of inorganic compounds. Three lectures a week. F [c]

## 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 1-2

Prereq.: CHEM 460. Laboratory course concerned with the synthesis and characterization of inorganic compounds. One or two three-hour laboratory periods per week. S [c]

Prereq.: Permission of instructor. Advanced treatment of chemistry topics in analytical chemistry, inorganic chemistry, organic chemistry and physical chemistry. May be repeated with different topics for a maximum of 9 credits. Three

## CHEM 501 TOPICS IN ANALYTIC CHEMISTRY

Prereq.: Permission of instructor. Advanced course covering areas in analytical chemistry, including chromatographic, optical and X-ray methods. IR

CHEM 511 TOPICS IN ORGANIC CHEMISTRY
Prereq.: Permission of instructor. Introduction to advanced synthetic methodolo-
chemical reactions. IR

## CHEM 521 TOPICS IN PHYSICAL CHEMISTRY

Prereq.: Permission of instructor. Current topics in physical chemistry including symmetry and spectroscopy advanced computational methods. IR

CHEM 550 ORGANIC AND BIOLOGICAL CHEMISTRY
Prereq.: CHEM 122 and permission of instructor. Fundamentals of organic and biological chemistry in relation to human health including chemical and physical properties of organic molecules occurring in living systems. Topics include structure-function and acid-base concepts, overview of cellular metabolism, and enzyme kinetics. For nurse anesthesia and health science specialization students only. SS [c]

CHEM 551 TOPICS IN BIOCHEMISTRY
Prereq.: Permission of instructor. Advanced topics in biochemistry. IR.
CHEM 561 TOPICS IN INORGANIC CHEMISTRY
Prereq.: Permission of instructor. Advanced topics in inorganic chemistry including bonding, electronic structure, group theory, materials and other topics of current interest. IR

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

3
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 experimenal 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
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
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)
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## CHIN 476 CLASSICAL CHINESE II

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

 PRODUCTIONPrereq.: 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
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 500 INTRODUCTION TO GRADUATE STUDIES IN ORGANIZATIONAL COMMUNICATION
Introduction to the theoretical, mythological and philosophical perspectives that constitute the study of organizational communication. F

## COMM 501 THEORIES OF HUMAN COMMUNICATION WITHIN AN ORGANIZATIONAL CONTEXT

Prereq.: COMM 500. 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

Prereq.: COMM 500. Focus on the study of relationships among the manager the organization, and 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. S

## COMM 503 RESEARCH METHODS IN COMMUNICATION

Prereq.: COMM 500. 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

Prereq.: COMM 501. 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 505 SOCIAL AND BEHAVIORAL DIMENSIONS

 OF PERSUASIVE COMMUNICATION
## COMM 506 PRINCIPLES AND PROCESSES OF <br> COMMUNICATION CAMPAIGNS

3
Prereq.: COMM 505. Learning based, persuasion based, and social mobilization approaches to communication campaigns including strategic selection of receiver, message, channel, source factors, program management and evaluation. S

3 objectives as a requirement to measure the success of a campaign. Both quantitative and qualitative methodologies are explored. F

## COMM 512 COMMUNICATION AND CHANGE

Prereq.: COMM 500. 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

Prereq.: COMM 500. 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. $F(e)$
Cionne 542 \&ssbues in Comen. Law
COMM 543 INTERCULTURAL COMMUNICATION Prereq.: COMM 500. Study and critical examination of theories regarding how communication in and between multinational organizations must be modified to cope with cross-cultural differences. Such cross-cultural differences as those involved in conflict resolution, motivation and managerial styles and their communication implications may be considered. $\mathrm{F}(\mathrm{o})$

## COMM 544 STRATEGIES IN NEGOTIATION AND

 CONFLICT RESOLUTIONPrereq.: COMM 500. 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 551 POLICY ISSUES IN ORGANIZATIONAL AND MANAGERIAL COMMUNICATION

Prereq.: COMM 500. Examines communication's impact on decision-making, planning, organizational policy and ethics. S(e)

## COMM 562 COMMUNICATION AND HIGH-SPEED

 MANAGEMENTPrereq.: COMM 500. 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
Prereq.: COMM 500. Study of selected topics in organizational and managerial communication. May be repeated once with different topic. IR

COMM 590 INDEPENDENT STUDY 1-3
Prereq.: Completion of Communication Core or permission of instructor. Reading and research in an approved topic under the guidance of a faculty member in the Communication department. May be repeated with different topics for a maximum of six credits. On demand.

COMM 599 THESIS/ SPECIAL PROJECT
Prereq.: COMM 500. Preparation of the thesis or special project under the supervision of the thesis adviser.

## COMPUTER INFORMATION TECHNOLOGY

## CIT 599 INTEGRATIVE EXPERIENCE IN CIT <br> 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 <br> PROGRAMMING SYSTEMS

3
Prereq.: CS 355. Introduction to the theory, concepts and application of objectoriented programming as implemented in today's computing world. This course will include such topics as objects and messages, classes and inheritances, encapsulation and specification, and will present an overview of the currently popular object-oriented system. IR [c]

CS 423
COMPUTER GRAPHICS
3
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

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
3
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, reentrancy and recursion. IR [c]

CS 465
COMPILER DESIGN
3
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
Prereq.: CS 355. Theory and design of computer operating systems. Topics include machine and interrupt structure, memory, processor, device and information management. $S$ [c]
lem, 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 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 495 LEGAL, SOCIAL, ETHICAL AND ECONOMIC ISSUES IN COMPUTING
Prereq.: Permission of instructor. Topics include privacy, security, law of torts in computing, and legal protection of software. $S$ [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 500 COMPUTER SCIENCE FOR COMPUTER INFORMATION TECHNOLOGY

Prereq.: Permission of department chair and program coordinator. Concepts of computer science, including data representation, computational theory, architecture and instruction sets, operating system components and programming paradigms such as principles of control structures, object-oriented programming and Web-based languages.

CS 501 FOUNDATIONS IN COMPUTER SCIENCE I 3
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. $F(o)[c]$

## CS 550 TOPICS IN HUMAN-COMPUTER INTERACTION

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 APPLICATIONSPrereq.: 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 COMMUNICATIONS

3Prereq.: 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
Prereq.: CNSL 501. Supervised clinical experience designed to develop basic counseling skills with the integration of professional knowledge.

CNSL 504 PROFESSIONAL STUDIES IN COUNSELING 3
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.
CNS L Cone in ag Cheldien t Aolvel. 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 COUNSELING

Prereq.: 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 and 520, 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
Study of the principles and techniques in counseling multi-cultural students. Emphasis will be placed on the delivery of counseling services related to the particular needs and values of multi-cultural students.

CNSL 526 DEVELOPMENTAL GUIDANCE AND COUNSELING
Prereq.: 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 EDUCATIONPrereq.: Admission to the graduate program and/or permission of department chair. Overview of college student development, including characteristics of contemporary students. 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. $S$

CNSL 532 PROGRAM DESIGN IN STUDENT SERVICES 3 Prereq.: CNSL 530. Design of experiential education for adults in higher educaton, 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 <br> 12), <br> 1

Prereq.: CNSL $5628 \mathrm{r}^{6}$ 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 pecialists 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 571 MENTAL HEALTH COUNSELING

Prereq.: CNSL 501. Principles and practices for assessing, diagnosing, treating and preventing mental and emotional disorders. Includes general principles for promoting optimal mental health and human development. On demand.

CNSL 580 TOPICS IN COUNSELING
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.
May be repeated for a maximum of 6 credits.
CNSL 592 SUPERVISED INTERNSHIP IN HIGHER EDUCATION
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. May be repeated for a maximum of 6 credits.

## CNSL 594 SUPERVISED CLINICAL PRACTICEPROFESSIONAL COUNSELING

Prereq.: Permission of instructor. Supervised experience in community settings focusing on rehabilitation counseling, mental health counseling or substance abuse counseling. May be repeated for a maximum of 6 credits.

## 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

## CJ 501 PROSEMINAR ON THE NATURE OF CRIME 4

Prereq.: Admission to the Criminal Justice program or permission of department chair. Societal, legal and cultural definitions of criminal behavior, theories of crime causation and society's reaction to violation of law. Courses required as special condition for admission to the program must be completed or taken concurrently. F

CJ 510 PROSEMINAR ON LAW AND SOCIAL CONTROL 4
Prereq.: Admission to the Criminal Justice program or permission of department chair. 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. Courses required as special condition for admission to the program must be completed or taken concurrently. $S$

CJ 520 PROSEMINAR ON THE ADMINISTRATION OF JUSTICE
Prereq.: Admission to the Criminal Justice program or permission of department chair. 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. Courses required as special condition for admission to the program must be completed or taken concurrently. F

## CJ 525 PROGRAM PLANNING AND EVALUATION

Prereq.: CJ 501, 510, 520; or permission of instructor. 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 OFFENDER PROFILES

3
Prereq.: CJ 501, 510, 520; or permission of instructor. Provides students with the background and practical knowledge to identify different types of mental illness and personality styles most often encountered among offenders, including sociopathy, poor impulse control, addictive personality and poor management of anger and aggression. F

CJ 533
RESEARCH METHODS IN CRIMINAL JUSTICE
3
Prereq.: Admission to the Criminal Justice program or permission of department chair. Previously CJ 598. 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. Courses required
as special condition for admission to the program must be completed or taken concurrently. $S$

CJ 535 CORRECTIONAL COUNSELING 3
Prereq.: CJ 530 or permission of instructor. 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

3
Prereq.: CJ 533, completion of 21 credits of approved graduate study; or permission of internship 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.

## CJ 539 DELINQUENCY AND CONTROL

Prereq.: CJ 501, 510, 520; or permission of instructor. Study of juvenile delinquency from theoretical, conceptual and legal perspectives. Attention given to nature and extent of delinquency and suspected causes of youthful misbehavior. Policy issues, control initiatives, and relevant research are critically analyzed. IR

## CJ 570 LEADERSHIP AND SUPERVISION OF CRIMINAL JUSTICE ORGANIZATIONS

Prereq.: CJ 501, 510, 520; or permission of instructor. 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 ORGANIZATIONAL DEVELOPMENT AND EVALUATION OF CRIMINAL JUSTICE ORGANIZATIONS
Prereq.: CJ 501, 510, 520; or permission of instructor. 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

3
Prereq.: CJ 501, 510, 520; or permission of instructor. Survey of the major theoretical and empirical studies of public policy as they relate to criminal justice agencies, including policy analysis models; typologies of policy outcomes; agenda setting; and policy formulation, implementation and impact. IR

## CJ 599

THESIS
3
Prereq.: CJ 533, completion of 21 credits of approved graduate study; or permission of thesis 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 433 INDEPENDENT STUDY IN

 CRIMINAL JUSTICEPrereq.: Permission of instructor. Previously CJ 433. Readings and research in selected areas of criminal justice. Student must present a written study proposal to the instructor directing the research prior to registering for the course. May be repeated for a maximum of 3 credits. On demand.

## CRM 450 DRUGS AND SOCIETY

Prereq.: CRM 110 or SOC 110 or PSY 112, and CRM 222 or SOC 310 or PSY 221 or SW 374; or graduate status. Previously CJSC 450 and CRSC 450. Selected social issues relating to illegal drug use, including international and national drug trafficking, money laundering, drug enforcement, drug-related crime, prevention strategies and legalization. IR

CRM 475 CONTROLLING ANGER AND AGGRESSION 3
Prereq.: CRM 110 or SOC 110 or PSY 112, and CRM 222 or SOC 310 or PSY 221 or SW 374; or graduate status. Multi-disciplinary overview of theory and research on anger and aggression. Topics include the emotion of anger, theories of aggression and intervention strategies. IR

## DESIGN (GRAPHIC/INFORMATION)

Note: Additional work will be required for graduate credit in 400-level courses. Note: Students enrolled in the following courses will be assessed a $\$ 65$ Design Lab Fee: DES 436, 438, 439, 465, 498, 499, 503, 504, 598, 599. Contact the Department at 832-2557 for additional information.

