

## CONNECTICUT STATE UNIVERSITY SYSTEM


#### Abstract

Central Connecticut State University is the largest of four universities in the Connecticut State University System. The governance of the Connecticut State University System is the responsibility of an 18 -member Board of Trustees.


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## CONNECTICUT STATE UNIVERSITY SYSTEM

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# CENTRAL CONNECTICUT STATE UNIVERSITY New Britain, Connecticut 06050-9958 

## Graduate Catalog 2002-2004

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 Counsel to the President/Multicultural Affairs is located in Davidson Hall, Room 104 (832-3025).

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| Academic Deans |  |
| :--- | ---: |
| $\quad$ School of Arts and Sciences | $832-2600$ |
| School of Business | $832-3210$ |
| School of Education and | $832-2101$ |
| $\quad$ Professional Studies | $832-1800$ |
| $\quad$ School of Technology | $832-1615$ |
| Advising Center | $832-B O O K$ |
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| Career Services and | $832-1630$ |
| $\quad$ Cooperative Education | $832-2256$ |
| Enrollment Center/Office of | $832-2200$ |
| $\quad$ Continuing Education |  |
| Financial Aid Office | $832-2040$ |
| George R. Muirhead Center for | $832-2350$ |

## University Calendar 2002-2003

## Fall Semester 2002

August 26
September 2
September 3

September 3
September 3-6
September 6
September 9
September 16
September 16
September 23

September 30

October 22

October 23
November 25

November 26
November 27
December 2
December 2

December 12
December 13
December 16-21
December 21

Academic year begins
Labor Day Holiday - no classes
Last day for full-time students to withdraw with $100 \%$ refund
Classes begin 8 a.m.
Add/Drop period
Last day to change from part-time to full-time status
Last day for part-time students to withdraw with $100 \%$ refund
Final day for graduate students to apply for December 2002 graduation
Last day for full-time students to withdraw with $60 \%$ refund
Last day to declare Pass/Fail or Audit options; last day to change from full-time to part-time status; last day for part-time students to withdraw with $50 \%$ refund
Last day to drop first eight-week courses; last day for full-time students to withdraw with 40\% refund
Midterm: Last day to drop full-semester courses; first eight-week courses end Second eight-week courses begin Last day for full-time students to withdraw from the University
Thanksgiving Recess begins 10 p.m.
Last day to drop second eight-week courses
Thanksgiving Recess ends 8 a.m.
Final day for undergraduates to apply for December 2003 graduation
Day classes end
Reading Day (make-up day if needed)
Examinations
Semester ends; last class meeting for Saturday classes

## Winter Session 2003

December 30
December 31
January 1
January 17

Winter Session classes begin
No classes
New Year's Day - no classes
Winter Session classes end

Spring Semester 2003
January 13 Academic semester begins
January 20 Martin Luther King Day Holiday - no classes
January 21 Last day for full-time students to withdraw with $100 \%$ refund
January $21 \quad$ Classes begin 8 a.m.
January 21-24

January 24
January 27
February 3
February 10

February 14-17
February 18

March 3

March 17

March 18
March 22
March 31
April 14
April 21

May 24

> May $1 \quad$ Final day for undergraduates to apply for May 2004 graduation (Office of the Registrar)
> Day classes end
> Reading Days (make-up day if needed)
> Examinations
> Semester ends; last class meeting for Saturday classes
> Graduate Commencement
> Undergraduate Commencement
> Last day to change from part-time to full-time status
> Last day for part-time students to withdraw with $100 \%$ refund
> Last day for full-time students to withdraw with $60 \%$ refund
> Last day to declare Pass/Fail and Audit options; last day to change from full-time to part-time status; last day for part-time students to withdraw with $50 \%$ refund Lincoln's/Washington's Birthday Weekend Holiday - no classes
> Last day to drop first eight-week courses; last day for full-time students to withdraw with 40\% refund
> Final day for graduate students to apply for
> May and August 2003 degrees (School of Graduate Studies)
> Midterm: Last day to drop full-semester courses; first eight-week courses end
> Second eight-week courses begin
> Spring Recess begins 1:30 p.m.
> Spring Recess ends 8 a.m.
> Last day to drop second eight-week courses
> Final day for full-time students to withdraw from the University

May 7
May 8-9
May 12-17
May 17
May 22

## Summer Session 2003

May 27 First five-week session begins; eight-week

June 26
June 30
July 4
July 17
July 31
August 4
August 21

## 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-weeks post session begins
Three-weeks post session ends

## University Calendar 2003-2004

## Fall Semester 2003

August 25 Academic year begins
September 1
September 2
September 2
September 2-5
September 5
September 8
September 15
September 15
September 22

September 29 Last day to drop first eight-week courses;

October 21
October 22
November 24

November 26
November 26
December 1
December 1

December 11
December 12
December 15-20
December 20
Labor Day Holiday - no classes with $100 \%$ refund
Classes begin 8 a.m.
Add/Drop period status with $100 \%$ refund December 2003 graduation with $60 \%$ refund withdraw with $50 \%$ refund with $40 \%$ refund

Second eight-week courses begin from the University

Thanksgiving Recess ends 8 a.m.
December 2004 graduation
Day classes end
Reading Day (no classes)
Examinations

Last day for full-time students to withdraw Last day to change from part-time to full-time

Last day for part-time students to withdraw
Final day for graduate students to apply for
Last day for full-time students to withdraw
Last day to declare Pass/Fail or Audit options; last day to change from full-time to part-time status; last day for part-time students to last day for full-time students to withdraw

Midterm: Last day to drop full-semester courses; first eight-week courses end

Last day for full-time students to withdraw
Last day to drop second eight-week courses
Thanksgiving Recess begins 10 p.m.
Final day for undergraduates to apply for

Semester ends; last class meeting for Saturday classes

January $26 \quad$ Classes begin 8 a.m.
January 26-29
January 23
January 26
February 2
February 9

February 13-16
February 17

March 1

March 15

March 16
March 20
March 29
April 12
April 19

April 30
May 12
May 13-14
May 17-22
May 22
TBA
TBA

Summer Session 2004

June 1
July 1
July 5
July 6
July 22
August 5
August 9
August 26

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

Add/Drop period
Last day to change from part-time to full-time status
Last day for part-time students to withdraw with $100 \%$ refund
Last day for full-time students to withdraw with $60 \%$ refund
Last day to declare Pass/Fail and Audit options; last day to change from full-time to part-time status; Last day for part-time students to withdraw with $50 \%$ refund Lincoln's/Washington's Birthday Weekend Holiday - no classes
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Final day for graduate students to apply for May and August 2004 degrees (School of Graduate Studies)
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Second eight-week courses begin
Spring Recess begins 1:30 p.m.
Spring Recess ends 8 a.m.
Last day to drop second eight-week courses
Final day for full-time students to withdraw from the University
Final day for undergraduates to apply for May 2005 graduation (Office of the Registrar)
Day classes end
Reading Days (no classes)
Examinations
Semester ends; last class meeting for Saturday classes
Graduate Commencement
Undergraduate Commencement

## Winter Session 2004

January $19 \quad$ Martin Luther King Day Holiday no classes
January $20 \quad$ Academic semester begins
January 26 Last day for full-time students to withdraw with $100 \%$ refund

| December 30 | Winter Session classes begin |
| :--- | :--- |
| December 31 | No classes |
| January 1 | New Year's Day - no classes |
| January 17 | Winter Session classes end |

## Spring Semester 2004

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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 7,000 full-time students and more than 5,000 part-time students, and offers undergraduate and graduate programs through the master's degree and sixth-year certificate levels, in addition to a doctoral degree program (Ed.D.) in Educational Leadership. The University has a full-time faculty of nearly 400 members, 470 part-time faculty, and some 550 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 activities. We prepare students to be thoughtful, responsible and successful citizens.

Central Connecticut State University is, above all else, about teaching undergraduate and graduate students. Our research endeavors 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; highly regarded by its many constituents; a significant resource contributing to the cultural and economic development of Connecticut; global in its perspective and outreach; and widely respected as a university dedicated to innovative, activity-based, life-long and learner-centered higher education.

## AFFIRMATIVE ACTION POLICY

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

The University's affirmative action policy seeks to include persons of color, women, veterans and persons with disabilities in its educational programs and in all job groups of its work force. Further information is available from the University Office of Counsel to the President/Multicultural Affairs, located in Davidson Hall 104 (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 function the development and administration of graduate degree programs which reflect high academic standards for advanced study. 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 Doctor of Education, Sixth-Year Certificate in Reading and in Educational Leadership, Master of Science, Master of Arts, and Master of Business Administration. Non-degree graduate-level planned programs leading to teacher certification and certificates for professional enhancement are also available.

## GRADUATE MISSION

The Graduate School is a community of scholars devoted to increasing human awareness and understanding through scholarly inquiry, research, and study in specialized disciplines. The aim of graduate education is to provide students with the environment to develop knowledge and skills to make contributions to their discipline and to the rapidly changing world. Through an atmosphere of intellectual and personal integrity, an attitude of excellence, and a spirit of creative independence, our graduates develop mastery in their fields and become lifelong learners and leaders within their respective professions.

## GRADUATE TENETS

- Community of Scholars - To facilitate active and ongoing participation, communication, and interaction of faculty and students around a shared commitment to the advancement of knowledge through innovation and research.
- Scholarly Inquiry - To foster a spirit of intellectual curiosity, reflective thinking, and the application of rigor in the evolving formulation of knowledge.
- Intellectual and Personal Integrity - To live according to personal and professional values and standards and to be cognizant of the consequences that decisions and actions have on others and the environment.
- Excellence - To strive for ongoing quality improvement through careful planning, innovation, and program evaluation.
- Leadership - To take initiative for shaping the direction of one's discipline by modeling high standards of professional behavior and inspiring and motivating others to do the same.


## 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 leader-
ship 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. The school participates in the Master of Science in Computer Information Technology, an interdisciplinary program with the Schools of Technology and Arts and Sciences.

## 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 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 a doctorate (Ed.D.) in Educational Leadership, master's programs, two sixth-year certificate programs and several non-degree 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 engineering technology, technology management, and technology education. The civil engineering technology and the manufacturing engineering technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202; (401) 347-7700. The industrial technology program is accredited by the National Association of Industrial Technology (NAIT).

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

## THE GRADUATE PROGRAMS

Central Connecticut State University offers graduate degree programs in 41 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 includes either 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 designed for certified teachers (although some departments admit students who have not completed certification) and for students in other professions. Degree programs include at least 30 credits of course work; capstone experiences are required in the form of theses, special projects, and/or comprehensive examinations.

The Master of Business Administration (MBA) is a 33 credit plan, which includes an international core, a concentration, and an integrative experience as the capstone. The program prepares graduates for leadership positions in the multinational business environment.

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.

The Ed.D. program in Educational Leadership, CCSU's first doctoral program, serves educational leaders in Connecticut through an innovative program of study integrating course work and field studies grounded in authentic inquiry. Faculty and doctoral candidates work together to improve educational opportunities for the children and young people of Connecticut. Students accepted to the Ed.D. program proceed as a cohort through three years of intensive summer work to complete their core courses and seminar work. Students also complete a spe-
cialization and a dissertation. Students complete a minimum of 63 credits.

Graduate post baccalaureate programs are available for initial teacher certification in elementary, secondary, TESOL, and prekindergarten through grade twelve fields, such as art, music, and physical and technology education. Course work taken within related degree programs may lead to certification as school counselor, media specialist, reading consultant, and intermediate administrator/supervisor. The Office of the Dean, School of Education and Professional Studies, provides up-to-date information concerning certification programs and state requirements for certification.

There are also Official Certificate Programs (OCP) in Pre-health and Cell and Molecular Biology, as well as Advanced OCP programs in School Counseling and Reading. Also available are planned programs of study beyond the master's for teachers and school personnel and students interested in other areas and disciplines.

## GRADUATE PROGRAMS IN THE

 SCHOOL OF ARTS AND SCIENCESArt Education
MS, Teacher Certification, Post Masters
Biological Sciences
MA, MS, OCP, Teacher Certification
Criminal Justice
MS
Data Mining
MS
English
MA, Teacher Certification, Post Masters
Geography
MS
History
MA, Teacher Certification, Post Masters
Information Design
MA
International Studies
MS
Mathematics
MA, MS, Teacher Certification
Modern Languages
MA, Teacher Certification: French, German, Italian, Spanish
Music Education
MS, Teacher Certification, Post Masters
Natural Sciences
MS, Teacher Certification: Chemistry, Earth Sciences, Physics, Integrated Science, Post Masters
Organizational Communication MS
Psychology
MA

Public History
MA
Social Science
Teacher Certification
Spanish
MS, Teacher Certification
TESOL
MS, Teacher Certification

## GRADUATE PROGRAMS IN THE

SCHOOL OF BUSINESS
Business Education
MS, Teacher Certification
Business Administration MBA

## GRADUATE PROGRAMS IN THE SCHOOL OF EDUCATION AND PROFESSIONAL STUDIES

Counselor Education
MS, Advanced OCP
Early Childhood Education MS
Educational Foundations Policy/
Secondary Education
MS
Educational Leadership MS, SYC, Ed.D.
Educational Technology MS
Elementary Education MS, Teacher Certification
Marriage and Family Therapy MS
Physical Education MS, Teacher Certification
Reading
MS, SYC, Advanced OCP
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 <br> SCHOOL OF TECHNOLOGY

Engineering Technology MS
Technology Management MS
Technology Education MS, Teacher Certification

## INTERDISCIPLINARY PROGRAM: SCHOOLS OF ARTS AND SCIENCES, BUSINESS, TECHNOLOGY

Computer Information Technology MS

Many of the above programs have specializations that students may elect as a specific area of study. 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 (nine hours or more) or part-time (eight 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 at (http//www.ccsu.edu/grad).