DES 419 HISTORY OF DESIGN
Prereq.: Either ART 110, 112 or 113 . History and philosophy of design function and aesthetics. Topics include graphic design, industrial design and architectural design. $S$

DES 436 GRAPHIC/INFORMATION DESIGN III
Prereq.: DES 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 3
Prereq.: DES 322 and permission of instructor. Internship with professional graphic/information design organization. [c]

DES 438 GRAPHIC/INFORMATION DESIGN IV
Prereq.: DES 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 3
Prereq.: DES 322, successful Central Design portfolio revicw, 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 3
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 with different topics for a maximum of six credits. On demand. [c]

## DES 499 COMPUTER APPLICATIONS FOR GRAPHIC/

 325 INFORMATION DESIGNPrereq.: DES $3 \& 2$ 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
Prereq.: Admission to graduate program in Information Design or permission of program coordinator. Critical analysis of the purpose and evolution of graphic/information design theory, integrity and computer application. Includes problem solving. F [c]

DES 502 GRAPHIC/INFORMATION DESIGN THEORY II 3
Prereq.: DES 501 and admission to graduate program in Information Design. 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 3 Prereq.: DES 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 Prereq.: DES 503. Continuation of DES 503. Additional research and practice, portfolios and presentation development. $S$ [c]

DES 520 ADVANCED HISTORY OF DESIGN
3
Prereq.: DES 419 or permission of instructor. Advanced study of the history and philosophy of design. Topics include in-depth study of symbolic meaning, visual awareness as it applies to design, and the çreation of visual language in design. Des 5.37 Cedranced Mesign Lutennsinp (3) Prereq.: DES 419 or permission of instructor. Study of research methods unique to the professional practice of design. Includes discussion of issues pertaining to conceptual, visual and technological research specific to the design process. F [c]
 Prereq.: DES 503, completion of 21 credits offlanned program of graduate study, and approval of Design Thesis Committee. Preparation of the thesis project 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
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. $\mathrm{F}(\mathrm{o})$

ESCI 424 GEOMORPHOLOGY
Prereq.: ESCI 121. Origin and development of land forms in terms of processes of erosion and relation to geologic structure. Three lectures a week. $\mathrm{F}(\mathrm{o})$

ESCI 430 OCEANOGRAPHY
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 4

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.
$\csc ^{2} 5$
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
3
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

Prereq.: ESCI 598 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

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

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 sys-

3 tems, 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 3 employee organizations.

ECON 450 MONEY, CREDIT AND BANKING
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

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.

460 ECONOMIC FORECASTING
Prereq.: ECON 200, 201 and STAT104 or equivalent. Theory and use of such forecasting techniques as simple and multiple regression, seasonal adjustment, economic indicators, input-output and macroeconomic models. Emphasis will be given to economic applications and the use of the computer.

3 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 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

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. $S(\mathrm{o})$

## ECON 498 ADVANCED TOPICS IN ECONOMICS

Prereq.: ECON 200, 201 or permission of instructor. An examination of advanced selected topics in economics which are not otherwise offered as part of the Department's regular courses. Course may be repeated for different topics for a total of 6 credits.

## ECON 499 INDEPENDENT STUDY IN ECONOMICS 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 Technology, Reading, Special Education, Technology Education and Vocational-Technical Education.

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

ED 498 INDIVIDUAL STUDY PROJECT 2-6
Prereq.: Permission of department chair. Individual research open only to advanced students and experienced teachers. Systematic study of 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 1-3
Prereq.: Permission of faculty adviser. In-service experience designed to meet the specific needs of school personnel.

ED 511 PRINCIPLES OF CURRICULUM DEVELOPMENT 3
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 540 EDUCATIONAL MOTIVATION AND THE LEARNING PROCESS

Multidisciplinary 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

ED 598 RESEARCH IN EDUCATION 3
Students will construct hypotheses in education, design a pilot study and/or 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.

## EDUCATION - EARLY CHILDHOOD

Note: Additional work will be required for graduate credit in 400 -level courses.
EDEC 413 PRINCIPLES OF EARLY CHILDHOOD EDUCATION

3
Prereq.: Admission to the Professional Program. Theoretical principles of developmentally appropriate programs for young children. Implications for practice in inclusive classrooms. Organizing and managing the environment. Facilitating play and active learning. Roles of child, teacher and family. Field experience required. 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 CHILDHOODPrereq.: 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 Field Experiences. Student teachers in early childhood placements are expected to work with teachers and children in professional activities. Placement culminates with student teachers assuming 3 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 3

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. F(e)

## EDEC 551 PROGRAMS AND CURRICULA IN

 EARLY CHILDHOOD EDUCATION IPrereq.: 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. Examination of comprehensive community and governmental support systems for children and families. $S$

## EDEC 554 OBSERVATION AND ASSESSMENT IN EARLY CHILDHOOD EDUCATION

Prereq.: EDEC 552 and matriculation in graduate program. Study of appropriate assessment of young children's development and progress and their relationship to child-centered 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. $F(o)$ Educ 541 delm in canly chil el hurod 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 422 ELEMENTARY EDUCATION GENERAL METHODS
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 <br> 9

Prereq.: Permission of the Director of Field Experiences. Student teachers in elementary schools work with teachers and children in professional activities. Placement culminates with student teachers assuming responsibility for planning and implementing units of instruction and developing classroom leadership. Full semester of field based work is required. Taken concurrently with Cluster 6 courses. Not for credit in graduate degree programs.

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

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 UNDERSTANDINGPrereq.: 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. $S$ Éclel 512 assessment if Iaciranioig
ogram and successful comple Prereq.: Acceptance to Elementary Education program and successful comp Analysis of instructional practices and their effects on learners. Diverse perspectives are analyzed, including selected conceptual frameworks, effective teaching, literature, 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 537 SOCIAL STUDIES METHODS (1-6)
Prereq.: Teacher certification or permission of instructor. Examines social studies as taught in elementary classrooms, considering both content and process.
Approaching material from multiple perspectives, students will design develop-mentally-appropriate instruction. 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

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

## EDM 414 OVERVIEW OF MIDDLE LEVEL PROGRAMS AND PRACTICES

Prereq.: Admission to the Professional Program and EDTE 315. Middle level programs and practices and how they relate to the physical, social, emotional, intellectual and moral development of adolescents in classroom, school and community contexts. Taken concurrently with EDTE 420. 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
Prereq.: Permission of the Director of Field Experiences. Student teachers in middle schools work with teachers and children in professional activities. Placement culminates with student teachers assuming responsibility for planning and implementing units of instruction and developing classroom leadership. Full semester of field based work 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 Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public middle school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations.

## EDSC 415 STUDENT TEACHING

(TECHNOLOGY EDUCATION)
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of Field 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 - ELEMENTARY MUSIC EDUCATION

Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of Field Experiences. Eight-week period in the last semester spent in a music education department of a public elementary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with children.

EDSC 421 STUDENT TEACHING - SECONDARY MUSIC EDUCATION
Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of Field Experiences. Eight-week period in the last semester spent in a music education department of a public secondary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with youth.

EDSC 425 PRINCIPLES OF SECONDARY EDUCATION
Prereq.: EDSC 256 or EDTE 315; admission to the Professional Program in Teacher Education. General methods of instruction in the middle and high school classroom, including curriculum planning, evaluation and the responsibilities of the teacher in the $7-12$ classroom. Not for credit in graduate degree programs.

EDSC 435 SECONDARY EDUCATION STUDENT TEACHING 9
Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of Field Experiences. Experiences in classrooms of public secondary schools where the student demonstrates the ability to conduct secondary school learning activities and to work effectively with adolescent youth. 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. $\mathrm{F}(\mathrm{e})$

## 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(e)

## EDSC 582 SUPERVISION OF SECONDARY

 SCHOOL TEACHINGSupervised 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. $S(\mathrm{o})$

## EDUCATION - TEACHER EDUCATION

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

## EDTE 420 PRACTICUM IN ELEMENTARY EDUCATION II I

Prereq.: Admission to the Professional Program of Teacher Education, EDTE 320. Taken concurrently with EDEL 415 and RDG 412. Forty-five to 60 hours of on-site experience (two visits per week during regular school hours).
Emphasizes teaching experience in an assigned public school setting appropriate to certification level. Includes related seminar. May be repeated for a maximum of two credits with permission of department chair.

## EDTE 430 TOPIC SEMINAR IN LEADERSHIP AND LEARNING COMMUNITIES

Prereq.: Admission to the Professional Program. Previously ED 430. 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.
Edte 502 Form in ilemes
EDTE 510 METHODS OF INQUIRY INTO PEDAG@GY AND LEADERSHIP IN DIVERSE COMMUNITIES
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 stratcgies for teachers and teacher empowerment and leadership.

EDTE 530 INTERNSHIP IN PEDAGOGY AND LEADERSHIP I
Prereq.: Admission to either the full-year Post-Baccalaureate cirtification 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. $S$

## EDTE 540 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. Previously ED 530. 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.

## 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 3
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 SCHOOLSPrereq.: 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

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. $F$

## EDF 524 FOUNDATIONS OF CONTEMPORARY

## THEORIES OF CURRICULUM

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. $\mathrm{F}(\mathrm{e})$

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. F

## 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 3
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. SS

## EDF 597 SUPERVISED READINGS IN HISTORY 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

3
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
3
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 555 LEADERSHIP FOR CULTURALLY DIVERSE SCHOOLS

Study of leadership roles and strategies for developing a positive school climate for diverse cultural and racial groups in urban/suburban schools.

## EDL 590 LEADERS AS LEARNERS: EDUCATIONAL LEADERSHIP AND SELF-ASSESSMENT

Prereq.: Master's degree, three years teaching experience, application to the Sixth Year Certificate program; or permission of department chair. Discussion of selfawareness as the cornerstone of effective leadership. Exploration of State and national standards, learning and leading styles, the impact of cultural and experiential background, and values and beliefs concerning educational leadership. $F$ [c]

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 605 LEADERSHIP IN TEACHING AND LEARNING I 3
Prereq.: Admission to the Sixth Year Certificate program. Study of leadership in the teaching and learning process. Focus on supervision of instruction, classroom assessment strategies, and working with diverse learners. Required 35-hour onsite field experience in an urban pubic school (Sixth Year Certificate students) or research component. F [c]

EDL 610 SCHOOL LEADERSHIP I
Prereq.: Admission to the Sixth Year Certificate program. Emphasis on enhancing students' repertoire of knowledge, skills and attitudes in identifying educational problems and making informed decisions. Required 35-hour on-site field experience in a rural public school setting. F [c]

EDL 611 SCHOOL LEADERSHIP II
Prereq.: EDL 610. Continuation of EDL 610. Includes a second 35-hour on-site field experience in a rural public school setting. $S$ [c]

## EDL 615 UNDERSTANDING EXTERNAL ENVIRONMENTS OF SCHOOL LEADERSHIP I

Prereq.: Admission to the Sixth Year Certificate program. Knowledge and skills for political and community leadership, including policy development, resource allocation, ethical and legal obligations, risk management and contract negotiation.
Required 35-hour on-site field experience in a suburban public school setting. F [c]

## EDL 616 UNDERSTANDING EXTERNAL ENVIRONMENTS OF SCHOOL LEADERSHIP II

Prereq.: EDL 615. Continuation of EDL 615. Includes a second 35-hour on-site field experience in a suburban public school setting. $S$ [c]

EDL 617 PERSONNEL AND PROGRAM EVALUATION 3
Study of current principles and procedures for the evaluation of school programs and personnel.

EDL 634 SEMINAR IN CURRICULUM DEVELOPMENT 3
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 3
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 640 THE PRINCIPALSHIP
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 652 ADVANCED TOPICS IN EDUCATIONAL LEADERSHIP

1-3
Prereq.: Admission to the Sixth Year Certificate or Ed.D. program, and permission of instructor. Seminar addressing a specific topic in organizational leadership for educational settings. May be repeated for a total of 6 credits. IR [c]

EDL 680 EDUCATIONAL PLANNING
Prereq.: Admission to the Sixth Year Certificate program, EDL 606 and permission of instructor. Conceptual and practical methods of decision making within an educational setting to identify, align, assess and modify organizational resources to achieve institutional goals. Emphasis on the comprehensive use of institutional data to build budgets and planning procedures. $S$ [c]

EDL 690 INTERNSHIP IN EDUCATIONAL LEADERSHIP I: THEORY AND PRACTICE

2
Prereq.: Admission to the Sixth Year Certificate program, and completion of 18 credits in planned program or permission of instructor. Part one of a supervised administrative internship in an organizational setting where interns apply strategic, instructional, organizational and contextual leadership skills. Students initiate their action plan and professional portfolio. F [c]

EDL 691 INTERNSHIP IN EDUCATIONAL LEADERSHIP II: RESEARCH AND PRACTICE
Prereq.: EDL 690. Part two of a supervised administrative internship in an organizational setting where interns apply strategic, instructional, organizational and contextual leadership skills. Students will complete their professional portfolio. S [c]

## EDL 697 READINGS AND CONFERENCE

Prereq.: Admission to the Sixth Year Certificate program and permission of Department Chair. Individual or small group directed study of a specific topic under the supervision of a faculty member. May be repeated with different topics for a total of 6 credits. IR [c]

## 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, S. 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 I

3
Prereq.: 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. F [c]

## EDT 531 INTERACTIVE MULTIMEDIA FOR INSTRUCTION II

3
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
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. $S$ [c]


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. SS [c]

## ENGINEERING TECHNOLOGY

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

## ET 405 APPLIED STRUCTURAL SYSTEMS

Prereq.: ET 251, TC 356; or permission of instructor. Introduction to strength of materials, structural analysis and the structural design process for the construction manager or architect. Includes review of current structural steel and reinforced concrete design specifications and building code requirements. Cannot be used for credit in ET programs. S

## ET 422 COMPUTER SYSTEMS AND INTEGRATION

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 441 ADVANCED GEOMETRIC DIMENSIONING

 AND TOLERANCINGPrereq.: STAT 104, ET 340; or permission of instructor. Advanced concepts and applications of ANSI and ISO GD\&T standards. Analysis and calculations of tolerance distribution, fits, part interchangeability, combined tolerances, gage tolerances, measurement uncertainty budget, geometrical deviations measurements, statistical tolerancing, and the six-sigma design concept. IR

ET 451 SOIL MECHANICS AND FOUNDATIONS 3
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. F

## ET 454 INTRODUCTION TO <br> TRANSPORTATION ENGINEERING

Prereq.: TC 353. Study of the planning, design, environmental concerns addressing, construction and maintenance of transportation projects using new and rehabilitated highway and bridge projects as focus points for lecture and laboratory work. F

## ET 458 GPS MAPPING FOR GIS

Prereq.: TC 35.3 or GEOG 378 or permission of instructor. Use of the Global Positioning System (GPS) to collect information for use in a Geographic Information System (GIS). Includes integration of vector and raster data sets with GPS data. Hands-on use of equipment is emphasized. [c]

## ET 460 COMPUTER AIDED DESIGN AND MANUFACTURING (CAD/CAM)

Prereq.: ET 260, 251 (previously ET 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
Prereq.: MATH 115, CHEM 121, and PHYS 121. Analytical study of the nature 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 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

ET 464 CAD SOLID MODELING AND DESIGN
3
Prereq.: ET 251, 260, 340; or permission of instructor. Computer-aided design and analysis of solid, surface and sheet metal models emphasizing product design. Uses computer software for design, detailing, mass property analysis, dimensional standards, and family tables. Two hours of lecture and one two-hour laboratory per week. $S$ [c]

## ET 466 DESIGN FOR MANUFACTURE

Prereq.: ET 260, 340 (previously ET 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
3
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. F

ET 471 REINFORCED CONCRETE STRUCTURES
3
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. $S$

## ET 472 TIMBER STRUCTURES

Prereq.: ET 397. Study of the physical propertics 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. $S$

## ET 475 HYDROLOGY AND STORM DRAINAGE

Prereq.: TC 122, ET 252 and 354; or permission of instructor. Engineering topics pertaining to the hydrological cycle. Computational techniques and the use of application software for analysis of rainfall and runoff. Design skills for stormwater mitigation will be applied to course project. $S$ [c]

## 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. $F$

## ET 497

## ENGINEERING ECONOMY

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. F. S, SS

## ET 500 TOPICS IN ENGINEERING TECHNOLOGY

Prereq.: Permission of instructor. Selected topics in engineering/technical appli-
cations. 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 CELL DESIGN
Prereq.: TC 416, IT 480 and either ET 251 (previously 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
3
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, pseu-do-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

Prereq.: ET 357 and 464, or permission of instructor. Application of the finite


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 gov-
 EXPERIMENTS
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 conducted under the supervision of project adviser. Written and oral defense of project required. On demand. [c]

ET 599 THESIS
3
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
3
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.) IR

ENG 418 STUDIES IN JOURNALISM
Prereq.: ENG 235 or 236 or permission of instructor. Selected topics in journalism. Students may take this course under different topics for a maximum of 6 credits. (Not applicable to M.A. or M.S. in English programs.) IR

## ENG 420 TEACHING ENGLISH IN SECONDARY SCHOOLS

Prereq.: ENG 402 and acceptance into the Professional Program of Teacher Education. Methods and materials for teaching English language and literature. Includes 30 hours of guided observarions in middle and high school classrooms.

## ENG 430 STUDIES IN LINGUISTICS AND THE

 ENGLISH LANGUAGESelected 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. 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.

ENG 450 CHAUCER
3
Readings in Chaucer, with special emphasis on The Canterbury Tales and Troilus and Criseyde. IR

ENG 451 MILTON
3
Readings in Milton's prose and poetry with emphasis on Paradise Lost and
Samson Agonistes. IR
ENG 458 STUDIES IN BRITISH LITERATURE
3
Selected topics in British Literature. Students may take this course under different topics for a maximum of 6 credits.

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 464 RESTORATION AND 18th CENTURY DRAMA 3
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
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
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

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. 3 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 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.
3 Major authors and illustrators included. (May be applicable to M.S. Program see graduate adviser.)

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
3 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
Prereq.: ENG 496. 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

Characteristics and organization of sound systems of languages. Special attenton 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

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
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
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 langage. 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. $F$

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. $F$

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.
Eng \$90 Thaduat, Tutorial

## FINANCE

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

## FIN 400 ADVANCED MANAGERIAL FINANCE <br> 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 decisons and financial structure of the firm. F [c]

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Prereq.: Permission FINANCE SEMINAR
instructor. Course content varies. F

## FIN 499 CPA 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

FIN 541 INTERNATIONAL FINANCIAL MANAGEMENT 3
Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 541. 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.

## FIN 542 MANAGERIAL FINANCE

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 542. 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

FIN 549 CURRENT TOPICS IN FINANCE 1-3
Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 549. Financial issues in multinational firms and/or international finance markets. Topics vary to reflect conditions in the field. May be repeated with diffferment topics for a maximum of six credits.

## FINE ARTS

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

## FA 490 INTEGRATING THE FINE ARTS FOR

 THE YOUNG LEARNERPrereq.: 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
3
Prereq.: Permission of instructor. Taught in French. Open only to non-native speakers of French. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. F

FR 451 THE STRUCTURE OF MODERN FRENCH 3
Prereq.: Permission of instructor. Taught in French. Assists in the improvement of all aspects of oral expression. Includes study of the sound system, description of word forms, and analysis of syntactic structures. Intensive practice in pronunciation. IR

FR 460 ADVANCED GRAMMAR AND COMPOSITION
Prereq.: FR 336 or permission of instructor. Taught in French. Written expression of French, particularly in idiomatic-free composition, designed to develop the ability to express shades of meaning. Comprehensive study of French grammar and levels of style. Use of translation from English. S(e)

573
FR $4 \times 1$ 20TH CENTURY FRENCH LITERATURE
Prereq.: FR 302, 336, and permission of instructor. Taught in French. Major works and movements of 20th century literature from Surrealism to PostModernism. F(e)

## FR 472 STUDIES IN FRENCH CULTURE

Prereq.: FR 302, 336, and permission of instructor. Taught in French. Major cultural developments in post-war and contemporary France. Emergence of new forms of self expression, including the New Novel, dialogue between "high" and "low" culture, and minor genres. Emphasis on the mass media. S(o)

FR 510 MEDIEVAL AND RENAISSANCE

## FRENCH LITERATURE

3
Prereq.: Permission of instructor. Taught in French. Culture, language and literature from the 9 th through the 16 th centuries and their relation to contemporary society. $\mathrm{F}(\mathrm{o})$

FR 561 TOPICS IN FRENCH LITERATURE 3
Prereq.: Permission of instructor. Taught in French. Detailed study of literary figure, movement, or theme. Subject matter will vary from semester to semester.
May be repeated with different topics for a maximum of 6 credits. IR
 AND CULTURE
Prereq.: Permission of instructor. The main currents of 17 th century thought in literature, the arts and the sciences, with emphasis on the evolution of classicism. S(e)
553
FR 581
Prereq.: Permission of instructor. Taught in French. Major literary currents and works of the 19th century, with emphasis on the Romantic and Symbolist poetry, and the Realist and Naturalist novel. F(e)

## FR 588 CONTEMPORARY SOCIETY IN THE

 FRANCOPHONE WORLDPrereq.: Permission of instructor. Taught in French. Contemporary societies, institutions, traditions and values in the Francophone world, with emphasis on France. S(o)

## FR 599

THESIS
3
Prereq.: 21 credits of approved graduate study and permission of adviser. Preparation of the thesis under the supervision of the thesis adviser. On demand.

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. $\mathrm{F}(\mathrm{o})$

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. $\mathrm{F}(\mathrm{e})$

## 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 on-site 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 (o)

GEOG 441 COMMUNITY AND REGIONAL PLANNING
Philosophies, theories, and principles involved in planning of regions and urban areas. F

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(e)

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 his-
torical context. Examination of Russia's relationship with Central Asia, East Asia, Eastern Europe and the EC. F(e)

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

Study of the tourism industry, including perspectives on supply, demand and socioeconomic impacts. Focus on issues, problems and opportunities in tourism, including functions of state and regional tourism agencies in southern New England. S(e)

## 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

解 the supply, location distribution, use, planning, management and impact of recreation facilities in both urban and rural situations. $S$

## 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. S

## 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 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. May be repeated with different topics for a maximum of 6 credits. F

## GEOG 473 GEOGRAPHY OF NATURAL RESOURCES

Prereq.: GEOG 110 or permission of instructor. Examines the definition, location and evaluation of natural resources, their human exploitation and management. Focus on management strategies and cost benefit analyses of environmental degradation associated with resource use. Examples illustrated with GIS and remote sensing techniques. $S(\mathrm{o})$

## GEOG 476 COMPUTER CARTOGRAPHY

Prereq.: GEOG 256 or 276 or permission of instructor. Use of statistical packages to process data for cartographic purposes. Familiarization with major computer mapping programs. Hands-on experiences emphasized. No knowledge of computer programming required. F [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 [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. May be repeated with different topics for a maximum of 6 credits. 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. $S$

GEOG 500 GRADUATE STUDIES IN GEOGRAPHY
Prereq.: Permission of adviser. History and philosophy of geographic thought with emphasis on current research trends in physical and human geography. F

## GEOG 514 STUDIES IN SYSTEMATIC GEOGRAPHY

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

3
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 530 GRADUATE INTERNSHIP IN GEOGRAPHY
Prereq.: Two graduate courses in geography and permission of adviser. Site-based internship. Work in an environment directly related to the planned program of study under the supervision of a geography faculty member. Written reports and plan of activity required. On demand.

## GEOG 542 GRADUATE FIELD METHODS IN GEOGRAPHY

Prereq.: 3 credits of graduate study or permission of instructor. Advanced field research in physical and human geography. Team and individual research projects. $\mathrm{F}(\mathrm{o})$

## GEOG 559 ADVANCED FIELD STUDIES IN

 REGIONAL GEOGRAPHY3 or 6
Prereq.: Permission of graduate adviser. On-site group studies in regional geography. Normally involves travel outside the United States. SS

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
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 491 INTRODUCTION TO CARE/CASE MANAGEMENT 3

Prereq.: Permission of instructor. Introduction to the concepts and practices of care/case management. On demand.