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. All academic credentials submitted by applicants become part of the student's permanent file at the University and cannot be returned.

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, personal interview, etc. If so required by the program of application, applicants must provide the additional evidence of admissibility to the department.

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.

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 1 for the fall semester and December 1 for the spring semester.

It is recommended that international applicants submit all application materials one year before the semester they wish to begin their program to ensure adequate time for processing visa applications and for making other arrangements. However, all international applications must be received no later than May 1 and for the spring semester by November 1.

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

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 (not applicable for students in programs that are completed entirely on-line);
(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 Dean of Graduate Studies in conjunction with the student's advisor and appropriate staff from the George R. Muirhead Center for International Education.

Central Connecticut State University is authorized under federal law to enroll nonimmigrant, permanent resident students, provided they meet all admission standards. 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, and speaking. Students are placed in the appropriate level, based primarily on the results of a placement 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 146.

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

Re-Admission of Former Students. Students who wish to be considered for re-admission after one year of being withdrawn from a graduate program must be reactivated by completing 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. Master's degree applicants 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 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 and do not meet the minimum undergraduate GPA of 2.70 on a four-point scale (where $\mathrm{A}=4.00$ ), 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.

Applicants to the Ed.D. program and to sixth-year certificates in Educational Leadership and in Reading must hold master's degrees and bachelor's degrees from regionally accredited institutions of higher education. The academic record must demonstrate clear evidence of ability to undertake and successfully pursue studies in the graduate field. Each program has its own requirements. Applicants are advised to consult the program description sections of this catalog about specific application requirements relevant to the graduate program.

Other Post-Master's Study. Students wishing to develop a program of study in other fields beyond the master's may request admission to a 30 -credit planned program of postmaster's study in an available area of interest. All planned programs of post-master's study, with the exception of the Ed.D. in Educational Leadership and sixth-year certificates in Educational Leadership and in Reading, are non-degree programs and are provided in a limited number of fields. Admission to programs of post-master's study is limited to students who hold an appropriate master's degree and the appropriate Connecticut teaching certificate (if applicable), 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 $\mathrm{A}=4.00$ ). Additional admission requirements are described in the program descriptions section of this catalog.

Official Certificate Programs (OCP) are academic programs of study that have been designed for those interested in developing expertise in a particular field of study. These do not lead to degrees and requirements are individually prescribed dependent on the program. The Graduate Application form lists the OCP programs that are available. Applicants are advised to consult the program description sections of this catalog to determine specific requirements for each of the programs.

## 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 under-graduate 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) of the semester in which the student is first eligible. (Note: These dates and processes differ for applicants to the Summer Through Summer Program in Elementary Education and Accelerated Programs for Teacher Certification in Mathematics or Spanish. 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 postbaccalaureate course work at CCSU; met special departmental requirements; and passed the basic skills examination for prospective teachers (Praxis I or the Pre-Professional Skills Test-PPST) 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 satisfactory Praxis I or the PPST test completion or an official waiver; a copy of the letter of admission to the graduate program; and a signed copy of the official planned program of graduate study.

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

Students admitted for graduate study, but not yet admitted to the Professional Program for teacher certification, develop, with their assigned advisor, 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 obtained from the Office of the Dean, School of Education and Professional Studies (Barnard Hall 248). Student teaching applications and information are available in the Office of Field Experiences and Student Teaching (Barnard Hall 309).

## CONDITIONAL ADMISSION

An applicant for graduate study in master's or some Official Certificate Programs 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 nondegree 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.

Conditional admission does not apply to graduate study in the Ed.D.in Educational Leadership, Sixth-Year Certificate Programs in Educational Leadership and Reading, and advanced OCP programs.

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 advisor may recommend regular or full 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 Dean 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 aca-
demic school, and the department chair of the relevant program will be consulted before making a decision.

## GRADUATE STUDENT POLICIES AND DEGREE REQUIREMENTS

The policies and degree requirements for graduate students at Central Connecticut State University are governed by the University faculty, and administered by the Dean 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 that 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 University. A Graduate School Handbook, available in the Office of Graduate Studies (Barnard 102), details all policies related to graduate students and programs. Advisors are provided to assist in planning the academic program, but they are not authorized to change established policy of the University. Advisors 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 advisor to develop the planned program of graduate study. After the advisor has signed the planned program form, it must be submitted by the advisor to the Graduate Studies

Office for approval. 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 advisor and approved by the Dean of Graduate Studies, represents a formal agreement between the University and the student. Any changes in the planned program must be approved by the advisor and the Dean 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 advisor 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 advisor, will be approved.

Six-Year Time Limit. All course work and non-credit capstone requirements (i.e., dissertations, 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 advisor who will forward it with recommendations to the Dean of Graduate Studies. When making the request, the student should include the date when the six-year limit will be reached, the amount of additional time needed to complete all degree requirements, and the reason for not meeting the six-year limit. If the Dean of Graduate Studies deems the request justified, due to extenuating circumstances, an extension may be granted.

## Changes in the Planned Program. A

course substitution form must be completed whenever a student wants to modify degree
requirements or apply a course not previously included in an approved planned program toward requirements. Requests to change program requirements, which are initiated after the student has started a thesis or attempted after the comprehensive examination, must be approved by the student's academic department as well as by the Dean of Graduate Studies.

Changes of Program. To change a graduate program after admission, the student must complete a change of major/advisor 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 advisor. The student must then consult with the new advisor 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 advisor's discretion.

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 advisor 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.

## 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 a capstone experience of a master's thesis (Plan A), a special project such as an art exhibit, performance, or applied research project (Plan C), and/or a comprehensive examination (Plan B). The program descriptions section of this catalog explains the capstone options available for each degree program.

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

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

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 advisor. Depending on department policy, students receive either three or six credits for completing the thesis requirement.

Students electing to write a thesis, in accordance with department or program policy, will select or be assigned a faculty thesis advisor. Students select a topic in consultation with the thesis advisor. The advisor and committee of a minimum of one additional faculty member must approve the thesis proposal and the thesis prior to their submission to the Dean of Graduate Studies. Some departments require their students to give an oral defense of their thesis before it is submitted to the Dean 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 advisor will serve as the thesis advisor. If the student and the advisor deem it
appropriate, another faculty member may be appointed by the department chair to serve as thesis advisor.
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 Dean of Graduate Studies by the thesis advisor.
3. The thesis must be prepared in a style and format appropriate to the discipline and approved by the Dean 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 advisor no later than March 15.
5. Two copies of the approved thesis and five additional copies of the thesis abstract (not to exceed 300 words) must be submitted to the Dean 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 advisors 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 Dean of Graduate Studies for permission to retake the examination.

Students who elect the Plan C option must complete a special project. The availability of this option and the requirements for the special project vary according to the degree program. In general, the special project involves completion of a body of applied work appropriate to the degree specialization. The faculty advisor or another faculty member in the department will supervise the project. The student's work will be evaluated by the advisor 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 advisors the department's requirements for the special project. Students normally receive three credits upon successful completion of their project.

## DOCTORAL DEGREE REQUIREMENTS

At time of admission, all candidates must commit to summer study. Courses and learning experiences are sequenced over four summers and three academic years. The program is limited to admitting 25 students each year who proceed through the program as a cohort, taking the same required courses and having the same experiences. If candidates are able to keep up with their cohort and do their dissertation in the planned oneyear period of time, the program can be completed in three years.

The Ed.D. 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 63 credits beyond the master's degree of approved graduate courses and a dissertation. A dissertation is different from a thesis. The dissertation in the Ed.D. program focuses on the translation of theory to practice. It is connected to the candidate's research interest and is expected to break new ground by providing a bridge between what is known from research and what needs to be done in practice. Each candidate is responsible for identifying a dissertation advisor, choosing a dissertation topic with the dissertation advisor, and completing the dissertation as outlined in the department's approval processes and described in detail in the Dissertation Handbook.

## 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.

## GRADUATE TEACHER CERTIFICATION PROGRAMS

Requirements for teacher certification at the graduate level will be individually prescribed by the advisor 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 advisor 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 <br> 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 advantage to these programs is that they are formal programs of study, in which students may be matriculated, pursue their studies on a full-time 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 advisor. All requirements must be completed within a six-year time period dating from the earliest course included on the planned program. When requirements have been completed, students may request an official letter from the Dean 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 20 . 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 advisor, department chair and Dean of Graduate Studies, who will give preferential admission to graduate students.
600-699 Graduate courses open only to master's, sixth-year, and doctoral students.
700-799 Graduate courses open only to doctoral 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 advisor and the Dean of Graduate Studies. Students may have a maximum of nine credits (and in some cases zero to six, depending on the program) at the 400 level as approved by the program advisor. Courses numbered under 400 may be applied toward teacher certification and official certificate programs when recommended by the advisor 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 15 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 last day of the third week of classes during a regular semester. If a full-time graduate students drops below nine credits, the student must change status from full-time to part-time. Requests for dropping a course must be in writing and a confirmation copy of this will be given to the student. 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. 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.

Warning: Failure to carry a minimum of nine credits may affect Satisfactory Academic Progress (SAP) and receipt of certain federal, state, and other benefits, including but not limited to various financial aid programs, Veterans benefits, and Social Security benefits. Students dropping below nine credits are ineligible for participation in intercollegiate athletics.

Withdrawing from a Course. Graduate students, full-time or part-time, can withdraw from any class during the fourth week to the end of the eighth week by going to the Registrar's Office or the Enrollment Center/Office of Continuing Education and completing a two-part withdrawal request form. No approval is necessary if completed by the deadline. A "W" will appear on the transcript in all cases of withdrawal; no exceptions. After the eighth week of classes, withdrawals are only permissible under extenuating circumstances after recommendation of the instructor and chair, and approval of appropriate dean(s). Poor academic performance is not considered an extenuating circumstance. A "W" appears on the transcript. 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.
"Bridge" Course. A "bridge" course is an entry level graduate course which may share lectures with a specific advanced undergraduate ( 400 -level) capstone course. Each of these courses will have different numbers, titles, syllabi, and requirements. No credit will be given for those students who have already taken the 400 -level course.
"Link" Course. A "link" course is a graduate topics course, which may share lectures with a specific advanced undergraduate (400-level) topics course on the same topic. Each of these courses will have different numbers, titles, syllabi, and requirements. No credit will be given for those students who have already taken the 400 -level course.

## Withdrawing from the Graduate Pro-

 gram. 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 theRegistrar or designee and file all appropriate forms.

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 Graduate Studies. 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. If the student subsequently wishes to resume full-time graduate study within two years, a Request for Reinstatement form must be submitted through Graduate Admissions. After two years, students must reapply by filing a re-enrollment form and paying a fee of $\$ 50$ to resume their studies.

## 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: $\mathrm{A}(4.0)$; A(3.7); B+ (3.3); B (3.0); B- (2.7); C+ (2.3); C (2.0); C- (1.7); D+ (1.3); D (1.0); D-(0.7); F (0.0). No planned program credit is awarded for grades of C - or below, but all grades received in post-baccalaureate status at Central Connecticut State University 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. (This latter policy does not refer to grades of Incomplete received for theses.)

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 an 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) or in the Graduate School Handbook (available in Graduate Studies, Barnard Hall 102).

Non-Graded Appeals. A formalized process for appealing non-graded, performancebased assessments, such as comprehensive examinations, degree candidacy, etc., has been established by the Graduate Studies Committee. Similar to graded appeals, a student who believes that an error or a palpable injustice has occurred should first confer with the department to which the appeal is directed. If the outcome is not satisfactory, further appeal shall be to the dean of the appropriate academic school. If no settlement can be effected, the student should bring the appeal to the Standing Appeals Committee of the Graduate Studies Committee. (Contact may be made through Graduate Studies, 102 Barnard Hall.) The Graduate Appeals Committee will meet as a group to determine whether there is merit to an appeal of a non-graded, performancebased assessment by reviewing documents and records that are presented with the appeal. If the Appeals Committee believes that additional information is needed, the
committee will request clarification from the department and/or student. The Committee's determination will be based on whether the student was denied due process. The Appeals Committee will render their decision in writing by notifying the Dean of Graduate Studies.

## TRANSCRIPT POLICY

A transcript is the complete, unabridged academic record, without deletions or omissions, compiled while at Central Connecticut State University. Upon the granting of a degree or completion of a program, a student's transcript is considered officially sealed, meaning no changes in grades or alteration in courses will be made unless that student believes that the information in his or her transcript is inaccurate, misleading, or in violation of his or her rights of privacy. It is a student's responsibility to review and confirm the accuracy of his or her academic record. A student may view his or her transcript at any time on the Web to verify its content. It is recommended that the degree recipient confirm the accuracy of all grades, honors, terms, and cumulative GPA notations at the time final grades are posted to their academic record, on or about graduation.