## HHSP 492 CLINICAL IMPLEMENTATION OF

 CARE/CASE MANAGEMENTPrereq.: HHSP 491 or permission of instructor. Clinical course designed to introduce health care professionals to the delivery of care/case management services. On demand.

## HHSP 493 PROFESSIONAL ISSUES IN

 CARE/CASE MANAGEMENTPrereq.: HHSP 491 or permission of instructor. Ethical and legal aspects of care/case management. On demand.

HHSP 494 INTRODUCTION TO HOSPICE CARE 3
Prereq.: Permission of instructor. Introduction to the concepts and practices of hospice care. On demand.

HHSP 495 CLINICAL IMPLEMENTATION OF HOSPICE CARE 3
Prereq.: HHSP 494 or permission of instructor. Clinical course designed to introduce health care professionals to the delivery of hospice care. On demand.

HHSP 496 PROFESSIONAL ISSUES IN HOSPICE CARE
Prereq.: HHSP 494 or permission of instructor. Ethical and legal aspects of hospice care. On demand.

HHSP 500 TOPICS IN HEALTH AND HUMAN SERVICES 1-3 Prereq.: Permission of instructor. Selected studies in health and human services which are not currently offered in the standard curriculum of the department. May be repeated with different topics for a maximum of 9 credits. IR

## HISTORY

Note: Additional work will be required for graduate credit in 400 -lcvel 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

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
Political, social and economic development from 1800 to 1850 with special emphasis on the development of party systems. $F$

HIST 426 THE UNITED STATES, 1850-1896
The US from the Compromise of 1850 to Plessy v. Ferguson (1896): Civil War, Reconstruction and the shift of public concern to problems of industrialization, urbanization and immigration. $S$

HIST 427 THE UNITED STATES, 1890-1933
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
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 $18^{7} 0$ and 1920 will be considered. S(o)

HIST 431 ANCIENT NORTHEAST AFRICA 3
Aspects of the history and legacies of ancient northeast Africa with focus upon Nubia, Egypt and Aksum. IR

HIST 433 HISTORY OF ANCIENT GREECE 3
Greek institutions from Mycenean period to accession of Constantine. F
HIST 434 HISTORY OF ANCIENT ROME 3
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 3
The Crusades to the Great Schism. S(o)
HIST 441 RENAISSANCE AND REFORMATION 3
History of Europe during the Age of Transition and the Era of Religious Wars, 1300-1648. F(e)

HIST 442 EUROPEAN HISTORY, 1650 TO 18153
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 Europcan philosophic, social, and political thought. Topics covered include Irrationalism, Aestheticism, Neo-positivism, Existentialism and Fascism. S(e)

HIST 447 HISTORY OF THE SOVIET UNION
Study of the rise and fall of Soviet Communism, 1917-1991. IR

## HIST 448 STALIN AND STALINISM

Historical study of Stalin and Stalinism stressing multi-disciplinary perspectives, considered in the light of the collapse of the Soviet Union. IR

HIST 453 HISTORY OF MODERN CHINA
China during late Ch'ing, Republican and Communist periods. F
HIST 454 HISTORY OF MODERN JAPAN
3
Japan during the 19 th and 20 th 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. F(o)

## HIST 457 THE FAMILY IN CHINESE HISTORY

Prereq.: HIST 351 or permission of instructor. Study of family structure and organization in Chinese history with special attention to the Confucian paradigm. Topics include the family and the state; men, women and children in the family; and the family as an economic unit. F

## HIST 458 UNITED STATES SECTIONALISM:

 THE CLASH OF CULTURESHIST 460 AFRICAN ENSLAVEMENT IN THE AMERICAS 3
Comparative history of slavery in Latin America, the Caribbean and the United States from 1492-1888. F(o)

## HIST 463 CONSTITUTIONAL HISTORY OF THE <br> UNITED STATES TO 1900

Study of nation's fundamental law as influenced by political, economic and social forces. $\mathrm{F}(\mathrm{e})$

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
3
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
3
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
3
History of the Arab-Israeli conflict from the time of Israel's creation as a modern nation-state until the present. $S$

## HIST 476 AFRICAN HISTORY THROUGH FILM

Africa's past and present are viewed through a series of movies and intensive scholarly discussion of selected topics and themes. Readings are derived from current scholarly research on the various issues discussed. IR

HIST 479 HISTORY OF POLAND: FROM THE
PIASTS TO PARTITION, 966 to 1795
3
Previously HIST 350. The medieval Kingdom, the Polish Lithuanian Commonwealth and the Partitions. F(o)

## HIST 480 MODERN POLAND

3
Examination of the course of modern Polish history, including the restoration of independence in 1918, World War II, communist rule, Solidarity and the recovery of sovereignty in 1989. $\mathrm{F}(\mathrm{e})$

HIST 481 THE JEWS OF POLAND
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 COMMUNITY
Prereq.: HIST 262 or permission of instructor. Topics include immigration and settlement in the United States, organizational infrastructure, heroes and myths, homeland politics and national consciousness, labor, class, ethnicity, cultural assimilation and political integration, and stereotypes and ethnic identity. S(o)

HIST 483 HISTORY OF INTER-AMERICAN RELATIONS 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

Historical examination of the forms and strategies employed in business in America. S(o)

## HIST 489 AMERICAN LABOR HISTORY

3
3 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.: Six credits of 400 -level History courses or permission of Department Chair. Individual program of studies for students with special interests and abilities. Topics vary from semester to semester. May be repeated once. Not more than three credits to be taken in one semester. On demand.

## HIST 495 HISTORIOGRAPHY

3
Study of historical schools of thought and how historians develop new theories regarding the past. Also focuses on historical methodology and use of primary sources. S

HIST 497 TOPICS IN HISTORY
Historical focus on a facet of history in order to help clarify current domestic and/or world developments. May be repeated with different topics for up to 6 credits.

ALL 500-LEVEL COURSES REQUIRE PERMISSION OF INSTRUCTOR
 HIST 532 STUDIES IN ANCIENT GREEKAND ROMAN CIVILIZATION
 HIST 540 SEMINAR IN EUROPEAN HISTORY 3 or 6
 HIST 542 SEMINAR IN MODERN RUSSIAN HISTORY
Selected topics in 19th- and 20th-century Russia with emphasis on multinational developments. $S(0)$
HIST 550
SEMINAR ON CHINA IN THE NINETEENTH CENTURY
China as she sought to make the transition from a traditional to a modern state. $\mathrm{F}(\mathrm{e})$ beit. 545 thit simet Ofme: (3)
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 565 SEMINAR IN 17th and 18th CENTURY AMERICA
3
Topics in 17th- and 18th-century American history. IR
HIST 566 CIVIL WAR AND RECONSTRUCTION IN THE UNITED STATES
Topics and themes of the Civil War and Reconstruction eras in the United States. F(e)

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

Study of major waves of immigration into United States in 19th and 20th cen-


## 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. IR

## HIST 598 RESEARCH IN HISTORY

Prereq.: Thirty credits in History, including HIST 593. 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 and second reader.

## HUMANITIES

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

## HUM 490 CULTURE AND CIVILIZATION OF OTHER LANDS 3

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 will be required for graduate credit in 400 -level courses.

## IT 402 TOPICS IN TECHNOLOGY 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 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 412 PRINCIPLES OF OCCUPATIONAL SAFETY 3

Development of internal policies of a plant in an accident prevention program for its employees. Topics include safety training, job safety analysis, accident investigation, safety promotion and record keeping. On demand.

## IT 414 INDUSTRIAL LOSS CONTROL MANAGEMENT 3

Loss control philosophy and techniques. Background information and specific techniques required to develop and implement an effective company-wide and on-site loss control program, personnel responsibilities and total safety program. S

IT 415 FIRE PROTECTION AND PREVENTION 3
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. $S$ construction environment with emphasis on the day to day activities of the construction safety coordinator. S

IT 432 WORKER/SUPERVISOR RELATIONS 3
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

## 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 3

Course deals scientifically with analytical and creative problems affecting time. It covers the principles of methods design and work measurement. The student acquires skill in using motion study techniques and learns how to establish standards. Applications to product design, machine and tool design, process planning, production scheduling, plant layout, budgeting, sales prices, manpower requirements, wage incentives and methods improvement are studied. S

IT 464 CONTINUOUS PROCESS IMPROVEMENT
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 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 flexible automata. The course emphasizes features, capabilities, programming, selection and implementation of industrial robots. F, SS [c]

IT $490 \quad$ QUALITY BY DESIGN
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 3
Prereq.: TC 113 or permission of instructor. Use of the computer as an industrial tool to enhance productivity. Topics include time compression technologies with groupware, CAD, virtual reality, analysis, rapid prototyping, CAM, robotics and design verification. F

IT 501 APPLIED NETWORKING TECHNOLOGY
Prereq.: TC 113 or permission of instructor. Function and capacities of LAN/WAN networks including design concepts of HTTP servers. S [c]

## IT 502 HUMAN RELATIONS AND BEHAVIOR IN COMPLEX ORGANIZATIONS

Analysis of human relations in technological organizations, including motivation, corporate processes, communication and power.

IT 510 INDUSTRIAL PLANNING AND CONTROL 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 PROFESSIONAL
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]

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
Application of the techniques and tools to manage each state of the project life cycle within the organizational and cost constraints. Utilize project management $\mathcal{L}^{\text {tools }}$ to set goals fied to needs for successful project management. $S$ [c]
IT $563 \times \operatorname{Gistice}$ \&ssum ( 37
IT 564 QUALITY SYSTEMS MANAGEMENT
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 3
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
3
Prereq.: Permission of adviser. Preparation of thesis under the supervision of thesis adviser. On demand.

## IT 598 RESEARCH IN TECHNOLOGY

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

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
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

## IB 511 CONTEMPORARY ISSUES IN

 INTERNATIONAL BUSINESSPrereq,: Admission to MBA program or permission of MBA director. Previously BUS 511. General introduction to the field of international business with special emphasis on contemporary economic, political, regulatory, ethical and socio-cultural environments. IR [c]

## 3 INTERNATIONAL STUDIES

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

## IS 450 INTERNSHIP IN INTERNATIONAL

## STUDIES

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
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 3
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
Prereq.: Instructor's permission. Taught in Italian. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. 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 $470 \quad 14 T H$ CENTURY ITALIAN LITERATURE
Prereq.: ITAL 304 or permission of instructor. Study of the period with special emphasis on Dante, Petrarca, Boccaccio. On demand.

ITAL 476 16TH CENTURY ITALIAN LITERATURE
Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Major works of Italian renaissance. On demand.

## ITAL 488 ITALIAN LIFE AND CULTURE

Prereq.: Permission of instructor. Discussion of contemporary Italian society, raditions and values. On demand.

ITAL 561 TOPICS IN ITALIAN LITERATURE
Prereq.: Permission of instructor. Taught in Italian. Study of selected Italian literary works, authors, themes and movements. May be repeated with different topiss for a maximum of 9 credits. On demand.

## ITAL 571 20TH CENTURY ITALIAN LITERATURE

Prereq.: Permission of instructor. Previously ITAL 471. Taught in Italian. Representative authors and literary movements of the 20th century. IR

ITAL 588 TOPICS IN ITALIAN CULTURAL STUDIES
Prereq.: Permission of instructor. Taught in Italian. Selected topics in Italian curtural history, media studies, social and demographic changes, gender issues and film analysis. May be repeated for a maximum of nine credits. IR

## ITAL 599 THESIS

Prereq.: Fifteen credits of approved graduate study and permission of graduate adviser. Preparation of thesis under the supervision of thesis adviser. On demand.

## LAW

## LAW 522 LEGAL ASPECTS OF BUSINESS AND

 INDUSTRIAL ORGANIZATIONSPrereq.: Admission to MBA program or permission of MBA director. Previously BUS 522. 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

LAW 584 GLOBAL BUSINESS ENVIRONMENT
Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Previously FIN 584. 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

## MANAGEMENT

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

## GT 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 behavios. Emphasizes contemporary social issues that emerge in the external environment of business. Defines societal expectations of organizations regarding corporate social responsibility.

## GT 425 MANAGEMENT AND COLLECTIVE

 BARGAININGPrereq.: MGT 295. Introduction to managerial problems in personnel and labormanagement relations. Examination of issues encountered in the management of workers under collective bargaining agreements and in contract administration. Lectures and simulations will be used.

## GT 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.

## GT 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.
Lives; profit sharing and fringe benefits and managing compens


3
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.

## GT 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.

## GT 462 ISSUES IN HUMAN RESOURCE

Prereq.: MGT 305. An in-depth analysis of selected functional responsibilities within the Human Resource Management spectrum. Topics include selection, training, employee and executive compensation plans, employee benefits and other practices of Human Resource professionals and organizations.

## GT 470 ORGANIZING AND MANAGING FOR QUALITY

Prereq.: MGT 295. Examines leading organizational architecture that employs quality management in all activities of the enterprise. Explores how competitive strength is built by enabling the work force to innovate, so that products and service meet global customer standards.

## GT 472 DEVELOPMENTAL MANAGEMENT

Prereq.: MGT 295. An examination of those humanistic managerial approaches which focus upon the interdependencies in organizations that effect their capacities for organizational learning and development. A multi-cultural perspective is taken in building an eclectic understanding of managing.

## GT 473 ORGANIZING AND MANAGING FOR

 INNOVATIONPrereq.: MGT 345 and 348, or permission of instructor. Explores contemporary approaches for releasing employee, supplier and customer creativity to constantly innovate what and how an organization produces its products and services. IR

## GT 490 MANAGEMENT TOPICS

3
Prereq.: Permission of instructor. Selected topics in management, organization theory and human resource management. Course content will vary from semester to semester. May be repeated with different topics for a maximum of 6 credits. IR

## GT 494 ENTREPRENEURSHIP

Prereq.: FIN 295 or permission of instructor. Entrepreneurship and its role as a fundamental component of our economic system is discussed. The resources needed to start a new business are outlined as a well-conceived business plan.

## GT 496 PRACTICUM IN MANAGEMENT

 AND ORGANIZATIONPrereq.: Permission of instructor and meet criteria dependent upon nature of the specific projects) and permission of the chair of the Management and Organization Department. Students work on a real world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be taken for a maximum of 6 credits. On demand.

GT 498 MANAGEMENT SEMINAR
Prereq.: Senior standing and 12 credits in management or permission of instructor. An examination of the latest development in management and organizational theory. Emphasis will be on current trends in the theory and practice of management using management literature and research. Course content will vary from semester to semester.

## GT 500 THE ROLE OF MANAGEMENT

 IN CONTEMPORARY SOCIETYStudy of American industry in its social and political environment.
Previously BUS 500 . Topics include the structural characteristics and philosophical foundations, ethics, and issues of social responsibility in American business and industry.

MGT 551 MANAGEMENT FOR GLOBAL OPERATIONS
Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 551. Focuses on managerial issues, problems and opportunities in the overall operations of businesses competing internationally. Analytic and experiential instructional techniques are utilized.

## MGT 552 MANAGEMENT THEORY AND PRACTICE

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 552. 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

## MGT 553 HUMAN RESOURCE MANAGEMENT

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 553. Presentation of various management philosophies and policies concerning the utilization of this resource area; topics include the selection, development and motivation of personnel. IR

MGT 555 MANAGEMENT SYSTEMS AND OPERATIONS
Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 555. Systems-oriented 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]

## MGT 559 CURRENT TOPICS IN MANAGEMENT

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 559. 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

## MGT 581 PRODUCTION-DISTRIBUTION PROCESSES

Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Previously BUS 581. Processes of creating, producing, and distributing products. Integration of disciplines through organizational processes. IR

## MGT 582 ORGANIZATIONAL PERFORMANCE

3
Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Previously BUS 582. 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

## MGT 583 ORGANIZATIONAL LEADERSHIP

Prereq.: Admission to MBA program and completion of International Core, or permission of MBA director. Previously BUS 583. 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

## MGT 591 GLOBAL STRATEGY

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 591. 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

## MANAGEMENT INFORMATION SYSTEMS

Note: Additional work will be required for graduate credit in 400-level courses.
MIS 400 BUSINESS DECISION ANALYSIS USING KNOWLEDGE BASES
Prereq.: MIS 220 or 305 or permission of department chair. 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 220 and 305 or other procedural/object-oriented language as approved by the department chair. 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

Prereq.: MIS 220 and 305 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 450 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 MISPrereq.: 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

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]

## MIS 501 FOUNDATIONS OF MIS

Prereq.: Admission to MS-CIT program or permission of department chair. Introduction to information systems and technology, systems development, data communication and networking, information support systems, and management of the IS resource using project and change management approaches.

## MIS 502

E-BUSINESS AND INFORMATION TECHNOLOGY
Prereq.: Admission to MS-CIT program or permission of department chair. Effective methods for competitive adyantage through information systems and technology. Includes new ways of doing business such as e-business, decisionmaking using knowledge management tools and techniques, and innovations in project and change management approaches.

MIS 510 DATA COMMUNICATIONS AND NETWORKING 3
Prereq.: Admission to MS-CIT program or permission of department chair. Data communications and networking concepts for all multimedia data interchange in business enterprises. Concepts, models, architecture, protocols and standards for the design, implementation, integration, security and management of digital networks. On demand.

MIS 515 DATA MANAGEMENT 3
Prereq.: Admission to MS-CIT program or permission of department chair. Concepts, principles, issues and techniques for managing corporate data resources. Techniques for managing the design and development of large database systems. Data warehousing, data mining and database administration will be emphasized. On demand.

MIS 550 INFORMATION TECHNOLOGY POLICY AND STRATEGY
Prereq.: Admission to MS-CIT program or permission of department chair. Strategic use of enterprise information systems and technology for the evolving and changing global marketplace. Development and implementation of policies and plans to achieve the alignment of information systems, technology and enterprise goals. On demand.

## MIS 561 INTERNATIONAL MANAGEMENT INFORMATION SYSTEMS

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 561. Examination of the role of information technology in today's business environment. Includes both theoretical perspectives as well as case studies cus-tom-developed from international enterprises. IR [c]

## MIS 565 INFORMATION SYSTEMS ANALYSIS AND DESIGN

Prereq.: Admission to MS-CIT program or permission of department chair. Information systems development methods and analysis and design techniques with a focus on object-oriented analysis and design. Evaluation and selection of systems development, analysis and design methodologies including JAD, RAD, UML and object-oriented approaches. On demand.

## MIS 569 CURRENT TOPICS IN MANAGEMENT INFORMATION SYSTEMS

Prereq.: Admission to MBA program or permission of MBA director. Previously BUS 569. 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.

## MARKETING

Note: Additional work will 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
Prereq.: MKT 295 and STAT 200. Overview of research methods and procedures used in marketing to help solve marketing problems. Analysis of basic research designs and methods of collecting and interpreting data. [c]

## MKT 443 ADVANCED CONCEPTS IN RETAILING

Prereq.: MKT 313 and senior status or instructor's permission. Analysis of current problems in retailing by applying principles of merchandising, human relations, marketing and management via case and/or sites. The course will involve fieldwork and classroom seminar sessions.

MKT 450 COMPETITIVE STRATEGY
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.

3 MKT 470 MARKETING COMMUNICATIONS CAMPAIGN 3
Prereq.: MKT 306 or permission of graduate adviser. Application of marketing communication theory. Students learn how an organization integrates its promotion mix elements to present a unified message, and then create a strategic promotion plan for a "real" client. On demand.

## MKT 480 MARKETING FOR NON-PROFIT ORGANIZATIONS

3 Prereq.: 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.

## MKT 571 MARKET PLANNING FOR A GLOBAL

 ENVIRONMENTPrereq.: 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.

MKT 572 MARKETING MANAGEMENT AND STRATEGY 3
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]

MKT 579 CURRENT TOPICS IN MARKETING
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

## 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. $F$

## MFT 544 FAMILIES IN CONTEXT: GENDER AND

 CULTURAL DIMENSIONSPrereq.: 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. F

## MFT 551 STRUCTURAL/STRATEGIC \& BEHAVIORAL

 FAMILY THERAPIESPrereq.: MFT 541. Assessment and interventions from the Structural, Strategic and Behavioral schools of family therapy are examined. Students learn about diagnosis and treatment of human dilemmas and symptomatology within a systemic context. $S$

MFT 552 EXPERIENTIAL, INTERGENERATIONAL AND PSYCHODYNAMIC FAMILY THERAPIES

3
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. F

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. F

## 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. S

## MFT 556 SYSTEMIC PERSPECTIVES ON MENTAL DISORDERS

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. $S$

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
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 <br> \section*{THERAPY INTERNSHIP}

3-9
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
1-3
Prereq.: Permission of instructor. Topics in mathematics appropriate for in-service and pre-service teachers of mathematics which are not covered in regular course offerings. May be repeated with different topics for a maximum of 6 credits. IR

MATH 410 EARLY CHILDHOOD MATHEMATICAL METHODS 3
Prereq.: MATH 213 (C- or higher) and admission to the professional program. Concepts underlying contemporary mathematics curriculum for early childhood grades. Developmentally appropriate methods for developing concepts and the meaning of operations and procedures in arithmetic through problem solving. This course is for teacher certification only and graduate credit will not be granted.

## MATH 412 ELEMENTARY MATHEMATICAL METHODS

3
Prereq.: MATH 213 (C- or higher) and admission to the Professional Program. Concepts underlying contemporary mathematics curriculum for elementary grades. Developmentally appropriate methods for developing concepts and the meaning of operations and procedures in arithmetic through problem solving. This course is for teacher certification only and graduate credit will not be granted.

## 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. This course is for teacher certification only and graduate credit will not be granted.

Prereq.: MATH 221 or 305 . Development of mathematics is traced from arithmetic of commerce, astronomy, geometry and trigonometry in Babylonia, Egypt, Greece and Rome to the later accomplishments in algebra, geometry and calculus. $S(o)$

53412 (ic (cs)
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.

Prereq.: Permission of instructor. Selected topics in mathematics covering specialized areas not covered in regular offerings or that go beyond that provided for in the standard curriculum. May be repeated with different topics for a maximum of 6 credits. S(e)
${ }^{1}$ 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 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. $\mathrm{F}(\mathrm{o})$

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. S(e)

## MATH 469 NUMBER THEORY

Prereq.: MATH 366 or equivalent. Elementary theory of numbers. Divisibility, prime numbers, Fundamental Theorem of Arithmetic, congruences,
Diophantine equations, quadratic residues, and continued fractions are among topics considered. $\mathrm{F}(\mathrm{o})$

## MATH 470 MATHEMATICAL METHODS

 IN OPERATIONS RESEARCHPrereq.: 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

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

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. $\mathrm{F}(\mathrm{e})$ [c]

## MATH 479 ELEMENTS OF APPLIED MATHEMATICS

Prereq.: MATH 221 and permission of instructor. Selected topics from numerical analysis, finite differences, partial differential equations, and other areas of applied mathematics. May be repeated with different topics for a maximum of six credits. S(e) [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. $\mathrm{F}(\mathrm{o})$

## $526 \quad 12 / 100$ <br> 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)

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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

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. Selected topics from advanced polynomial ring theory, Galois and extension field theory; homological algebra. S(e)

## MATH 520 PRINCIPLES OF ANALYSIS II

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

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 I

Prereq.: 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 MATHEMATICS

Current 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
tMath 544
MATH 580 DIRECTED STUDY IN MATHEMATICS
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 fopics to a maximum of 6 credits. IR

## Math 547 Roflutic Pracher (3) <br> MATH 590 SPECIAL PROJECT IN MATHEMATICS

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

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
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 428 Methoeln and Maternals (3) ML 429 SEMINAR IN MODERN LANGUAGE TEACHING METHODS

3
Prereq.: Matriculation in graduate certification program, admission to the professional program in teacher education, permission of department and permission of the Director of Field Experiences. Discussion and practice of the historical, theoretical and contemporary issues, and selected topics related to the teaching of modern languages at the secondary level. 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 490

ML 492 TOPICS IN LANGUAGE TEACHING
Prereq.: ML 429. Special aspects of language teaching, such as creative uses of the language laboratory and other special aids, individualizing language instruction, teaching of literature and culture in the schools, will be emphasized. Topics may vary from section to section. Course may be repeated with different topics for up to 6 credits. IR

## ML 496 INDEPENDENT STUDIES IN MODERN LANGUAGES

Prereq.: Permission of instructor. Independent work in language, culture and literature, to meet individual interest in topics not covered in the regular curriculum. Work done under the supervision of a faulty member: On demand.