It is a student's responsibility to notify the Office of the Registrar, in writing, of the information in the transcript that he or she believes is inaccurate, misleading, or in violation of his or her rights of privacy. A student who believes that his or her transcript is inaccurate, misleading, or in violation of his or her rights of privacy has the right to request an amendment to the transcript and, if this request is denied, the right to an opportunity for a hearing to challenge the content of the transcript on the ground that it is inaccurate, misleading, or in violation of his or her rights of privacy. If, as a result of the hearing, the student's request is denied, the University shall inform the student of the right to place a statement with the transcript, commenting on the contested information in the record or stating why he or she disagrees with the decision of the University, or both.

## 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 from the Dean of Graduate Studies, informing them that they are no
longer in good academic standing and that they have been placed on academic probation or dismissed from their program. Once a letter is received, the student is expected to promptly meet with the Dean and provide an explanation for his/her poor performance. If a student receives a letter of dismissal and fails to meet with the Dean 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 Dean of Graduate Studies will decide whether 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 doctoral or 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 Dean 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 Dean 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 University 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.

The amount of graduate work transferable to a graduate degree program is limited
to a maximum of nine credits for programs requiring 30 to 35 credits or 25 percent of the total credits for programs requiring 36 credits or more, not including prerequisites. In order to be transferred, a course or courses must be determined to be:

- graduate level from an accredited institution authorized to grant graduate degrees;
- passed with an earned grade of 3.00 (B) or higher (Pass/fail courses may not be transferred);
- within the six-year limit at the time of graduation from CCSU;
- recorded on an official transcript from the granting institution; and
- included on the planned program by the graduate program advisor.
Students who have been admitted to a graduate program must obtain prior written approval from the advisor and the Dean 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 Graduate Studies Office and 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 noncollegiate 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 doctoral degree, master's degree, or 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 the above dates 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) and the Graduate School Handbook (available from the Office of Graduate Studies, Barnard Hall 102). These handbooks describe in detail the code of student conduct and subsequent disciplinary actions that may occur as a result of violations of this code. 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.

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

The CSU code of conduct, Guidelines for Student Rights and Responsibilities and Judicial Procedures, defines academic misconduct
as including, but "...not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation, including papers, projects, and examinations (cheating); and presenting, as one's own, the ideas or words of another person or persons for academic evaluation without proper acknowledgement (plagiarism)."

Cheating may take many forms. It includes, but is not limited to, the following actions, unless explicitly authorized by the instructor:

## Exams:

- Copying from another person's paper or receiving unauthorized aid from another person during an examination;
- Use of unauthorized materials or devices during an examination or any other form of academic evaluation and grading; e.g., use of signals, notes, books, or calculators during an examination when the instructor has not approved their use;
- Knowingly allowing another person to copy from one's paper during an examination.


## Improper Behavior:

- Use of another person as a substitute in any form of academic evaluation or acting as a substitute for another person in any form of academic evaluation; e.g., a student cannot have another person take an examination for him/her;
- Acquisition or distribution of improperly acquired examinations; e.g., stealing examinations before the test period or taking a copy of an examination from a testing room without the permission of the instructor. (Examinations which have been distributed by an instructor are legitimate study tools.);
- Submission of another's material as one's own for academic evaluation;
- Preparation of work for another student to submit for academic evaluation;
- Unauthorized collaboration in the preparation of materials to be submitted for academic evaluation; e.g., working with another student on an assignment when the instructor has not authorized working together;
- Submission of the same work, or substantially similar work, in more than one course without prior consent of the evaluating instructor(s);
- Disruption in classroom, lab, or research and study areas; any conduct or actions that grossly or persistently interferes with the academic process.
(See the CSU, Rights and Responsibilities, "Proscribed Conduct," No. 7, CCSU Student Handbook.)


## Falsification or Misuse of Academic

## Information:

- Falsification or misrepresentation of one's own academic record or that of anyone else; e.g., altering a transcript for admission, hacking into the University's computer system and changing a grade, having another student take an examination in one's place, signing someone else's name to an attendance sheet.
- Unauthorized use of information in University computer records or the computer files of other students (see Computer Use Policy);
- Using unauthorized materials or fabricated data in an academic exercise; e.g., falsifying data in a research paper or laboratory activity; conducting research on human or animal subjects without review by the appropriate panel or supervisor.


## Plagiarism:

- Copying sentences, phrases, paragraphs, tables, figures, or data directly or in slightly modified form from a book, article, or other academic source without using quotation marks or giving proper acknowledgment to the original author or source.
- Copying information from Internet Web sites and submitting it as one's own work;
- Buying papers for the purpose of turning them in as one's own work;
- Selling or lending of papers for the purpose of violating academic honesty policies. (This may also be an academic crime, see Connecticut General Statutes, $\$ 53-392$ a.)


## Understanding Plagiarism:

Plagiarism is presenting another person's work without acknowledgements, whether in the same or in slightly modified form. In academic practice this is regarded as theft, intended to gain undeserved credit. Like other forms of academic dishonesty, plagiarism is cheating. To academicians, a welldocumented paper is more impressive than one which arouses the suspicion of a reader who is familiar with the student's work and alert to echoes of other writers. The proper use of outside sources does not necessarily mean that a paper is lacking in originality, nor does the presence of quotation marks in the text. In fact, the purpose of research and documentation is to share useful information with the reader. The penalties for plagiarism greatly exceed the unlikely reward of
gaining credit by getting away with it. Students must be careful to avoid plagiarism and are responsible for learning how to present the ideas of others in their own work. For current documentation practice, student should consult the instructor and a style manual. When material is borrowed from another person, the source must be indicated. There are three ways in which another writer's material may appear:

1. By putting quotation marks around short passages borrowed verbatim (word for word); or by setting off from the text, without quotation marks, for longer quotations.
2. By précis: condensing part of a writer's argument.
3. By paraphrase: interpretation of a writer's ideas.
All three must be acknowledged either in footnotes or informally in the text.
Consequence of Academic Misconduct:

- There are significant consequences when a graduate student engages in academic misconduct.
- In each case the faculty member will initiate a conference with the student, after which the faculty member who believes that misconduct has occurred must complete a University Academic Misconduct Report, which is the record of a faculty member's determination that the student identified in the report has engaged in academic misconduct. The content of a University Academic Misconduct Report shall include all items indicated in the form attached to this policy.
- A copy of each University Academic Misconduct Report will be sent to the student, the department chairperson, the Dean of the Graduate School, and the University Judicial Officer.
- Upon receipt of the University Academic Misconduct Report, the University Judicial Officer or the Graduate Dean, in consultation with the faculty member, may initiate further proceedings, which may result in sanctions, including disciplinary probation, suspension, or expulsion from the University.
- The sanctions for academic misconduct available to a faculty member include any or all of the following:

1. A grade of " $F$ " for the course.
2. A grade of " $F$ " for the material being evaluated.
3. A reduced grade for the material being evaluated.
4. The assigning of additional course work.

## When Graduate Students are Suspected of Academic Misconduct:

1. When a faculty member reasonably believes that there is sufficient information to demonstrate that a student may have engaged in Academic Misconduct: a. The faculty member will discuss the incident with the student, in the presence of the department chair, if the faculty member or student so desires. b. At this time the faculty member shall outline the possible penalties as specified in the CCSU Student Handbook. c. The faculty member will indicate that the matter may be referred to the Graduate Dean or the University Judicial Officer for possible disciplinary action.
2. Based on the available documentation, the response offered by the student, if any, and other relevant information: a. The faculty member will, within a reasonable period of time, reach a determination whether the student has engaged in Academic Misconduct. b. Should the faculty member determine that Academic Misconduct has occurred, the faculty member shall retain evidence of the said misconduct.
3. If the faculty member determines that Academic Misconduct has not occurred, no University Academic Misconduct Report need be prepared.
4. If the faculty member determines that Academic Misconduct has occurred, the faculty member shall:
a. Impose an academic sanction and,
b. Prepare and forward to the Graduate Dean, a University Academic Misconduct Report indicating the determination reached and sanctions imposed and,
c. Inform the student that additional University Academic Misconduct Reports may result in more severe penalties.
5. The faculty member:
a. May contact the Graduate Dean or the University Judicial Officer to request a conference with the student to further explain the act leading to the University Academic Misconduct Report. The conference will be facilitated by the Graduate Dean and include the University Judicial Officer, a Graduate Studies Committee member not affiliated with the graduate program of the student, and the graduate student. This meeting will not be a disciplinary hearing, but a con-
sultation with the student to further explain the misconduct.
b. May request a disciplinary hearing with the Graduate Dean and the University Judicial Officer in cases of serious forms of academic misconduct.
6. In accordance with the "Student Records and Disclosure Policy," "Data from academic, disciplinary, and counseling files shall not be available to unauthorized persons on campus or to any person off campus without the express consent of the student involved, except under legal compulsion." (CCSU Student Handbook)

## Subsequent Violations of the Academic

## Misconduct Policy:

When the University Judicial Officer or the Graduate Dean has multiple University Academic Misconduct Reports filed on a particular student, a "Pre-Hearing Investigation" may be conducted in anticipation of disciplinary action, which may result in disciplinary probation, suspension, or expulsion from the University. If the University Judicial Officer or the Graduate Dean determines that a formal hearing is warranted, a faculty member or members may be requested to provide information.
A Student's Rights When Suspected and or Charged with Academic Misconduct:

1. A student has the right:
a. To meet with the faculty member, in the presence of the department chair if so desired, before any determination has been made.
b. To be informed during this meeting of the faculty member's suspicions and have an opportunity to discuss the matter. c. To appeal a finding of Academic Misconduct made during the course of the semester, within 10 school days of being provided with a University Academic Misconduct Report. A written statement of appeal must be provided to the faculty member, the department chairperson, the Graduate Dean, and the University Judicial Officer, setting forth the basis of the student's appeal. Upon receipt of a student's mid-semester appeal, the University Judicial Officer will consult with the faculty member, the department chair, and the Graduate Dean and communicate to the student within 10 school days the results of the student's appeal.
2. Once a final grade is awarded, the student may file a grade appeal in accordance with the "Appeals for

Grade Change Policy," (CCSU Student Handbook).
3 If a student receives a final grade of " $F$ " as a result of violating the Academic Misconduct Policy, and that grade is upheld by the grade appeal process, no retroactive withdrawal from the course will be permitted.
4. All end of the semester appeals must be made in accordance with the "Appeals for Grade Change Policy."
5. In addition to academic sanctions provided by the faculty member, if disciplinary proceedings have been initiated by the University Judicial Officer or the Graduate Dean, a student has the right to have such proceedings resolved in accordance with the CSU "Guidelines for Student Rights and Responsibilities and Judicial Procedures."

## Professor's Responsibilities When Acade-

 mic Misconduct is Suspected During End of the Semester Grading:If a faculty member reasonably suspects academic misconduct during end of the semester grading, a grade of Incomplete may be entered to be replaced by an appropriate grade once the issue is resolved. The grade of Incomplete allows a faculty member to complete end of the semester grading and still follow up on suspected violations of the University Academic Misconduct Policy.

For Academic Misconduct, reported by a member of the University Community other than the relevant faculty member, please refer to "Academic Misconduct" in "Guidelines for Student Rights and Responsibilities and Judicial Procedures." (CCSU 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), Comprehensive Examinations (Plan B), 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, at (860) 832-CCSU (2278).

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 advisor prior to registration.

Part-time graduate students are charged a fixed rate per credit. Part-time students are also charged a $\$ 52$ 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 ContinuingEducation. 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 2002-03 of tuition and fees charged to fulltime graduate students (nine or more credits of courses) are as follows.

|  |  | Non- <br> Resident <br> resident |
| :--- | ---: | ---: |
| Tuition | $\$ 1,440.00$ | $\$ 4014.00$ |
| State University Fee | $\$ 353.00$ | $\$ 858.00$ |
| General Fee | $\$ 705.00$ | $\$ 705.00$ |
| Student Activity Fee <br> Information | $\$ 37.00$ | $\$ 37.00$ |
| Technology Fee | $\$ 100.00$ | $\$ 100.00$ |

Sickness Insurance. A sickness insurance fee of $\$ 188.00$ per semester is required of all students who do not submit a waiver form.

Total Tuition and other required fees
Fall
\$2,635.00 \$5,714.00
Spring
$\$ 2,635.00 \$ 5,714.00$

## PART-TIME COURSE AND REGISTRATION FEES

The 2002-03 fees charged to part-time graduate students are as follows. These fees are subject to change without notice.
Registration Fee
$\$ 52.00$
Courses numbered 099-699 \$245.00
(per credit)
Doctoral students-courses $\$ 375.00$
numbered 099-799 (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) $\$ 300.00$ 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 \$200.00
Residence Hall Room
Balance Per Semester
Standard
\$1,820.00
James Hall
2,177.00
Vance Hall
2,717.00
Meal Plan (required of on-campus residence hall students):
A. 19 Meals/week \& 10 Guest Meals
B. $220 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals
\$1,320.00
C. $180 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals plus \$100 Blue Chip
D. 150 Meals/semester \& 10 Guest Meals plus \$200 Blue Chip
E. $120 \mathrm{Meals} /$ semester plus
\$1,385.00
$\$ 250$ Blue Chip
\$1,430.00

## PAYMENT OF FEES

All graduate students accepted for full-time study must pay a non-refundable $\mathbf{\$ 9 0}$ Graduate Confirmation Deposit which secures a place at the University. This fee is later applied towards the full-time tuition/fees.