ML 598 RESEARCH IN MODERN LANGUAGE
Prereq.: Admission to the graduate program. Introduction to techniques and resources of literary research through examination of the theory, history and practice of literary criticism. Course should be taken during first 15 credits of graduate study. $\mathrm{F}(\mathrm{o})$

## MUSIC

Note: Additional work will be required for graduate credit in 400-level courses. Note: Students enrolled in the following courses will be assessed an Applied Music Fee - $\$ 200.00$ for $1 / 2$ hour lesson (MUS 577) and $\$ 400.00$ for full hour lesson (MUS 578). Contact the Department at 832-2912 for additional information.

## MUS 400 PROJECT IN MUSIC

Prereq: Permission of instructor. Individual study in an area of student's choice. May take the form of performance, composition, paper, or other area to be determined in consultation with a Music Department adviser.

## MUS 401 TOPICS IN MUSIC 1-3

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 403 TOPICS IN HISTORY OF MUSICAL GENRES

Prereq.: Permission of instructor. Study of a particular music genre through selected stylistic periods. On demand.

MUS 404 TOPICS IN PERFORMANCE
1-3
Prereq.: Permission of instructor. Topics relevant to the performing musician including accompaniment, diction for singers, and performance practice. On demand.

MUS 405 TOPICS IN COMPOSERS
Prereq.: Permission of instructor. Historical and analytical study of selected composers and their works. On demand.

MUS 470 MUSIC STRUCTURE AND STYLE
Prereq.: Four semesters of undergraduate music theory or demonstrated proficiency on the Music Theory Placement Examination. Survey of the principles of

MUS 501 TOPICS IN MUSIC

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
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 EDUCATION

1-3
Prereq.: 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

3
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 COMPARATIVE MUSIC STUDIES

Prereq.: Admission to the graduate program in Music Education (M.S.). Study of the world of music from many perspectives including universal themes, organology, acoustics, iconography, notation, uses and function of music and social identity. IR

## MUS 510 CURRENT ISSUES IN MUSIC EDUCATION

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
$\begin{array}{ll}\text { MUS } 515 & \text { TOPICS IN DIGITAL SYNTHESIZER } \\ & \text { TECHNIQUES }\end{array}$
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 315 or permission of instructor. Study of organizational techniques, resource materials and rehearsal techniques for developing children's choirs. SS

## MUS 536 TOPICS IN MUSIC TECHNOLOGY

Prereq.: Undergraduate degree in Music Education. Specialized topics in music technology including computer-assisted instruction, notation, sequencing and an introduction to music hardware and software. 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 II
Prereq.: MUS 551. A continuation of MUS 551; various accompaniment patterns, orchestrations and modulation. Rhythmic training including irregular rhythms and meters; continuation of soprano recorder and introduction of alto recorder. SS

## 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

## MUS 559 TOPICS IN HIGH SCHOOL MUSIC CURRICULUM

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

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

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

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 2
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

Prereq.: Permission of instructor. Individual instrumental or vocal instruction in a secondary area of performance. May be taken more than once for credit. Fee: \$200 (subject to change).

MUS 578 ADVANCED APPLIED MUSIC
Individual instrumental or vocal instruction in performance. May be taken more

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 MUS 590, 591 and 592 may be taken for credit towards the degree. F

## MUS 591 CHORUS

Prereq.: Permission of instructor. Representative chorus works from the great composers will be rehcarsed and performed. No more than a total of 3 credits from MUS 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 MUS 590, 591, and 592 may be taken for credit towards the degree.

MUS 597 RECITAL
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 EDUCATION

Prereq.: Admission to the graduate program in Music Education (M.S.). Study of research methods used in music education and the primary sources needed to conduct these types of research. 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.

## NRSE 498 SPECLAL STUDIES IN NURSING <br> 1-6

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 3
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

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 GERIATRIC NURSE PRACTITIONER IN AMBULATORY/PRIMARY CARE

Prereq.: Matriculation in the MSN Program and permission of instructor. Management of the geriatric client in need of primary health care. Emphasis on comprehensive health promotion, illness prevention and health maintenance of the geriatric client.

## NRSE 512 THE GERIATRIC NURSE PRACTITIONER

 IN ACUTE CARE SETTINGSPrereq.: NRSE 510. Care of individuals/families who require intervention for acute disease conditions and those conditions of a complex maturational-situational nature for the geriatric client. Emphasis on the prevention of complications. SS

NRSE 514 CASE MANAGEMENT AND THE GERIATRIC NURSE PRACTITIONER IN HOME SETTINGS
Prereq.: NRSE 512. Treatment of geriatric clients/families with complex situational/developmental events requiring care in home settings.

NRSE 516 GERIATRIC/MENTAL HEALTH NURSING WITH INDIVIDUALS
Prereq.: Matriculation in the MSN Program and permission of instructor. Mental health care service continuum from inpatient psychiatric nursing treatment to community psychiatric care. Specialized treatment approaches for the geriatric client will be addressed.

NRSE 518 GERIATRIC/MENTAL HEALTH NURSING WITH COMMUNITIES AND GROUPS
Prereq.: NRSE 516. Integration of theoretical and practical components of treating geriatric clients. Exploration of systems approach to the assessment and treatment of individual clients within a group context. SS

NRSE 520 CASE MANAGEMENT AND THE GERIATRIC MENTAL HEALTH NURSE
Prereq.: NRSE 518. Examination of the geriatric/mental 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. General 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 SETTINGS
Prereq.: 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 6
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 SPECLAL PROJECT IN NURSING EDUCATION
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.

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 $440 \quad$ PROJECT IN APPLIED ETHICS
Prereq.: PHIL 220, 346 and six credits from PHIL 144, 222, 240, 241, 242, 349, HHSP 246, 341, 342. Research in applied ethics. May include a practicum. S

PHIL 492 INDEPENDENT STUDY 1-3
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. An off-campus practicum is included.

## PE 406 ADAPTED PHYSICAL EDUCATION

Prereq.: PE 214 (C- or higher), 272, 305. Pedagogical skills and knowledge pertaining to physical education for individuals with disabilities and gifted and talented individuals. Emphasis on program planning and teaching effectiveness in the psychomotor domain. 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. F

PE 410
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 411 ORGANIZATION AND MANAGEMENT OF

 HEALTH PROMOTION PROGRAMS3
Prereq.: Admission to the degree program in Physical Education or graduate status. Management procedures involved in conducting health fitness activities and program implementation. Emphasis on facilities, budgeting, legal liability and risk management. $S$

## PE 415 FITNESS ASSESSMENT AND EXERCISE PREPARATION

Prereq.: PE 307, 410, STAT 108 and admission to the degree program in Physical Education or graduate status. Provides an opportunity to study theories, concepts, procedures and techniques necessary for an exercise specialist. Basic understandings of exercise prescription, community programs, intervention and rehabilitation, and cardiac exercise programs will be emphasized.

## PE 420 PERCEPTUAL AND MOTOR DEVELOPMENT 3

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

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. $\mathrm{F}(\mathrm{e})$

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

6
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 500 IMPROVING STUDENT LEARNING

## IN PHYSICAL EDUCATION

Prereq.: Permission of instructor. Components of the effective teaching of physical education are explored. Topics include teacher standards, student performance standards, instructional planning, assessment strategies and reflective practice. $S$

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 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. $\mathrm{F}(\mathrm{o})$

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. $S(\mathrm{o})$

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. $S(\mathrm{o})$

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 530 NUTRITION FOR HEALTH, FITNESS AND SPORT PERFORMANCE

Prereq.: Permission of instructor. Provides knowledge base of the major nutrients relative to the role that nutrition, complemented by physical activity, may play in the enhancement of health and sport performance. Topics include weight management and eating disorders. SS

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

## 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. IR

PHYS 442 ELECTROMAGNETICS
Prereq.: MATH 222, PHYS 305. Field theory of electromagnetism. Magnetic fields of currents, magnetic materials, electromagnetic induction and Maxwell's Equations. IR

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. IR

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.: A 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. IR

## PHYS 471 QUANTUM MECHANICS II

Prereq.: PHYS 470. Three-dimensional Schrodinger equation, angular momentum, radial equation, hydrogen atom, operator matrices and spin, addition of angular momentum, plus additional topics to be chosen by instructor. 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 vari-
 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 POLICYPrereq.: 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 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

Historical, social, economic and ideological factors impacting contemporary government and politics in Africa. S(o)

## PS 425 ASIAN POLITICS

rereq.: PS 104. Examination of the government and politics of East and South Asia with major focus on Japan, China and India. Emphasis on historical and cultural forces shaping politics, Western impact on Asia and cross-national comparisons. 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

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 3
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 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 3

Prereq.: Permission of instructor or two courses in political science, geography, economics or sociology; plus completion of, or simultaneous registration in, PS 344 or MATH 125. An investigation in perspectives and methods of measuring public policies.

PS 446 THE BUDGETARY PROCESS 3
Prereq.: PS 110 and 240 (previously PS 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 240 (previously PS 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 3
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
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 fulltime 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 DIRECTED READINGS IN
POLITICAL SCIENCE
3 or 6
Prereq.: Permission of instructor. Individual programs of study for students with special abilities or interests in political science. On demand.

## PS 491 ADVANCED STUDIES IN <br> 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
POLICY STUDIES
Prereq.: PS 110 and 240 (previously PS 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
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

Prereq.: PSY 236. Study of behavior, dynamics and developmental processes from early adulthood through old age and death.

PSY 430 PSYCHOLOGY OF DIVERSITY
Prereq.: PSY 112 or permission of instructor. Review of psychological research and theories pertaining to the study of diversity. Implications for clinical work and community education will be discussed. $S$

PSY 435 ORGANIZATION AND
PERSONNEL PSYCHOLOGY

Consideration of structure, problems, human behavior and personnel functions in various types of organizations.

## PSY 440 MOTIVATION

3
Prereq.: Three courses in psychology. Physiological and psychological variables in selected motivational processes. Problems of measurement, empirical findings and theoretical research. Readings in contemporary literature.

## PSY 446 INTRODUCTION TO THE PSYCHOLOGY OF COUNSELING

Prereq.: Three courses in psychology. 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.

3 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.

## PSY 458 HUMAN NEUROPSYCHOLOGY

Prereq.: PSY 330 and 450, or permission of instructor. Relationship between the brain and behavior is examined. Topics include disorders of speech and memory, common neurological disorders such as dementia and stroke and alcohol-related disorders. S

## PSY 460 BEHAVIOR MODIFICATION:

 THEORY AND PRACTICEPrereq.: 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 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.

## 380

PSY"48 $\quad$ 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

PSY 499 INDEPENDENT READING AND RESEARCH IN PSYCHOLOGY

1-3
Prereq.: 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 3
Prereq.: PSY 112 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

Prereq.: PSY 512 or equivalent or permission of instructor. Not operntagraduate students who have had undergrate courses in pryong of learning_oreductional psychongy. Introduction to research and theories of learning with emphasis on implications for classroom procedures.

PSY 530 PSYCHOPATHOLOGY
Prereq.: Admission to graduate program in psychology and PSY 330, 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 541 HEALTH PSYCHOLOGY

Prereq.: PSY 330 and 450, or permission of instructor. Previously PSY 471.
Examination of health-related behaviors including stress, risk factors and methods to improve well-being. Mind-body aspects of pain, addiction and immune system disorders are discussed. S(e)

## 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 CAREPrereq.: 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 549 PAy of (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 571 PSYCHOLOGY OF WOMEN'S HEALTH

Prereq.: PSY 541 or permission of instructor. Seminar examining psychological theories and research relevant to women's health. Topics include chronic disease, gynecological health, health beliefs and behaviors, minority women, aging, menopause, stress, role strain and coping. $S$

## 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 Psily 591 Pry oy heariong (3) 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 I

Prereq.: 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 II

Prereq.: 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)

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

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 SCHOOLAn 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 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 GRADES
Prereq.: 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.