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:
Confirmation 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 2 to 3 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 Office of Veterans Affairs (Davidson Hall 106). 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. The CPP is an installment payment plan that allows CCSU charges to be paid in three installments per semester. Fall semester installment payments are made in three installments, beginning July 15 and ending on September 15. Spring semester installment payments begin December 15 and end on February 15.There is an enrollment fee for this service but no interest charge. The fee is $\$ 30$ per semester. Full-time students desiring to be enrolled in the CPP may complete the Enrollment Form on the back of the billing statement.

All questions concerning the CENTRAL Payment Plan (CPP) should be directed to the CCSU Bursar's Office at 832-2220.
Office hours are weekdays 8:00 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 at Memorial Hall cafeterias, Student Center dining areas, and 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.

The University has an agreement with CenConn (formerly 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 a CenConn 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. CenConn's CCSU office is located in the Student Center, Room 106 (832-0139).

Questions concerning Blue Chip Cards and accounts, or the CenConn banking program, may be directed to the Card Office, located in the Student Center. Card Office hours are Monday through Thursday from 9 a.m. to 7 p.m. and Friday from 9 a.m. to 4 p.m. The phone number is $832-2140$; or visit the Web site 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 matriculated (that is, be admitted to a graduate program and enrolled in courses applicable to the program); (4) be attending classes at least half-time (defined for financial aid purposes as six credits of course work); and (5) be making satisfactory academic progress toward the degree as defined by the University and in the Graduate Catalog.

An application and all supporting documents required by the University must be filed each year that assistance is requested. Eligibility for financial aid can be determined only
after all required forms have been submitted to the Financial Aid Office. Applicants will be notified if they qualify for the financial aid programs via an award notification.

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

Federal Subsidized Stafford Loan (variable interest rate loan - $8.25 \%$ cap). Interest rate is adjusted July 1 each year. Subsidized loans are based on need. Student is responsible for interest when studies have been terminated or dropped below half time, and repayment begins after a six month grace period. Graduate annual limit is $\$ 8500$ per year. Aggregate loan limit 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 State University's graduate assistantship program provides some financial support for students who wish to participate in an academically relevant work experience while pursuing graduate study. A limited number of graduate assistantships are available for full-time and part-time graduate students. Graduate assistants may teach, supervise laboratories, 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 the doctoral or a master's degree, sixth-year certificate, post-master's planned program, postbaccalaureate teacher certification or official certificate program.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 Dean of Graduate Studies, upon the recommendation of a department chair, academic dean, or the principal investigator of a grant.

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 20 hours of service per week during the semester or 300 hours per semester; students appointed as half-time GA's provide 10 hours of service per week or 150 hours per semester.

Course Loads for Graduate Assistants. To be awarded a full-time assistantship, a graduate must be classified as a full-time student. Nine credits comprise the required course load minimum for full-time graduates. Halftime appointed GA's who are full-time students must also enroll for nine or more credits of course work. A part-time student who receives a graduate assistantship must take from three to eight 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 $\mathbf{\$ 2 , 4 0 0}$ 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

## FELLOWSHIPS

Graduate Academic Scholarships are annual awards provided each fall semester to highly qualified students recommended by their departments. Students should contact the academic departments or the Graduate Office for 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 advisor. All students are encouraged to seek regular advice from their advisors about registration and course selection, progress toward degree completion, and opportunities for career development and further study. A student should also consult with the advisor before registration for course work, if possible. An official planned program of graduate study, designed by the student and an advisor, must be submitted and approved prior to completion of 15 credits of course work.

A student may request a faculty advisor other than the one assigned by their department. To request a new advisor, the student
must complete a "Request for Change of Major and/or Advisor" form available in the offices of Graduate Studies, Registrar, or Enrollment Center/Continuing Education. Changes of advisors are not automatic; however, to the extent that individual faculty schedules permit, student requests for advisors 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 any part-time student who pays a nominal membership fee. (Full-time student dues are included in the fees paid by full-time students.)

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

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

For further information, contact the Graduate Student Association through the Graduate Studies Office, 102 Barnard Hall, 860/832-2364.

## OTHER STUDENT SERVICES

Academic Center for Student Athletes. The Academic Center for Student Athletes (ACSA) serves as a comprehensive program providing academic support for CCSU's intercollegiate student-athletes. The Center's staff assists student-athletes during team study halls and one-on-one meetings by
introducing them to time management tools, learning strategies and campus resources. The Center, located in the library, is equipped with computers and provides a comfortable environment for studying. ACSA is also affiliated with the NCAA Champs Life Skills Program and offers a variety of life skills programs each year.

Campus Mediation Services. Campus Mediation Services recognizes that conflicts are a part of everyone's life. Its purpose is to help students responsibly and constructively solve their own conflicts. Sometimes people are unable to resolve their own conflicts by themselves, and they need someone to help.

Mediation is a voluntary, confidential and structured process of resolving disputes and conflicts with the help of a neutral third party. A mediator helps disputing parties to generate and evaluate options for reaching a mutually acceptable agreement. Often students in conflict don't have an opportunity to talk over their grievances in a neutral setting and to work together to find their own solutions. As a result, anger and frustration grow. Mediation is a workable alternative.

Campus Mediation Services is conducted on an as-needed basis. For questions regarding Campus Mediation, please call Natalie Stimpson-Byers, Assistant to the Vice President for Student Affairs; Davidson Hall, Room 106, 832-1603.

Campus Ministry. The campus ministers are available to all students for personal counseling and participation in classroom discussion and to provide a variety of social, spiritual, and educational programs. The Campus Ministry Office is located in Marcus White, Room 220 (832-1935).

- Reverend Janet L. Stoddard, Protestant Campus Ministry, 832-1935
- Rabbi Henri Okolica and Marci Miller, Jewish Campus Ministry, 832-1935; campus contact is Sharon Braverman, 832-3207
- Father Richard J. Donovan, ofm,

Catholic Campus Chaplain, 832-1935; The Newman House of CCSU, 832-3795

- Imam Qasim Sharief, Islamic Campus Ministry, 832-1935; campus contact is Dr. Ali Antar, 832-2932.


## 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 tech-
niques, job search strategies and information on employment. Recruiters from major area corporations, government agencies and school systems visit the campus as 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 (860-832-1647).

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 in six-month, paid positions, related to their major field of study, which 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 p.m.; Friday, 8:30 a.m. to 4 p.m. and Saturday morning during the academic year, 7:45 a.m. to 12 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 University's graduate programs receive advisement from their faculty advisors.

International Student Services. All international students should contact the Immigration Specialist in the George R. Muirhead Center for International Education (Barnard 146) 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 experiencefor 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, AlcoholEDU, prevention education programs on a range of behavioral health issues and training for student leaders, staff and faculty.

Prevention and Counseling Services is located in Willard Hall, Room 100 (8321945). It offers student internships, practicums, and assistantships for individualized development to qualified students.

Special Student Services. The Director of Special Student Services (Willard 100) helps students to obtain a wide range of services designed to make the academic opportunities of the Central Connecticut State University campus more accessible. 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 (8321955), (TDD 860/832-1958).

Student Judicial Programs. The Office for Student Judicial Programs administers the student conduct system for all full- and parttime students. The goal of the Office for Student Judicial Programs is the resolution of discipline cases in a developmentally sound manner consistent with University policy and applicable state and federal laws. This Office
assists with the coordination of conduct referrals to counseling, alcohol and other drug education, and other 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 conduct system. It is also responsible for developing ways to effectively respond to incidents or issues which threaten to disrupt the learning environment. The Director of Student Judicial Programs is available to all students, faculty, and staff who may have questions or concerns regarding the University Judicial System. The Office is located in Barrows Hall, Room 110 (832-1667).

University Health Service. The University Health Service provides medical services to all students, by appointment, for the maintenance of health and the evaluation and treatment of illnesses and injuries. Various clinics, including blood pressure monitoring, travel, flu, and allergy, to name a few, are offered. All medical appointments are free but there are nominal fees for immunizations, allergy shots, certain diagnostic evaluations, and prescriptions that we supply in our office. Other services, such as laboratory and x-ray costs or prescriptions filled in an outside pharmacy, are covered in part or in full through students' insurance plans.

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 a.m. to $3: 45$ p.m. and Friday from 9 a.m. to 4 p.m. (closed daily from 12 to 1 p.m.). These hours are subject to change.

Veterans Affairs. The Office of Veterans Affairs (Davidson 106) 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 affairs coordinator (832-2838).

[^0]the needs and interests of campus women. The Ruthe Boyea Women's Center is located in the Student Center, Room 215 (832$1655)$. Both men and women are welcome.

## GENERAL INFORMATION

## ALUMNI ASSOCIATION

The CCSU Alumni Association sponsors programs and services for students, alumni, and current members of the University community, including an affinity credit card and group rate insurance programs. The Association also sponsors major events such as Homecoming, Alumni Day, and class reunions. Career and library services, as well as access to campus computing facilities (for two semesters following graduation), are provided to members. 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, governs the Alumni Association. For more information, contact the Alumni Affairs Office at (860) 832-1740.

## BOOKSTORE

The newly renovated University Bookstore, operated by Barnes and Noble, Inc., is located in the Student Center. In addition to carrying course textbooks, the University Bookstore maintains an inventory of office and school supplies, CCSU gifts items, health and beauty aids, reference materials, greeting cards, soda, and snacks. A photography service is also available.

## CANCELLATION OF CLASSES OR FINAL EXAMINATIONS DUE TO INCLEMENT WEATHER

At the discretion of the University, classes may be cancelled or delayed because of inclement weather conditions. The most accurate cancellation and delay information for Central Connecticut State University will be made available on the Snow Phone: 860-832-3333 and on the Web at www.ccsu.edu/cancellation. These services will be updated twice daily: 6 a.m. for the day schedule and 2 p.m. for the evening schedule.

If the University is forced to close or delay during the final examination period because of storm conditions, this information will also be made available on the Snow Phone and the Web. These services will also carry information from the

Registrar's Office once the affected exams are rescheduled.

The University will also notify the broadcast media of cancellations or delays affecting regular classes or exams. WTIC-AM 1080 is the principal radio outlet. WFSB-TV 3, WTNH-TV 8, an WVIT-TV 30 are the principal television outlets. Since radio and television stations are geared heavily toward broadcasting delay and closing announcements for public elementary and secondary schools, we recommend using the above services for the most accurate information about CCSU's closings or delays.

## 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. Students may obtain copies of the form at www.ccsu.edu/Registrar. 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 for toilet-trained children from ages three to five, is available just off Paul J. Manafort Drive at 1285 East Street, New Britain. The program follows the CCSU academic calendar (September through May), with a summer session available pending enrollment. Hours of operation are Monday through Friday, 7:45 a.m. to 5 p.m. Attendance options include nursery school and part- and full-time care. For information, contact 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 21. Additional food service is also available on a cash basis in Memorial Hall and the Student Center.

## GRADE REPORTS

Students may retrieve their grades, either by phone or on the Web at www.ccsu.edu/Registrar, 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 EXAMINATION REPORT (MEDICAL FORM) AND PART-TIME IMMUNIZATION VERIFICATION

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 to have up-to-date immunization records for measles and rubella consistent with State of Connecticut immunization guidelines.

The required forms will be provided after acceptance to the University or at the time of registration. The medical form is mailed from the University Health Service shortly after a student's acceptance. The part-time form is mailed from the Admissions Office and is also available on the University Health Service Web site at www.ccsu.edu (click on "students" and then "University Health Service" - and scroll to insurance information).

## 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; this accident premium is included in the general fee on the tuition bill. University accident coverage is not the primary insurance carrier unless there is no other insurance held by the student. Students can purchase the sickness portion of the 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. A combined sickness/accident policy is also available for their dependents through the Office of Continuing Education.

The complete text of the insurance policy is available on the University Health Service Web site at www.ccsu.edu (click on "students," and then "University Health Service" - and scroll to insurance information).

## 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 an ID card, known as the Blue Chip Card.

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 Memorial Hall. Many off-campus vendors also accept the Blue Chip Card.

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 the Card Office (832-2140). For money to be deposited instantly to a debit account, visit any of the five Card Value Centers, located at the Library (main floor),
Microcomputer Lab, Gallaudet Hall, Student Center, and Police Station, which is open 24 hours.

The Card Office is located in the Student Center, Room 106. Card Office hours are Monday through Thursday from 9 a.m. to 7 p.m. and Friday from 9 a.m. to 4 p.m. 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 EXCUSE POLICY

Those students who are out of class for more than five days and have not been seen as a patient in the University Health Service for the evaluation of the illness should direct notification of their absence from their physician to the Office of Student Affairs. The verification of an absence will be relayed to the appropriate professors.

## 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. Three master's degree programs are available via OnlineCSU, including CCSU's Master of Data Mining. CSU faculty, who design and teach the courses, are at the core of this distinctive learner-centered program. CSU campuses are fully accredited, and courses offered through OnlineCSU are approved for credit by the university offering the course.

Full-time and part-time matriculated students (students who have formally applied and been admitted to a CSU university) who already have a faculty advisor should continue to consult with that advisor regarding online courses. Non-matriculated students do not need a faculty advisor to register for an online course; however some on-line courses may be restricted to matriculated graduate students.

OnlineCSU uses WebCT's e-Learning platform. For more information about online courses, visit the OnlineCSU Web site at www.OnlineCSU.net.

## 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, 170 Manafort Drive.

## 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 officiallyrecognized activities and sports, weight and height of members of athletic teams, and awards received.

Currently-enroiled 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 170 Manafort Drive, 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.

Central Connecticut State University is proud of its efforts to maintain a safe and secure place to live, study and work. CCSU is, therefore, pleased to make available its annual "security report" on the role and authority of the University Police Department and institutional policies concerning the security of the campus, as well as policies concerning alcohol and drug use, crime prevention, the reporting of crimes, sexual assault and other matters. This report also cites statistics for the previous three years concerning reported crimes that occurred on campus, in certain off-campus buildings owned or controlled by CCSU, and on public property within or immediately adjacent to and accessible from the campus. This report is available on the following web site: www.ccsu.edu/police/. Those without access to the Internet may obtain a copy by sending a written request to: Central Connecticut State University, Police Department, P.O. Box 4010, New Britain, CT 06050-4010.

## STUDY ABROAD PROGRAMS

Central Connecticut State University can place students to study for CCSU credit almost anywhere in the world through a variety of study abroad programs. International experiences range from two weeks to one year in duration. CCSU offers two distinct types of programs - semester or academic year study abroad programs and courses abroad taught by our own faculty.

Study abroad immersion programs allow CCSU students to enroll at one of our international partner universities, often on an exchange basis. Exchange programs are arranged so students pre-pay normal tuition, and in some cases housing costs, to CCSU
while exchanging places with an international student. Full semester and academic year study abroad programs are currently available in the United Kingdom, Spain, France, Germany, Poland, Sweden, Hungary, Ghana, Puerto Rico, Jamaica, Barbados, Japan, China, Korea, and the Turkish Republic of Northern Cyprus. Financial aid applies to all CCSU programs, and scholarships are also offered on a competitive basis. With proper planning, all course work earned overseas will apply toward graduation and degree requirements.

To plan a study abroad program, contact the International Education Coordinator in the George R. Muirhead Center for International Education (CIE), Barnard Hall, Room 146, (832-2043). April 1 is the program application and scholarship deadline for all programs taking place in the upcoming academic year. Specific program information and the dates of regularly scheduled information sessions can also be found on the CIE Web site at http://www.ccsu.edu/cie.

Students may also take individual courses taught abroad by CCSU professors during a Winter or Summer Session. Students choose from some dozen courses offered each year by faculty in a variety of disciplines and countries. Foreign language proficiency is generally not required. Registration for courses taught abroad in Summer or Winter Session 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 $\$ 5$. All requests for transcripts must be in writing and include payment in advance. A copy of the form may be obtained at www.ccsu.edu/Registrar.

See "Transcript Policy" on page 17 for information on official sealing of transcripts.

## VOTER REGISTRATION

Regardless of which town in Connecticut is the place of residence, voter registration can be done on campus. Students can register to vote in the Student Affairs Office, located in Davidson Hall, Room 103.

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.

## CENTER FOR AFRICANA STUDIES

The Center for Africana Studies at Central Connecticut State University develops and encourages the study and teaching of Africa, African Americans, and people of African descent throughout the Diaspora. The Center promotes and advances a better understanding of the African and African American experience among Africans in the Diaspora; expands the understanding of the ideas, knowledge, experiences, and approaches to the study of Africa and the Diaspora; promotes research, consultation, and community service among the CCSU faculty, students, and scholars in the community and throughout the world about Africa and people of African descent; provides undergraduate and graduate instruction about Africa, African Americans, and people of African descent around the world; educates the neighboring communities and engages them in understanding the African experience; promotes constructive understanding of Africans and people of African descent; and develops international support systems for students and scholars of Africana Studies.

The Center for Africana Studies sees student participation in its activities as crucial to achieve its goals. In addition, it sees its extracurricular activities as critical both to student and faculty development and in ensuring that the community is well informed about Africa and Africans in the Diaspora.

## CENTER FOR CARIBBEAN/LATIN AMERICAN STUDIES

The Center for Caribbean/Latin American 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/Latin American Studies sponsors a variety of community events and also supports an active research facility.

## CENTER FOR PUBLIC POLICY AND PRACTICAL POLITICS

The Center for Public Policy and Practical Politics, located in the Robert C. Vance Academic Center, has been designated as a Connecticut Higher Education Center of Excellence. The Center and the William A. O'Neill Endowed Chair in Public Policy and Practical Politics incorporate innovative and excellent academic, research and outreach programs based on a commitment to serving individuals and institutions in our state, and encouraging active participation in local and state affairs through thoughtful citizenship and public service. These programs include: the archiving of the papers of former Governor William A. O'Neill, and, in the future, those of other former governors of Connecticut, as well as principal legislators and General Assembly Committees; an active program of oral history; providing a neutral forum to shape discussion, debate, and resolution of contemporary public problems affecting state and local government, business, labor, education, community service organizations, and our citizens; and the annual Critical Issues Symposium. The Center, working closely with the Schools and academic departments, plans to develop an interdisciplinary Connecticut Curriculum and outreach programs of informational and training assistance to Connecticut's municipalities and non-profit organizations.

The Institute for Municipal and Regional Policy is an integral component of the Center for Public Policy and Practical Politics. The Institute's mission is to: pro-
vide a forum for study, research, and discussion of regional problems of mutual interest to state and local governments, grassroots and community organizations, business, and labor; ensure through cooperation and the pooling of common resources, maximum efficiency and economy in governmental operations; identify and comprehensively plan and develop policy for the solution of regional problems requiring federal, state, and multi-city and town cooperation; and facilitate agreements among the governmental units for specific projects.

## GEORGE R. MUIRHEAD CENTER FOR INTERNATIONAL 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 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 for graduate studies.

## 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 Thearre 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 TECHNOLOGY SERVICES

Information Technology Services (Henry Barnard Hall) coordinates computer facili-
ties 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.

## INSTITUTE FOR INDUSTRIAL AND ENGINEERING TECHNOLOGY

The Institute for Industrial and Engineering Technology (IIET), located in downtown New Britain at 185 Main Street, is an outreach function of the University. The Institute provides the business and industrial communities with economic development services through four 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 Procurement and Technical Assistance Center assists small- and medium-sized companies in the bidding process for government procurement. The Institute also has a Conference Center and houses the New Britain Industrial Museum, as well as some 15 incubator companies.

## 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 media 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 18 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 brought 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 will begin its fourth season as a varsity sport and will play its home games on Arute Field in the spring of 2003 .

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.

A Title IX Coordinator works with the Athletics Department to ensure Title IX compliance. Title IX is a federal civil rights statute that prohibits gender discrimination in education programs, including athletic programs that receive or benefit from federal funding. The major athletic categories that are analyzed for compliance are: sports offerings, scholarships, and other program areas, including equipment and supplies, coaching, availability, competitive facilities, and tutoring.

## STUDENT CENTER

The Student Center is the meeting place of the campus community and provides services that support student life. The 80,000 square feet of new and renovated space pro-
vides the University community with quality meeting and programming space. The Student Center is also the home of Student Activities, the Mosaic Center, and the Women's Center.

To make it convenient for students to access support services, the Student Center offers a new food court, an expanded bookstore, and a new full-service bank, as well as serving as the new home for the CCSU Card Office. There is a new student mailbox area where all resident and many commuter students will have their own mailboxes. Students can study or meet with friends in the lounges. For relaxation, the new Breakers Game Room will offer eight tournament billiard tables, foosball, electronic amusements, board games, and sports television.

Visit the Web site at http://stdctr.ccsu.edu for updated information on services and hours of operation or call the Student Center Information desk at 832-1970.

Susan E. Pease, Interim Dean<br>Richard Roth, Associate Dean Carol A. Jones, Associate to the Dean<br>Phone: (860) 832-2600<br>Fax: (860) 832-2601<br>Web address: http://www.ccsu.edu/artsci

The School of Arts and Sciences offers the M.A. degree in biological sciences, English, history, information design, mathematics, modern language, public history, and psychology and the M.S. in biological sciences, computer information technology, criminal justice, data mining, 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 or the Graduate Studies Office (832-2363), located in Barnard 102.

## 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 completed 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. 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 advisor and two other faculty members selected by the student and approved by the advisor. 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 13 concerning the planned program.

## MASTER OF SCIENCE IN ART EDUCATION

33 credits, including thesis/Plan A or exhibition or project/Plan C

Professional Education (12 credits):
ART 500 Problems in Art Education
ART 598 Research in Art Education
ART 597 Exhibition Research (Plan C)
or
ART 599 Thesis (Plan A)
and one of the following: EDF 500, 516, 524, 525, 538, 583

Art Concentration ( 21 credits): Department offerings, as approved by faculty advisor

Note: No more than nine credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## 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 credits in art-related courses.

## POST MASTER'S STUDY

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

BIOLOGICAL SCIENCES

## Faculty

Ruth Rollin (Chair, Copernicus 332), Leeds Carluccio, Douglas Carter, Michael Davis, Sylvia Halkin, Jeremiah Jarrett, Martin Kapper, Thomas King, Kathy Martin-Troy, Thomas Mione, James Mulrooney, Barbara Nicholson, Peter Osei, Clayton Penniman, David Spector, Cheryl Watson (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
- 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
- narrative statement
- letters of recommendation by three college instructors familiar with your ability and record in biology and the related sciences

The first three items above 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 last two items above should be submitted 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 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, cell and molecular biology, ecology, and
environmental studies. Each student will be assigned a graduate committee whose function will be to help the student plan a sound program.

Note: Additional work, as described in the course syllabi, will be required for graduate credit in 400 -level courses. Students may take no more than 9 credits of 400 -level courses.

## 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 advisor. 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 ( $5-6$ credits):
BIO 500 Seminar in Biology
BIO 540 Topics in Advanced Biology
BIO 572 Laboratory Rotation in Cell and Molecular Biology

Directed Electives (18-19 credits)
Electives in biology or related fields as approved by Cell and Molecular Biology Advisor
BIO 416 Immunology

> and

BIO 417 Immunology Laboratory
BIO 449 Plant Physiology
and
BIO 450 Investigations in Plant Physiology
BIO 497 Biosynthesis, Bioenergetics, and Metabolic Regulation Laboratory
BIO 505 Molecular Biology
BIO 506 Biosynthesis, Bioenergetics and Metabolic Regulation
BIO 540 Topics in Advanced Biology (with a topic focus appropriate to the specialization)
BIO 562 Developmental Biology
BIO 570 Advanced Genetics
CHEM 454 Biochemistry

## and

CHEM 455 Biochemistry Laboratory
CHEM 456 Toxicology

Research (6 credits):
Plan A: Option 1, BIO 599 Thesis (6 credits) and thesis defense or Option 2, BIO 598 Research in Biology (3 credits) and BIO 599 Thesis (3 credits) and thesis defense or
Plan B: BIO 590 Research Problem (3 credits), BIO 598 Research in Biology ( 3 credits) and Comprehensive Exam

## * Pending approval of DHE

## Biological Sciences: Ecology and Environmental Science 30 credits*

Biology Course Component (24 credits): (1) BIO 500 Seminar in Biology ( 1 credits), and BIO 515 Foundations of Ecology (3 credits), and BIO 540 Topics in Advanced Biology ( $3-4$ credits), with a topic focus appropriate to the specialization (may be repeated with different topics).
(2) Biology electives: 16-17 additional credits in biology or related fields approved by an Ecology and Environmental Science Advisor. Appropriate courses in the biology electives may include:
BIO 508 Coastal Ecology 3
BIO 509 Coastal Ecology Laboratory 1
BIO 520 Plant Ecology 3
BIO 540 Topics in Advanced Biology

3-4
BIO 590 Research Problem 1-4
BIO 598 Research in Biology 3
BIO 405 Ecology 4
BIO 410 Ecological Physiology 4
3 BIO 420 Ornithology 4
BIO 425 Aquatic Plant Biology 4
BIO 434 Ecology of Inland Waters and Estuaries
BIO 436 Environmental Resources and Management
1 BIO 438 Aquatic Pollution 4
BIO 440 Evolution
BIO 444 Plant Taxonomy
BIO 480 Animal Behavior
Capstone Component ( 6 credits, students
3 may select Plan A or Plan B).
Plan A: Option 1, BIO 599 Thesis ( 6 credits) and thesis defense or Option 2, BIO 599 Thesis ( 3 credits) and thesis defense, and BIO 598 Research in Biology ( 3 credits).
3 Plan B: BIO 590 Research Problem (3 cred3 its), BIO 598 Research in Biology ( 3 cred3 its) and Comprehensive Exam.

[^1]
## MASTER OF SCIENCE IN BIOLOGICAL SCIENCES

The Anesthesia and Health Sciences Specializations 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 advisor 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.

Note: Additional work, as described in the course syllabi, will be required for graduate credit in 400 -level courses. Students may take no more than 9 credits of 400 -level courses.

## Biological Sciences: General Program

 30 creditsThis 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 advisor's approval.

Professional Education (6-9 credits):
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 advisor
Biology Requirements (4-5 credits):
BIO 500 Seminar in Biology
BIO 540 Topics in Advanced Biology
Directed Electives (10-17 credits):
In biology or related fields as approved by advisor

Research (3-6 credits):
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 598 Research in Biology and comprehensive exam.