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. S

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. $F$

## RDG 594 DIAGNOSIS OF READING DIFFICULTIES

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 $66^{\top}$ 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(e)

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 3
Prereq.: 15 credits of graduate study in Reading. Study of patterns of organization, administration, evaluation, and supervision of various types of reading programs in schools. F(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.

## 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(o)

## RUS 442 ADVANCED ORAL PRACTICE II

Prereq.: RUS 441 or instructor's permission. Further practice in oral selfexpression. S(e)

## SCIENCE EDUCATION

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

## SCI 418 TEACHING SCIENCE IN THE OUT-OF-DOORS

Prereq.: Two science courses. Development of leadership skills and instructional techniques necessary for teaching science in the outdoor classroom. The methods and materials for developing and conducting an outdoor education program in science are discussed. Three hours a week; field studies are required. F(o)

## SCI 420 HISTORY OF SCIENCE

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 cnvironmental education facility. Before commencing the internship, a plan of the internship must be approved by the Advisory Committee on Environmental Interpretation.

SCI 456 TEACHING SCIENCE TO YOUNG CHILDREN 3
Prereq.: Permission of instructor. Previously SCI 556. 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 485 STUDIES IN SCIENCE
Prereq.: Permission of instructor. Selected studies in the sciences which are not offered presently in the curriculum of the science departments. Course may be repeated under different topics, but student may not take this course for credit under the same topic more than once.

Prereq.: Three courses in the natural sciences. Discussion of the nature and values of science and technology and their implications for society. IR

## SCI 520 THE PHYSICAL SCIENCES

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 <br> IN THE ELEMENTARY SCHOOL

Prereq.: Admission to the Summer Through Summer program or permission of instructor. Examination of science instruction and assessment strategies in line with the National Science Standards and the State of Connecticut Frameworks. F

## SCI 557 ELEMENTARY SCIENCE INSTRUCTION

 AND CURRICULUM DEVELOPMENTPrereq.: In-service teacher or permission of instructor. Examination and application of elementary science curriculum, instruction and assessment strategies in line with the National Science Standards and the State of Connecticut Frameworks. SS

## SCI 570 TEACHING OF SCIENCE IN THE SECONDARY SCHOOL

Prereq.: In-service teacher or permission of instructor. Examination of middle level and secondary science curriculum, instruction and assessment strategies in line with the National Science Standards and the State of Connecticut Frameworks. On demand.

## 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, which may be taken concurrently, or permission of instructor. Study of individual and collaborative action research techniques.Requirements include the design and completion of a classroom/school action research project and the preparation and submission of a paper for publication. S(e)

## SCI 598 RESEARCH IN SCIENCE EDUCATION

Prereq.: 18 credits in the student's planned program of graduate study or permission of instructor. Focus on current global issues related to science education.
Students examine current literature and conduct an informal research project on current issues. Requirements include the preparation of a research paper. IR

SCI 599 THESIS (SCIENCE EDUCATION)
Prereq.: 21 credits of approved graduate study, and permission of adviser. Preparation of the thesis under the supervision of the thesis adviser.

## SIGN LANGUAGE

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

Prereq.: SL 420 or permission of instructor. Previously SPED 421. Continuation of the Manual Alphabet and American Sign Language of the Deaf designed to provide further skill in non-verbal communication. $S$

## SOCIAL SCIENCE

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

## 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 SEMINAR

Seminar during student teaching semester enabling students to share resources and ideas for upcoming lessons, difficulties and successes, and discover how various schools and teachers approach the same issues. 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 in the Social Work major and permission of the program director. 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

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
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
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
Prereq.: Permission of instructor. 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 433 INDEPENDENT STUDIES IN SOCIOLOGY 3
Prereq.: 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 ORGANIZATIONS, OCCUPATIONS AND WORK 3

Prereq.: SOC 110 and three additional credits in sociology. 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

## SPANISH

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

SPAN 426 THE SPANISH AMERICAN SHORT STORY 3
Prereq.: Permission of instructor. Survey of representative authors and selected works with emphasis on the twentieth century. Course to be taught in Spanish. IR

## SPAN 434 WOMEN WRITERS OF THE <br> SPANISH-SPEAKING WORLD

Prereq.: Permission of instructor. Taught in Spanish. Discussion of representative works will center around cultural and gender issues. On demand.

SPAN 441 CROSS CULTURAL COMMUNICATION
Prereq.: Permission of instructor. Open only to non-native speakers of Spanish. Development of fluency in oral expression. Speech analysis and phonetic theory to improve pronunciation and intonation. Introduction to problems of translation, enhancement of oral competence, and development of cross-cultural understanding. $\mathrm{F}(\mathrm{e})$

## SPAN 460 THE STRUCTURE OF THE SPANISH LANGUAGE

Prereq.: Permission of instructor. Taught in Spanish. Study of syntactical and morphological aspects of the Spanish language. S(e)

SPAN 461 TOPICS IN SPANISH-AMERICAN LITERATURE 3
Prereq.: Permission of instructor. Taught in Spanish. Detailed study of a literary figure, movement or theme. May be repeated with different topics for a maximum of six credits. IR

## SPAN 471 GENERATION OF '98

Prereq.: Permission of instructor. Taught in Spanish. Detailed study of some major works of authors such as Unamuno, Baroja, Valle Inclán and Antonio Machado of the Generation of ' 98 in the context of historical, ideological and aesthetic trends of their time. F (o)

SPAN 472 20TH CENTURY SPANISH LITERATURE
Prereq.: Permission of instructor. Taught in Spanish. Representative authors and literary movements of the period following the Generation of '98. S(e)

SPAN 476 CERVANTES
3
Prereq.: Permission of instructor. Taught in Spanish. Works of Cervantes with particular emphasis on Don Quixote. On demand.

SPAN 515 COLONIAL SPANISH-AMERICAN LITERATURE
Prereq.: Permission of instructor. Taught in Spanish. Study of major authors and literary works of the Colonial period in their cultural context. IR

SPAN 520 MODERNISMO
Prereq.: Permission of instructor. Taught in Spanish. Study of the most significant authors of the Modernista period. IR

## SPAN 525 CONTEMPORARY SPANISH-

 AMERICAN POETRYPrereq.: Permission of instructor. Taught in Spanish. Study of major SpanishAmerican poets and poetic themes from the period following Modernismo to the present. $S(e)$

SPAN 530 CONTEMPORARY SPANISH NOVEL
Prereq.: Permission of instructor. Taught in Spanish. Study of significant novels from the 1940's to the present. $S$

SPAN 535 CONTEMPORARY SPANISH-AMERICAN NOVEL
Prereq.: Permission of instructor. Taught in Spanish. Study of representative Spanish-American novels from the 1950's to the present. S

SPAN 545 THE SPANISH-AMERICAN ESSAY 3
Prereq.: Permission of instructor. Taught in Spanish. Analysis of major works by authors such as Sarmiento, Martí, Rodó, Reyes, Paz and others. IR

SPAN 551 DRAMA OF THE GOLDEN AGE
Prereq.: Permission of instructor. Taught in Spanish. In depth study of representative plays by great dramatists of the Golden Age, including Lope de Vega, Tirso de Molina and Calderón. S(o)

SPAN 553 NINETEENTH CENTURY SPANISH LITERATURE 3 Prereq.: Permission of instructor. Taught in Spanish. Study of Spanish romanticism and realism with a consideration of their historical background. 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 TOPICS IN THE CONTEMPORARY SPANISH-SPEAKING WORLD
Prereq.: Permission of instructor. Taught in Spanish. Contemporary society in the Spanish-speaking world, its institutions, traditions and values.

SPAN 599 THESIS
Prereq.: 18 credits completed of approved graduate study program and approval of adviser. Preparation of thesis under the supervision of thesis adviser. On demand.

## SPECIAL EDUCATION

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

SPED 432 CHARACTERISTICS AND EDUCATION OF INDIVIDUALS WITH LEARNING DISABILITIES
Prereq.: SPED 315. Overview of the education of students with learning disabilities and traumatic brain injury. Topics include characteristics, identification, etiology, theoretical and educational approaches. Involves field experience component.

## SPED 433 EDUCATIONAL ASSESSMENT FOR EXCEPTIONAL LEARNERS

Prereq.: Admission to the Professional Program and SPED 432. Examines formal and informal assessment materials and techniques used in evaluating adaptive skills, processing abilities and academic achievement in individuals with learning and/or behavior problems. Topics include procedures for test selection/administration, methods for scoring and interpreting test results. Involves field experience component.

SPED 434 CHARACTERISTICS AND EDUCATION OF INDIVIDUALS WITH DEVELOPMENTAL DISABILITIES
Prereq.: Admission to the Professional Program. Taken concurrently with SPED 435. Overview of mental retardation, developmental disabilities, autism and physical disabilities. Topics include characteristics, identification, etiology, theoretical and educational approaches. Involves field experience component.

SPED 435 CURRICULUM ADAPTATIONS AND TEACHING STRATEGIES FOR LEARNERS WITH EXCEPTIONALITIES
Prereq.: SPED 433. Taken concurrently with SPED 434. Techniques for assessing social studies, science and prevocational skills, as well as for selecting, developing and adapting curricula and methods for students with exceptionalities. Involves field experience component.

## SPED 436 LANGUAGE ARTS FOR LEARNERS WITH EXCEPTIONALITIES

Prereq.: SPED 432, 433. Taken concurrently with SPED 438. Techniques for planning and delivering instruction in the areas of reading, writing and oral language specific to students with special needs.

SPED 437 INTEGRATIVE SEMINAR FOR BEGINNING SPECIAL EDUCATORS
Prereq.: SPED 436. Taken concurrently with SPED 439. Examines collaborative strategies for assessment and program planning. Communication skills, professional ethics and codes of conduct will be examined.

SPED 438 STUDENT TEACHING WITH EXCEPTIONAL LEARNERS I
Prereq.: Taken concurrently with SPED 436. Supervised teaching in special education classrooms, agencies or institutions. Attendance at on-campus seminars is required. Students must make application to the Director of Field Experiences before October 1 for spring and before March 1 for fall.

SPED 439 STUDENT TEACHING WITH EXCEPTIONAL LEARNERS II
Prereq.: SPED 438. Taken concurrently with SPED 437. Supervised teaching in special education classrooms, agencies or institutions at a different age level and with a different exceptionality. Attendance at on-campus seminars is required. Students must make application to the Director of Field Experiences before October 1 for spring and before March 1 for fall.

SPED 498 INDEPENDENT STUDY IN SPECIAL EDUCATION
Directed independent studies in special education. May be repeated for a total of 6 credits.

## SPED 501 EDUCATION OF THE EXCEPTIONAL LEARNER

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 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 511 BEHAVIORAL/EMOTIONAL DISORDERS

Prereq.: SPED 315, admission to the Graduate School and admission to the Special Education program; or permission of instructor. Examination of behavioral/emotional disorders, autism, attention deficit hyperactivity disorders and schizophrenia, with emphasis on current issues, classroom practices and contemporary research. Involves field experience component.

## SPED 512 LEARNING DISABILITIES

Prereq.: SPED 315, admission to the Graduate School and admission to the Special Education program; or permission of instructor. Characteristics and identification of students with learning disabilities. Impact on reading, writing, mathematics, oral language, cognition and other performance dimensions.
Implications for instruction. Involves field experience component.
SPED 513 DEVELOPMENTAL DISABILITIES
Prereq.: SPED 315, admission to the Graduate School and admission to the Special Education program; or permission of instructor. Examination of developmental disabilities including students with mental retardation, pervasive developmental disorder, cerebral palsy and other physical disabilities, with emphasis on current issues, classroom practices and contemporary research.

SPED 514 COGNITIVE BEHAVIOR MANAGEMENT AND SOCLAL SKILL STRATEGIES
Prereq.: SPED 511, 512, 513. Examination of methodologies for evaluation, management of student behavior, program planning, cognitive restructuring and functional behavior analysis utilized in special education settings. Involves field experience component.