## Biological Sciences: Anesthesia 31-33 credits

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

Research (4-6 credits):
Plan A:
BIO 598 Research in Biology
BIO 599 Thesis (3 credits)
and thesis defense
or
Plan B:
BIO 590 Research Problem
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 nurse anesthesia which includes 1000 hours of clinical practicum. Admission to this program is contingent upon admission to one of the following affiliated schools:

New Britain School of Nurse Anesthesia, New Britain, CT: 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.: Peter Baziotis, M.D., medical director, School of Anesthesia; and Mark Foster, M.A., CRNA, program director.

## Biological Sciences: Health Sciences Specialization <br> 30-31 credits

Professional Education (6 credits):
ED 511 Principles of Curriculum Development
EDL 513 Supervision
Major Field Requirements (18-19 credits):
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
BIO 506 Biosynthesis, Bioenergetics and Metabolic Regulation
or
CHEM 550 Basic Organic and Biological Chemistry
Biology Elective (choose from BIO 416
Immunology, 497 Biosynthesis, Bioenergetics and Metabolic Regulation Laboratory, 505 Molecular Biology, 506 Biosynthesis, Bioenergetics and Metabolic Regulation, 540 Topics in Advanced Biology, 562 Developmental Biology, or 590 Research Problem)

Research (6 credits):
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 designee 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 (OCP 501) <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 to matriculate into a program providing 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 academic 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 certificate students are classified as graduate students; they may be either part-time or full-time and may qualify for financial aid. Only students matriculated as full-time may take nine or more credits a semester. Part-time and nonmatriculated students are limited to less than nine credits/semester.

## 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 $\mathrm{C} / \mathrm{M} / \mathrm{P}$ advisor. 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 $\quad 1$
BIO 590 Research Problem (independent research in cell and molecular biology)

Laboratory Science Component:
2 courses with lab from the following:
BIO 416 Immunology
and
BIO 417 Immunology Laboratory
BIO 449 Plant Physiology
BIO 450 Investigations in Plant Physiology
BIO 505 Molecular Biology
BIO 540 Topics in Advanced Biology (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 advisor.

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 graduatesyllabus option is elected at the time of course registration in all 400-level courses; no more than three 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 advisor.)

## OFFICIAL CERTIFICATE PROGRAM: 1 POST-BACCALAUREATE CERTIFICATE IN PRE-HEALTH STUDIES (OCP 500)

The Pre-Health Professions Advisory
2 Committee (Pre-PAC) individually advises post-baccalaureate students seeking to prepare themselves for entry into professional training programs in the health sciences.
3 The Pre-PAC is composed of eight faculty members (three from Biological Sciences, two from Chemistry, one from Physics and 3 Earth Sciences, and two from Psychology), including the Chief Health Professions Advisor (P. Osei, Biological Sciences;
1 Copernicus 339; 832-2657) and the Pre4 PAC Chair (C. Watson, Biological Sciences; 4 Copernicus 344; 832-2649).

## Program Overview

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

## Admission

Students must have completed a bachelor's
3 degree to participate in the program. 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. Completed applications should be sent through 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 Advisor) 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. Postbaccalaureate certificate students are classified as graduate students; they may be either part-time or full-time and may qualify for financial aid. Only students matriculated as full-time may take nine or more credits a semester. Parttime and nonmatriculated students are limited to less than nine credits/semester.

## 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*

45 credits
Biology (21 credits), 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 Topics in Biology
BIO 319 Anatomy and Physiology II or
BIO 412/413 Human Physiology
Chemistry ( 16 credits), including:
CHEM 121 General Chemistry I
CHEM 122 General Chemistry II
CHEM 311 Organic Chemistry I
CHEM 312 Organic Chemistry II

Physics (8 credits) 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 La Fontaine, 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 46 of this catalog.

## COMMUNICATION

## Faculty

Serafin Mendez-Mendez (Chair, Robert C. Vance Academic Center 317), Robert Fischbach, Glynis Fitzgerald, Yanan Ju, Andrew Moemeka, Christopher Pudlinski, Karen Ritzenhoff, Benjamin Sevitch, Cornelius Benjamin Tyson, 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 <br> THE MASTER OF SCIENCE IN ORGANIZATIONAL COMMUNICATION 36 credits

The Master of Science program comprises two sections, a 15 -credit core of foundational courses and 21 credits of advisorapproved directed electives. Students 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 (6credit 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 advisor. 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 504 Organizational Communication Audits
COMM 522 Corporate 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 512Communication and Change
COMM 543 Intercultural Communication
COMM 544 Strategies in Negotiation and Conflict Resolution

## General

COMM 585 Special Topics
COMM 590 Independent Study

## Outside

AC 510 Accounting and Control
IT 464 Continuous Process Improvement
IT 500 Industrial Applications of Computers
IT 502 Human Relations and Behavior in Complex Organizations
IT 564 Quality Systems Management
STAT 453 Applied Statistical Inference

Capstone ( $0-6$ credits):
Plan A: COMM 590 Independent Study
(3 credits) and COMM 599 Thesis (3 credits)
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 advisors 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 recommendation should be sent directly to the Chair of the Department of Communication. No action will be taken until all of the above materials have been received.

## COMPUTER INFORMATION TECHNOLOGY

## Faculty

Computer Science: Joan Calvert (director MSCIT), Bradley Kjell, Neli Zlatareva
(Dept. phone: 832-2710)
Management Information Systems: Marianne D'Onofrio, Michael Gendron (phone: 832-3297)

Computer Electronics and Graphics Technology: Veeramuthu Rajaravivarma, Karen Coale Tracey (Dept. phone: 832-1830)
(Web site address: www.cs.ccsu.edu/cit/ index.htm)

## Overview

The Computer Science Department in the School of Arts and Sciences, the Management Information Systems Department in the School of Business, and the Computer Electronics and Graphics Technology Department in the School of Technology jointly offer a Master of Science degree in Computer Information Technology. All students take a common core of classes offered by each of the departments; students select a specialization in one of the three departments to complete their degree. 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. Management Information Systems focuses on the importance of knowledge and information as an organizational resource for timely, quality business decision making and for achieving competitive advantage. Leadership, project, and change management are emphasized throughout the courses. Computer electronics and graphics technology focuses on computer networking, telecommunication, electronics, and the integration of technologies in a hands-on approach to make the computer network run effectively.

## Program

MASTER OF SCIENCE IN COMPUTER INFORMATION

## TECHNOLOGY

33 credits

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
IT 500 Industrial Applications of Computers
CET 501 Applied Networking Technology

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

Specialization 1 - Computer Science electives:
CS 407, 410, 423, 460, 462, 463, 473, 481, 490, 530, 550, 570, 580, 590

Specialization 2 - MIS electives:
MIS 400, 460, 510, 515, 550, 561, 565, 569
Specialization 3 - Technology electives:
CET 449, 479, 502, 533, 543, 513; IT
502, 510, 551, 596, 598
Capstone (3 credits):
Students may register for the Special Project (Plan C) course upon completion of core requirements.
CIT 599 Integrative Experience in CIT
Note: A maximum of 6 credits at the 400 -level is allowed with prior permission of advisor.

## CRIMINOLOGY AND CRIMINAL JUSTICE

## Faculty

Stephen Cox (Interim Chair, Vance 410), Ronald Fernandez, Jennifer Hedlund, 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 30 credits

Core Courses ( 21 credits):
CJ 501 Proseminar on the Nature of Crime
CJ 510 Proseminar on Law and Social Control
CJ 520 Proseminar on the Administration of Justice
CJ 533 Research Methods in Criminal Justice
CJ 534 Quantitative Analysis in Criminal Justice Research
CJ 599 Thesis
or
CJ 536 Field Studies in Criminal Justice

## Electives (9 credits)

Students develop an area of specialization in consultation with an academic advisor. 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
CJ 540 Assessing and Developing Justice Organizations

## Performance in Criminal

Note: No more than 9 credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## DESIGN

(GRAPHIC/

## Faculty

Susan Vial (Chair, Vance 324), Pamela Anneser (Design), 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 studies and degrees at the University. The Department of Design was established to promote professional studies 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 dig-
ital 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 study. 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 graphic design with a grade of " $B$ " or better, of which three credits must be at the 400 level. These courses will be reviewed by the Department for discipline-specific content as it relates to the M.A. in Information Design.
3. Application essay
4. Slide or CD-ROM Portfolio (ten examples of applicant's design work). The portfolio must meet department admissions committee approval for design quality.

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 credits):
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 credits):
DES 503 Graphic/Information Design Practice I
DES 504 Graphic/Information Design Practice II
DES 537 Advanced Design Internship
Directed Elective (3 credits):
DES, MIS, CS, COMM, MGT, MKT, BUS
or ART course as approved by advisor
Capstone (3 credits):
DES 597 Research Project (Plan C)
Note: Students enrolled in the following courses will be assessed a $\$ 65$ Design Lab Fee: DES 436, 438, 439, 465, 498, 499, 503, 504, 597, 598. Contact the department for additional information.

Note: No more than nine credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## ENGLISH

## Faculty

Loftus Jestin (Chair, Willard 303A), Stuart Barnett, Candace Barrington, Richard L. Bonaccorso, Anthony Cannella, David Cappella, Matthew Ciscel, Stephen Cohen, John D. Conway, Christine Doyle, Robert Dunne, Gilbert Gigliotti, Susan Gilmore, Thomas Hazuka, John A. Heitner, Beverly A.

Johnson, Paul Karpuk, Barry H. Leeds, Eric Leonidas, Denise M. Lynch, Vivian Martin, Donald P. McDonough, Melissa A. Mentzer, Mary Anne Nunn, Andrea G. Osburne, Steven D. Ostrowski, Rae C. Schipke, Jill Knight Weinberger, Leyla Zidani-Eroglu (Dept. phone: 832-2740)

## Department Overview

The Department of English offers graduate study leading to a Master of Science Degree in Teaching English to Speakers of Other Languages (TESOL); a Master of Arts degree in English; Certification in English; adult-level certification in TESOL; and Pre-$\mathrm{K}-12$ certification in TESOL.

## Admission Requirements

To qualify for the master of arts degree programs (excluding TESOL), an applicant must have receipt of a baccalaureate degree from an accredited college or university in English and American literature, or 30 hours of appropriate undergraduate course work in the discipline (as approved by the departmental review). 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 three credits 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 three credits of a second language study before graduation from the program.

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

## Programs

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.

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 six 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 Pre-K-12 level.

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

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

TESOL Specialization (21 credits):
LING 400 Linguistic Analysis
LING 496 TESOL Methods
LING 497 Second Language Acquisition
LING 512 Modern Syntax
LING 513 Modern Phonology
LING 515 An Introduction to Sociolinguistics
One course from:
LING 533 Second Language Composition
LING 535 Second Language Testing
LING 596 TESOL Practicum
Research ( 3 credits):
LING 598 Research in TESOL and Applied Linguistics

Professional Education (6 credits):
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 at the 500 level as approved by advisor

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

Plan A: Students may elect Plan A only with the approval of an advisor in the program. Plan A students take LING 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 advisor, courses drawn from the departments of 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 whose control of English is deemed deficient.

## MASTER OF ARTS IN ENGLISH 30 credits

Plan A (Thesis)
ENG 598 Research in English*
ENG 500 Seminar in American Literature
ENG 501 Seminar in British Literature 3
3-4 500-level English electives as approved by the faculty advisor
2-3 400-level English electives as approved by the faculty advisor
ENG 599 Thesis
Plan B (Comprehensive Examination)
ENG 598 Research in English*
ENG 500 Seminar in American Literature
ENG 501 Seminar in British Literature
4 500-level English electives as approved by the faculty advisor
3400 -level English electives as approved by the faculty advisor

3 Geological Survey, with close to 30,000 sheets in our collection. The department also receives planning reports, maps and
*To be completed during the first year of graduate study.

# GEOGRAPHY 

## Faculty

Brian Sommers (Chair, DiLoreto 208), Richard Benfield, John Harmon, Peter Kwaku Kyem, Cindy Pope, Timothy Rickard, Xiaoping Shen, David Truly, Philip Van Beynen (Dept. phone: 832-2785)

## Department Overview

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

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

The Department of Geography has fully equipped cartography, air photo interpretation and microcomputer laboratories available for student use. The microcomputer lab includes a network of IBM 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. 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 plan-
12 ning agencies and offers consulting services, workshops and short courses as part of its
9 outreach program.

## Programs <br> GOALS AND OBJECTIVES

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 that 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 Geography. Students pursuing this degree may select Plan $\mathrm{A}, \mathrm{B}$, or C .

Plan A, which requires 30 credits, includes a thesis (GEOG 599); 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 advisor; and 3-6 credits of electives selected from other disciplines in consultation with an advisor. Thesis guidelines are available from the appropriate dean's office.

Plan C, which also requires 30 credits, includes a special project (GEOG 595) instead of a thesis.

Others may select Plan $B$, in which a comprehensive exam is completed instead of a thesis. The 30 credits required are the same as in Plan A, except that GEOG 595 is substituted for GEOG 599 in Plan C and GEOG 597 is substituted for GEOG 599 in Plan B.

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.

## ADVISEMENT

Contact the chair in DiLoreto 208 (8322785), or write to the: Department of Geography
Central Connecticut State University New Britain, CT 06050 U.S.A.

## HISTORY

## Faculty

Heather Munro Prescott (Chair, DiLoreto 208), Jay Bergman, M. B. Biskupski, Gloria Emeagwali, Victor Geraci, Briann Greenfield, Katherine Hermes, Mark Jones, Elias
Kapetanopoulos, Norton Mezvinsky, Alfred Richard, Glenn Sunshine, Matthew Warshauer, Louise Williams, Robert Wolff (Dept. phone: 832-2800)

## Department Overview

The Department of History provides an M.A. degree in History and an M.A. degree in Public History. 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 specialization in history will be assigned to a graduate advisor 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 advisor and department chair.

## Programs <br> MASTER OF ARTS IN HISTORY <br> 30 credits, including a thesis

Three 500-level History courses (9 credits)
Three additional History courses (includ-
ing HIST 501) (9 credits)
HIST 599, Thesis ( 6 credits)
Electives in related fields (6 credits)

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 available in the M.A. program are the United States to 1876, the United States since 1860, Modern Europe, and Comparative World History. No more than nine credits can be taken at the 400 level.

## MASTER OF ARTS IN PUBLIC HISTORY

33 credits, including an internship and project (Plan C)

Admission criteria: Acceptance into the CCSU Graduate Program and approval of the History Department.

$$
\begin{array}{lc}
\text { HIST } 501 \text { Historiography } & 3 \\
\text { Five Public History courses, including: } & \\
\text { HIST 510 Seminar in Public History } & 3 \\
\text { HIST 511 Topics in Public History } \\
\text { (taken twice with different } & 6 \\
\begin{array}{l}
\text { topics) }
\end{array} & \\
\text { HIST 521 Public History Internship } \\
\text { HIST 595 Public History Research } \\
\text { Project } & 3 \\
\hline
\end{array}
$$

Three 500-level History courses (9 credits), from among the following: HIST $560,565,566,567,568,570$.

Two Social Sciences courses (6 credits), from among the following: GEOG 433, 439, 440, 441, 445, 450, 455; IS 590, 596; ANTH 450, 451; ECON 420, 455; PS 432, 492.

## 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), Frank Bensics, Nelson Castaneda, Yuanqian Chen, Penelope Coe, Robert Crouse, Ivan Gotchev, S. Louise Gould, Philip Halloran, Chun Jin, Robin S. Kalder, Dix Kelly, Daniel Larose, Stephen Lewis, Jeffrey McGowan, Daniel S. Miller, Narasimhachari Padma, Luis RecoderNúnez, Angela Shaw, David Smith, 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 or enroll in the data mining program. 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 TEACHERS
(Plans A, B and C are offered as options. No more than nine credits at the 400 level may be counted toward the degree.)

Professional Education (3 credits): 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

Elementary/ Middle School Mathematics Education Core (12 credits):
Elementary school track:
MATH 506 Teaching Number Concepts in the Elementary Grades
MATH 507 Teaching Geometry and Measurement in the Elementary Grades
MATH 508 Teaching Probability and Statistics in the Elementary Grades
MATH 509 Teaching Algebraic Thinking in the Elementary Grades
or
Middle school track:
MATH 536 Teaching Number Concepts in the Middle Grades
MATH 537 Teaching Geometry and Measurement in the Middle Grades
MATH 538 Teaching Probability and Statistics in the Middle Grades
MATH 539 Teaching Algebraic Thinking in the Middle Grades

Mathematics Electives ( 6 credits):
Choose two courses from
MATH 449 Mathematics Laboratory for Elementary School
MATH 504 Topics in Mathematics
MATH 534 Techniques in Diagnosis and Remediation for the Teaching of Mathematics K-12
MATH 580 Directed Study in Mathematics STAT 453 Applied Statistical Inference

General Electives (6-9 credits):
Courses chosen from the electives listed above, graduate education courses and MATH 531, as approved by faculty advisor.

Research (3 credits):
MATH 598 Research in Mathematics Education

Capstone:
Plan A: 33 credits consisting of 30 credits from the above listings plus MATH 599 (3 credit Thesis).

Plan B: 33 credits from the above listings plus a comprehensive examination.

Plan C: 33 credits consisting of 30 credits from the listings above plus MATH 590 Special Project in Mathematics (3 credits).

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 plans must be made prior to the completion of 21 graduate credits and requires the approval of the student's advisor and the Dean of Graduate Studies.

## MASTER OF SCIENCE IN MATHEMATICS FOR CERTIFIED SECONDARY TEACHERS

(Plans A, B and C offered as options. No more than nine credits may be earned in 400-level courses.)

General Education Electives (3-6 credits):
As approved by faculty advisor
Educational Foundations ( 3 credits):
Chosen from EDF 500, 516, 524, 525, 538 or 583

Secondary Mathematics Education (9 credits): MATH 547 plus 6 credits chosen from MATH 504, 534, 540, 543, 544 and 580

Mathematics and Statistics Content Courses (12 credits):
No more than six credits in courses with the STAT designation. One course must be STAT 453 unless this course was taken as an undergraduate. Courses to be chosen from MATH 421, 440, 463, 468, 469, 470, 477, 479, 491, 515, 516, 519, 520, 523, 525, 526, STAT 453, 455, 567

Research in Mathematics Education (3 credits): MATH 598

## Capstone:

Plan A: 33 credits consisting of 30 credits from the above plus MATH 599 ( 3 credit thesis)

Plan B: 33 credits from the above plus the comprehensive examination

Plan C: 33 credits consisting of 30 credits from the above plus MATH 590 ( 3 creditSpecial Project)

Note: Once a graduate student has elected one of the three plans A, B or C, any change to one of the other plans must be made prior to the completion of 21 graduate credits and requires the approval of the student's advisor and the Dean of Graduate Studies.

## 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 credits

Requirements (18 credits):
MATH 515 Abstract Algebra I
MATH 516 Abstract Algebra II
MATH 519 Principles of Real Analysis I
MATH 520 Principles of Real Analysis II
MATH 523 General Topology
MATH 526 Complex Variables
Electives as approved by faculty advisor (12-21 credits): No more than 9 credits in the program may be earned in 400level courses.

## Comprehensive Examination

## M.A. Program in Mathematics with Specialization in Computer Science 30 credits

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 credits) 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 credits); no more than nine
of these credits may be earned in 400level 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 ( $6-8$ credits):
Statistics Specialization: STAT 567 and 575
Actuarial Specialization: ACTL 465 and 566
Operations Research Specialization: STAT 551 and MATH 470

Three courses chosen from the courses listed above or the following ( 9 credits): MATH 477, 519, 520, 473

Electives appropriate to the area of specialization (10-15 credits): No more than nine credits in the program may be earned in 400 -level courses.

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

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 plans must be made prior to the completion of 21 graduate credits and requires the approval of the student's advisor and the Dean of Graduate Studies.

## MASTER OF SCIENCE IN DATA MINING <br> 33 credits

Admission criteria: Approval of the Department of Mathematical Sciences.

There are three required components.
Data Mining Component:
STAT 521 Introduction to Data Mining 3
STAT 522 Data Mining Methods 3
STAT 523 Applied Data Mining 3
STAT 525 Web Mining 3

## Statistics Component:

STAT 416 Mathematical Statistics II 3
STAT 570 Applied Multivariate Analysis 3
Computer Science Component:
CS 501 Foundations of Computer Science I

3
CS 570 Topics in Artificial Intelligence: Neural Networks
CS 580 Topics in Database Systems and Applications: Data Mining 3

Restricted electives:
Two courses chosen from the following
CS 460 Database Concepts 3
CS 570 Topics in Artificial Intelligence: Information Retrieval and Visualization
MIS 460 Emerging Technologies for Business: Data Warehousing
STAT 455 Experimental Design 3
STAT 456 Statistics Laboratory 3
STAT 524 Advanced Methods in Data Mining
STAT 551 Applied Stochastic Processes 3
STAT 567 Linear Models
STAT 575 Mathematical Statistics III 3
Applicants to the Master of Science in Data Mining program are expected to have completed, or be in the process of completing, MATH 221 Calculus II, MATH 218
Discrete Mathematics, STAT 315
Mathematical Statistics I, CS 152
Computer Science II or CS 500 Computer
Science for CIT, and a second semester course in undergraduate statistics. These prerequisite courses are regularly offered in the classroom, and some may be offered online, for students who are missing one or more of these courses.

Note: New students may take the first course in the program while working on the prerequisites for the more advanced courses.

Note: All students must elect Plan B
(Comprehensive Exam) for the Capstone Requirement. No more than 9 credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## ACCELERATED TEACHER CERTIFICATION PROGRAM IN SECONDARY MATHEMATICS 35 credits

## Admission criteria:

a) The candidate must qualify for admission to the University's graduate programs, including a 2.70 minimum GPA.
b) The candidate must have completed at least 30 credits in mathematics content courses.
c) The candidate must meet all requirements for admission to the Professional Program for Teacher Education, including passing scores on Praxis I and an interview with and a positive recommendation by the Acceptance Committee of the Department of Mathematical Sciences.

Required courses: EDF 415,* RDG 593, EDTE 315,* EDSC 425,* EDSC 435,* SPED 501, MATH 413,* MATH 426,* MATH 543, MATH 544.

* No credit toward a graduate degree

Students may also take up to nine credits in graduate-level mathematics courses to complete as much as 21 credits toward a M.S. degree in Secondary Mathematics during this 14 -month program. A maximum of nine credits at the 400 level may be counted toward the M.S. degree, upon approval by the faculty advisor.

## MODERN LANGUAGES

## Faculty

Louis Auld (Chair, Davidson 212), Gloria Caliendo, Edward Force, Antonio GarcíaLozada, Paloma Lapuerta, Cheng Sing Lien, Gustavo Mejía, Ángela Morales, Maria Passaro, Carmela Pesca, Marie-Claire Rohinsky, 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, culture, 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 advisor a program of study that 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.

## Graduate Certification in

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

- apply to the Graduate Admission Office as a non-degree graduate student seeking certification. The application, along with transcripts, is forwarded to the Modern Languages Department for review. Determination is made for a 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 30 credits (Plan A or B)

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 for the degree, students must contact the Department for evaluation of their competence in listening comprehension, speaking, reading, and writing in Spanish.

Professional Education (6-9 credits):
One of the following:
EDF 500 Contemporary Educational Issues 3
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 advisor
Core ( 6 credits):
SPAN 560 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 advisor

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

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

Note: A maximum of nine 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 credits preparation in each language in which graduate work will be undertaken. Only French or Spanish may be chosen as the language of specialization. With approval of the advisor, 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 credits in professional education in their program.

Before being admitted, 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: No more than nine credits at the 400 level may be counted toward the graduate planned program of study.

## Specialization in French

## 30 credits (Plan A or Plan B)

Core ( 6 credits):
FR 460 Advanced Grammar and Composition
ML 598 Research in Modern Language

Directed Electives ( 15 credits):
Literature - Choose 12 credits from FR 521, 532, 553, 561, 573
Culture and Civilization - FR 472 or 588

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

Note: A maximum of nine credits at the 400
level may be included, with approval of faculty advisor, in the planned program of study.

## Specialization in Spanish <br> 30 credits (Plan A or Plan B)

Core ( 6 credits):
SPAN 560 The Structure of Spanish Language
ML 598 Research in Modern Language

Directed Electives (15 credits):
Literature - Choose 12 credits from SPAN 515, 520, 525, 526, 530, 535, 545, 551, 553, 571, 572, 576
Culture and Civilization - SPAN 534 or 588 or ML 550

Electives (6-9 credits):
Selected in consultation with advisor

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

Specialization in Hispano-North
American Inter-University Master's
Degree in Spanish Language and
Hispanic Cultures
30 credits (Plan A or B)

Students must complete nine credits of their planned program of studies at the University of Salamanca during a six-week summer session.

Core ( 6 credits):
SPAN 560 The Structure of Spanish Language
ML 598 Research in Modern Languages

Directed Electives ( 15 credits):
Literature - Choose 12 credits from SPAN 515, 520, 525, 526, 530, 535, 545, 551, 553 571, 572, 576
Culture and Civilization - Choose 3 credits from SPAN 534, 588, ML 550

Electives (6-9 credits):
Selected in consultation with advisor.
Capstone ( $0-3$ credits):
SPAN 599 (Plan A) or Comprehensive
Examination (Plan B).
Note: Nine credits will be transferred as substitutes from the University of Salamanca as electives.

## ACCELERATED TEACHER CERTIFICATION PROGRAM IN SPANISH <br> 45 credits

3 Admissions criteria: B.S. degree in Spanish; minimum 2.70 GPA; satisfactory completion of Praxis1.

Summer One (10 credits): EDF 415, EDT 315, ML 428, ML 490 (or, if taken in Fall or Spring, ENG 300)

Fall (13 credits): EDTE 315, EDSC 425, ML 429, Spanish course at 400/500 level*

Spring ( 10 credits): EDSC 435, ML 440
Summer Two (12 credits): RDG 593, SPED 501, 2 Spanish courses at 400/500 level*
*Certification requirements such as PSY 236 or HIST 261/262 may need to be taken instead of the Spanish courses.

Note: In consultation with a graduate advisor, some credits from ML 428, ML 490, RDG 593 and SPED 501 may be applied as electives toward M.S. Program. ML 428 and ML 490 are the only 400 -level courses that

## 3 Faculty

Pamela Perry (Chair, Welte 212), Daniel
may be applied to the M.S. in Spanish, with approval of the advisor.

## MUSIC

D'Addio, Robert Glarner, Carl Knox, Linda Laurent, Charles Menoche, 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 taught by 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. The student in the M.S. in Music Education program must complete Plan B-Comprehensive Exam and either Plan A-Thesis or Plan CSpecial Project, both of which total 33 credits. Students selecting Plan C may complete either MUS 500 or MUS 597.