SPED 515 ASSESSMENT IN SPECIAL EDUCATION
Prereq.: SPED 511, 512, 513. Review of the methods and materials used in the assessing and evaluating the performance of students who may be eligible for special education. Topics include psychometric theory, selecting/administrating tests, scoring, interpreting and communicating test results/findings. Involves field experience component.

SPED 516 INSTRUCTIONAL PROGRAMMING FOR STUDENTS WITH EXCEPTIONALITIES
Prereq.: SPED 511, 512, 513. Designing the individualized education program (IEP) and subsequent lesson plans in academic and nonacademic areas to meet the needs of exceptional students.

## SPED 517 INSTRUCTIONAL METHODS FOR STUDENTS

 WITH SPECIAL NEEDS - ELEMENTARYPrereq.: SPED 515, 516. Methods associated with planning and implementing instruction, with emphasis on the areas of mathematics, reading, writing and oral language in the elementary grades.

SPED 518 INSTRUCTIONAL METHODS FOR STUDENTS WITH SPECIAL NEEDS - SECONDARY
Prereq.: SPED 515, 516. Methods associated with planning and implementing
determination, vocational transitioning and functional living are also discussed.

## SPED 519 ACTION RESEARCH IN SPECIAL EDUCATION

Prereq.: ED 598 and completion of 18 credits in Special Education. Introduction to action research in special education. Students will identify a topic, conduct a literature review and formulate an appropriate research plan as part of their preparation for the Special Project requirement of the Master's Degree in Special Education.

## SPED 520 SEMINAR FOR SPECIAL EDUCATORS

Prereq.: SPED 517 or 518 , and permission of the Director of Field Experiences. Taken concurrently with SPED 521 or 522 , or prior to SPED 523 or 524. Examines current issues in special education which affect teaching and learning in the classroom. Issues concerning language, culture, community awareness, sensitivity, communication, professional ethics and codes of conduct will be examined.

## SPED 521 STUDENT TEACHING IN SPECIAL

EDUCATION - ELEMENTARY
Prereq.: SPED 517 or 518, and permission of the Director of Field Experiences. Supervised teaching in elementary special education classrooms, agencies or institutions. Attendance at on-campus seminars is required.

## SPED 522 STUDENT TEACHING IN SPECIAL

 EDUCATION - SECONDARYPrereq.: SPED 517 or 518, and permission of the Director of Field Experiences. Supervised teaching in secondary special education classrooms, agencies or institutions. Attendance at on-campus seminars is required.

## SPED 523 PRACTICUM IN SPECIAL EDUCATION ELEMENTARY

Prereq.: SPED 517 or 518, SPED 520, and permission of department chair. Supervised practicum in elementary special education classrooms, agencies or institutions. SS

## SPED 524 PRACTICUM IN SPECIAL EDUCATION SECONDARY

Prereq.: SPED 517 or 518, SPED 520, and permission of department chair. Supervised practicum in secondary special education classrooms, agencies or institutions. SS

## SPED 530 THE FAMILY, THE SCHOOL,

 AND THE HANDICAPPED CHILDExamination of issues that arise within families with handicapped children and between these families and school personnel. IR

SPED 532 ADVANCED TOPICS IN EMOTIONAL DISTURBANCES
Prereq.: 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 pacrice in various aspects of learning disabilities including advanced topics in etiology, identification, classification, assessment and programming. IR

SPED 536 INTRODUCTION TO THE AUTISTIC CHILD 3
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 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

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 CONSULTANTPrereq.: 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 mildty 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.


## STATISTICS

Note: Additional work will be required for graduate credit in 400 -level courses.
STAT 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. $F(e)$

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 425 LOSS AND FREQUENCY DISTRIBUTIONS AND CREDIBILITY THEORY

Prereq.: STAT 416 (may be taken concurrently). Topics chosen from credibility theory, loss distributions, simulation and time series. $S(e)$

## 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. So) [c]

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STAT 41 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. Foo)

STAT 453 APPLIED STATISTICAL INFERENCE 3
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

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. $\mathrm{F}(\mathrm{o})$

## 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. See) [c]

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## STAT 465 NONPARAMETRIC STATISTICS

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, correlaton and contingency tables. Comparisons with the standard parametric procedures will be made and efficiency and applicability discussed. $\mathrm{F}(\mathrm{e})$

## 567 12/11/00

STAT $46 /$ 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. $F(e)$

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STAT $470^{\circ}$ 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 economiss, 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. $S(\mathrm{o})$ [c]
STAT 475 S MATHEMATICAL STATISTICS III
Prereq.: STAT 416 or equivalent. Continuation of theory and applications of statistical inference. Advanced topics in the estimation of population parameters and the testing of hypotheses. Introduction to Bayesian methods, regression, correlation, and the analysis of variance. $\mathrm{F}(\mathrm{e})$
 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. So)

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. Lat 52 4 Gelwnined Hetherch in DM (3) 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 topifs, 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 251 (previously ET 351), IT 480. Industrial robotics programming, cell design procedures, product evaluation, feeder selection, cell layout and multitask 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
Prereq.: Permission of instructor. Principles essential for computer numerical controd part programming and machine tool operation. Laboratory experiences include word address programming, computer-aided programming and CNC machine tool setup and operation. [c]

## TC 436 ADVANCED COMPUTER NUMERICAL CONTROL 3

Prereq.: TC 416 or permission of instructor. Investigation of advanced CNC programming and machining. Laboratory experiences include Macro and paramentric word address programming, 3-D and multi-axis CAM programming and part machining using CNC mills, lathes and wire EDM machine tools. S [c]

## TC 442 PRINTING PRODUCTION

3
Prereq.: TC 212. Applied study of pre-production, production and post-producion in the printing industry. [c]

TC 443

## ELECTRONIC COMMUNICATIONS

Prereq.: TC 323. RF transmitting and receiving circuits, amplitude and frequency modulation and detection, phase modulation, antennas, RF transmission lines and

## resonance, modulation, demodulation and transmission channels. $S$ [ $c$ ]

TC 445 CONSTRUCTION SYSTEMS
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
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 453 MICROPROCESSORS

 address decoding and internal register structure, and assembly language programming including addressing modes and instruction set. Laboratory work consists of programming and debugging assignments. $S$ [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 <br> 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 will 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
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 graphics, desktop publishing, photography and telecommunications. $\mathrm{F}(\mathrm{o})$

## TE 411 ANIMATION GRAPHICS

Prereq.: TC 112 or 121 or 122 . Using animation software, digitizing equipment, and paint/draw programs to produce two- and three-dimensional presentations, slide shows and videotapes. IR [c]

## TE 412 COMPUTER-AIDED PUBLISHING

Prereq.: TC 113. Course designed to present and apply the basic concepts of electronic publishing. Instruction and laboratory activities will focus on software usage, applying accepted design techniques and producing appropriate materials for classroom implementation. IR [c]

## TE 420 MANUFACTURING SYSTEMS

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 permission of instructor. Laboratory application of the systems which extend the means of transportation beyond the physical capability of the human body. Includes terrestrial, atmospheric, marine and space transportation technologies and their social, environmental and economic impact. $F(e)$

## TE 450 TECHNOLOGICAL ENTERPRISE

3
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 SCHOOLPrereq.: 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 488 INDEPENDENT STUDIES IN

## TECHNOLOGY EDUCATION

1-3
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]

3 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 ADULTS3
3 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 EDUCATION

Preparation 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

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 PLANNINGEmphasis 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

3 TE 595 INDUSTRIAL AND TECHNICAL WORKSHOP 3
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 co-adviser.
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 3

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 12 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 $447 \quad$ 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 1-3
Prereq.: TH 316 and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff.

TH 482 PROJECTS: COSTUMING 1-3
Prereq.: TH 332 and departmental permission. Individual projects in reading, research or production under guidance of member of theatre staff.

TH 483 PROJECTS: ACTING A 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.

## TH 486 PROJECTS: LIGHTING/SOUND, STAGE MANAGEMENT

Prereq.: TH 318 and departmental permission. Individual projects in reading, research or production under guidance of member of theatre staff.

## TH 487 PROJECTS: RESEARCH

Prereq.: TH 374 or departmental permission. Individual projects in reading, research or production under guidance of member of theatre staff.

TH 488 PROJECTS: DIRECTING
Prereq.: Permission of instructor. Individual direction of student production under faculty supervision.

TH 489 STUDIES IN THEATRE/DRAMA
Prereq.: Permission of instructor. Selected area of theatre and/or drama not covered in other courses. Topic varies. May be repeated for credit. IR

TH 490 SUMMER THEATRE WORKSHOP
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
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

3
A study of human relations with emphasis on self-awareness, role multiplicity and the effect of life stresses on the adult in the workplace. Attitudes, values 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 LABOR MARKET TRENDS AND STUDENT JOB READINESS
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
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.: Professional Teaching Certificate. Roles and functions of supervisors of vocational and technical education on the local and state level. F

## VTE 521 ORGANIZATION AND ADMINISTRATION OF

 VOCATIONAL AND TECHNICAL EDUCATIONPrereq.: Professional Teaching Certificate. Organizational patterns, administrative practices and legal requirements of federally supported programs in vocational and technical education on the local and state level. S

## WOMEN'S STUDIES

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

## WS 400 FEMINIST THEORY <br> 3

Prereq.: WS 200 or permission of instructor. Examination of central theoretical and critical concepts, ideas and traditions in the development of feminist theory. $S$

Note: Date of appointment to Central Connecticut Stute University in parenthesis.

RICHARD L. JUDD, Ph.D., University of Connecticut; President (1964).
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).
FATEMEH 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; Associate Professor of Sociology and Social Work (1997).
ABIGAIL E. ADAMS, Ph.D., University of Virginia; Assistant Professor of Anthropology (1996).
DON ADAMS, Ph.D., Cornell University; Assistant Professor of Philosophy (1998).
MIKE ALEWITZ, M.F.A., Massachusetts College of Art, Assistant Professor of Art (2000).
JEAN ALICANDRO, M.S., Central Connecticut State University; Assistant Director, Student Center Operations and Event Services (1984).
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GABRIEL D. ALUNGBE, Ph.D., University of Florida; Assistant Professor of Engineering Technology (1991).
MARIA ALVAREZ, B.A., Central Connccticut State University; Assistant Registrar (1983).
BETH AMTER, B.A., Southern Connecticut State University; Admissions Representative (1997).
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ALI A. ANTAR, Ph.D., University of Connecticut; Professor of Physics and Earth Sciences (1980).
WAYNE ANTONINI, Director of Facilities Management (1986).

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LOUIS AULD, Ph.D., Bryn Mawr College: Professor of Modern Languages (198).
CAROL SHAW AUSTAD, Ph.D., North Texas State University; Professor of Psychology (1987..
RICHARD BACHOO, M.P.A., University of Connecticut; Chief Administrative Officer (1998).
STEPHEN A. BACON, Ph.D., University of New Hampshire; Professor of Mathematical Sciences (1970).
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TIMOTHY BAKKEN, J.D., University of Wisconsin; Associate Professor of Criminology and Criminal Justice (1998).

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PEARL BARTELT, Ph.D., Ohio State University; Vice President for Academic Affairs (1999).

CHARLES BASKERVILLE, Ph.D., New York University; Professor of Physics and Earth Sciences (1990).
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JAY BERGMAN, Ph.D., Yale University; Professor of History (1990).
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IVAN R. BLANCO, Ph.D., Oklahoma State University; Professor of Management and Organization (1998).
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DAVID BLITZ, Ph.D., McGill University; Professor of Philosophy (1989).
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JAMES BRYANT, Administrative Coordinator, Design (Grap 人ic/Information) (1998).
PETER A. BUDWITZ, C.P.A., M.S., Bucknell University; Associate Professor of Accounting (1971).
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PARKER ENGLISH, Ph.D., University of Western Ontario, Professor of Philosophy (1995).
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SCOTT ERARDI, M.A., University of Connecticut; University Internet Developer, Media Services (1999).
MARY L. ERTEL, M.A., University of Connecticut; Professor of Sociology and Social Work (1970).
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KENNETH L. FEDER, Ph.D., University of Connecticut; Professor of Anthropology (1977).
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## 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




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