Candidates must take an entrance examination in music technology. If a student does not pass the technology proficiency exam, he/she will be required to take a notation or sequencing course as one of their electives (at least two credits).

## Requirements

General Education ( $0-6$ credits):
Elected with advisor's approval

Professional Education (3-9 credits):
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
up to six additional credits, to be selected with advisor's approval.

Music (15-27 credits):
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 credits of advisor-approved electives in music education

Culminating Project (0-3 credits):
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.

Note: No more than six credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## 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 51.

## 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 advisor. Track III provides for advanced study in chemistry.

## Program

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

## Track I: Physics or Earth Science

Specialization (12-24 credits):
Courses in either Physics or Earth Science as approved by advisor

Cognate ( $0-12$ credits):
Courses in a related field or fields as approved by advisor

Research/Capstone (3-9 credits):
Research (PHYS 598 or ESCI 598) and/or Thesis (PHYS 599 or ESCI 599)

Plan A or Plan B can be chosen.

Track II: Science Education Specialization
(for Certified Elementary and Secondary School Teachers)
Professional Education ( $6-9$ credits):
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 advisor
Science (15-21 credits):
Science courses as approved by advisor
Research (3 credits):
SCI 598 Research in Science Education

## Note:

Plan A: 30 credits, including three to six credits of Thesis (SCI 599)
Plan B: 30 credits and a comprehensive exam
Plan C: 33 credits, including Special Project (SCI 595)

## Track III: Chemistry Specialization

Specialization:
15 credits in Chemistry ( 12 credits must be at the 500 level)

Cognate (6 credits):
Select 6 credits from BIO, CHEM, EDF*, ESCI and PHYS

Capstone ( 6 credits):
CHEM 599 Thesis (Plan A)
*One of EDF 500, 516, 524, 525,538, 583 , as approved by advisor.

Note: No more than six credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study. Only students admitted before Fall 2002 are allowed nine credits at the 400 level, as approved by the graduate advisor.

## 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, 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 46 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 Master of Public Administration program and later
apply these credits toward the M.P.A. Parttime 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 advisor and the appropriate dean.

## PSYCHOLOGY

## Faculty

Francisco Donis (Chair, Marcus White 212), Carol Shaw Austad, Laura Bowman, Adolfo Chavarro, Paul Chu, James Conway, Joanne DiPlacido, Douglas Engwall, Carol Ford, Marc Goldstein, Steven Horowitz, Laura Levine, Charles Mate-Kole, Lauren Perdue, Moises Salinas, William Sherman, 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 or Health Psychology (pending DHE approval). 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 advisor who will assist the student in developing an approved program.

## Programs

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 credits is required for all students. Students also must elect either the General Psychology program option or the specializations in Community Psychology or Health Psychology.

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

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 or Health 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 credits in psychology 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.

Note: No more than six credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## M.A. Program

36 credits, including thesis
Common Core for all M.A. students (18 credits):
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 credits<br>Common Core (18 credits)<br>Directed electives as approved by advisor (18 credits)

Note: A maximum of six credits at the 400 level may be included, with approval of faculty advisor, in the planned program of study.

## Specialization in Community Psychology

 36 creditsCommon Core (18 credits)
Specialization
PSY 551 Primary Prevention
PSY 553 Developing Prevention Programs
PSY 595 Graduate Internship in Psychological Applications
Directed electives as approved by advisor ( 9 credits)

## Specialization in Health Psychology*

42 credits

Common Core (18 credits)
Specialization:

| PSY 541 | Health Psychology |
| :--- | :--- |
| PSY 542 | Psychology of Stress |
| PSY 543 | Stress Management: Theory <br> and Research |
| PSY 530 | Psychopathology |
| PSY 551 | Primary Prevention |
| PSY 595 | Graduate Internship in <br> Prevention Applications |

Choose 2 additional electives ( 6 credits) from the following: PSY 458, 526, 546, 553, 571, 590, 591.

* pending DHE approval


## SCIENCE <br> EDUCATION

## Faculty

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

For details of the program, see Natural Sciences: Track II on page 46 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.

## 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 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 Pol-ish-American Studies was established at CCSU. The Polish Studies Center offers courses in Polish history, politics, culture and civilization, language, and the Polish community in America. The Center's other resources include the Polish Heritage Book Collection, the Connecticut Polish American Archive, the Annual Fiedorczyk Lecture in Polish American Studies, the Milewski Polish Studies lecture, the Godlewski Evening of Polish Culture, educational materials for teachers, movies, exhibits and scholarship aid for Polish-American students and for students pursuing Polish Studies.

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

Daniel J. Miller, Dean<br>Patricia S. Root, Interim Associate Dean<br>Sharon R. Braverman, Assistant Dean<br>Jean Lefebvre, MBA Program Director<br>(Contact lefebvrej@ccsu.edu for further information on MBA)<br>Phone: (860) 832-3205 (School)

(860) 832-3210 (MBA Director)

Fax: (860) 832-3219
Web address: http://www.ccsu.edu/business
The mission of the School of Business is to provide the opportunity for an education in the field of business that is recognized by our stakeholders for its quality. Our business programs provide students with a broad educational foundation to prepare for responsible citizenship and leadership roles in business and society - domestic and worldwide.

## MASTER OF BUSINESS ADMINISTRATION

## Faculty

Contact Jean Lefebvre (Director, MBA Program, Vance Academic Center 216, 8323210). E-mail lefebvrej@ccsu.edu for further information.

## 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. The MBA requires students to 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, converting it into knowledge. The required core courses in the disciplines of accounting, finance, management, and marketing provide a global perspective for all students. The program provides academic rigor and pragmatic relevance, affording the opportunity to explore theory and practice. 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 nine credits. An MBA Accounting Concentration is available to fulfill the 50 -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

MBA program applicants must meet general admission and academic requirements as described in the Graduate Catalog. 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 on the GMAT can be obtained at www.gmat.org. Academic evaluation is balanced by considering all elements of the student's background, including work experience, professional development, etc.

Applicants should hold a four-year bachelor's degree, have a GPA of 2.7 or higher, and score 500 or higher on the GMAT. All applicants are expected to be current in computer software and hardware usage, including word processing and spreadsheet proficiency. Additional requirements include a current resume, two letters of recommendation, and a statement of how admission to the degree will assist the individual in his or her career plans. International applicants must also provide evidence of English proficiency, including a TOEFL of 550 or higher, or a computerbased score of 213. 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. Application requests can be obtained from the Graduate Admissions Office (860-832-3250) or be downloaded from www.ccsu.edu/business. 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 Admissions 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 or lefebvre@ccsu.edu.

## Programs

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

## 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 credits:
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 credits of approved graduate course work selected in consultation with an advisor based on student interests and qualifications. The Accounting Concentration requires AC 532 and AC 537. Students in Accounting should consult with Dr. Jane Stoneback, Department Chair.

## Directed Electives

Six credits of approved graduate course work selected in consultation with advisor.

## Integrative Experience

All students must successfully complete an integrative experience.
BUS 591 Global Strategy

Note: No more than six credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

For additional information, visit www.ccsu.edu/business.

## BUSINESS EDUCATION

## Faculty

Contact the Department of Management Information Systems (Vance 430), George F. Claffey, Faye Cohen (Dept. phone: 832-2590)

## 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 advisors 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 advisor
- Courses required by the School of Education and Professional Studies
- 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 credits

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 credits):
Electives other than from Business Education as approved by faculty advisor

Professional Education ( $6-9$ credits): 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

SPED graduate course as approved by advisor
Elective as approved by advisor
Business Education Specialization
(15-21 credits):
BE 501 Current Problems in Business Education
BE 598 Research in Business Education
Electives as approved by faculty advisor
Thesis (Plan A only, 3 credits):
BE 599 Thesis

Note: No more than six credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## COMPUTER <br> INFORMATION TECHNOLOGY

## Faculty

Management Information Systems: Marianne D'Onofrio, Michael Gendron (phone: 832-3297)

Computer Science: Joan Calvert (director MSCIT), Bradley Kjell, Neli Zlatareva (Dept. phone: 832-2710)

Computer Electronics and Graphics Technology: Veeramuthu Rajaravivarma, Karen Coale Tracey (Dept. phone: 832-1830)
(Web site address: www.cs.ccsu.edu/cit/ index.htm)

## Overview

The Master of Science Computer Information Technology program is offered by the Department of Management Information Systems, in conjunction with the Computer Science Department, School of Arts and Sciences, and the Computer Electronics and Graphics Technology Department, School of Technology. For details of the program, see page 37 of this catalog.

Ellen V. Whitford, Dean
To be announced, Associate Dean
To be announced, Assistant Dean Mary Pat Hager, Associate Counselor
Phone: (860) 832-2100
Fax: (860) 832-2109
Web address: http://www.ccsu.edu/education

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 leaders 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 AACTE and an active participant on the Teacher Education Council of State Colleges and Universities (TECSCU).

Currently, the School operates three centers (see page 65) 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 Technology/ Educational Media
- Doctor of Education in Educational Leadership


## 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 Admission Office.

They should subsequently apply for admission to the Professional Program by completing an application package for the Professional Program. The application packet includes: instructions; an application blank; a transcript release form; forms for letters of recommendation from persons who can attest to student's suitability to be a teacher; directions for writing an essay which shows command of the English language. The essay also asks the student to describe the reasons why he/she wants to teach and enroll in the Professional Program for Teacher Certification and to emphasize their experiences which are relevant to teaching. (Some departments may require additional essays and have other assignments.)

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 (basic skills test in reading, writing, and mathematics) must also be satisfied prior to the application process, and a copy of the Praxis PPST "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 (prior to April 1,1995 , a total score of 1000 is required with a score of no less than 400 in either the verbal or math subtests);
- a student has an American College Test (ACT)* composite score of no less than 25, with no less than 22 on the English subtest and 19 on the math subtest;
- a student passes a similar test in another state with which Connecticut has certification reciprocity agreements; or
- a student has a Prueba de Aptitud Academica (PAA) score equivalent to a SAT score of 1000 with neither the math nor verbal subtest scores below the equivalent of 400 .
${ }^{*}$ Subject to 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 advisor.

- 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 advisor regularly.
- Post-baccalaureate students should be sure that they have previously had, or that their "Programs of Study" includes, the following general education courses. These are requirements of the State of Connecticut and cannot be waived by
advisors 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 or 501 , 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 advisor. Special Education programs have different requirements.
- Post-baccalaureate students seeking certification in Art, Music, Physical Edúcation, 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 advisor 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 situation 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 reg-
ulations 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.

## COUNSELING AND FAMILY THERAPY

Faculty

James Malley (Chair, Barnard 230), Ralph Cohen, Jane Fried, Judith Rosenberg, Daniel Wiener (Dept. phone: 832-2154)

## Department Overview

The counseling and family therapy 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 theory-based 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 field-based setting under close supervision. Programs are accessible to fulland 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 additional requirements as shown below. Admission to the graduate school automatically places students in a pre-candidacy status and allows students to begin taking classes. Students must apply directly to the Department of Counseling and Family Therapy for full candidacy after completing all prerequisite courses and CNSL 500 and 501. In addition to meeting academic criteria, candidates are expected to be mature, invested in the welfare of others, and free from any psychological problems that may impair their effectiveness as a counselor. Prior to admitting the student into full candidacy, faculty evaluate all students on the basis of personal characteristics that have been deemed essential to becoming effective counseling professionals using the department's Attitudes and Attributes Survey. Recommendations, three for Counseling and two for Marriage and Family Therapy, are also required using the departmental forms.

## Admissions for School

## Counseling

Admission to the school counseling program will be made on a competitive basis only one time per year. All applications must be completed and received by May 1 for admission for the following academic year. Candidates for admission will be selected on the basis of the following criteria:
a) Grade point average (GPA) for all undergraduate courses. Minimum requirement is a 2.70 GPA based on a 4.00 -point scale where A is 4.00 .
b) Successful completion of Praxis I, or waiver letter.
c) Completion of the following prerequisite courses taken at either the undergraduate or
graduate level with a grade of B or better: SPED 315 or 501, PSY 236 or 512, EDF 415 or any of the following EDF 500, 510, $516,524,525,530,538$, or 583.
d) Three recommendations from individuals able to testify to the student's suitability as a prospective counselor.
e) A two to three page typewritten (double spaced) essay describing the following: (1) reasons for entering the school counseling profession, (2) personal and professional experiences that influenced the applicant to pursue the school counseling profession, and (3) personal characteristics the student believes will contribute to success as a school counselor.
f) A personal interview by the program's faculty admissions committee. The committee will assess the student's personal attributes and life experiences that might contribute to an applicant's potential for success as a professional school counselor.

## Field Experience

The supervised practicum and internship are considered to be the most critical experience elements in the program. Students must submit their applications for the practicum or internship to the department secretary before March 15 for the fall and summer semesters and before October 15 for the spring semester.* Students must maintain a grade of $B$ or better in every fieldwork course in order to continue in the program.

* Students must be accepted into degree candidacy before beginning the field experience.


## SCHOOL COUNSELING

## 54 credits

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

Core Courses ( 12 credits):
CNSL 500 The Dynamics of Group Behavior
CNSL 501 Theories and Techniques in Counseling
CNSL 503 Supervised Counseling Practicum

Specialized Courses ( 36 credits):
$\begin{array}{ll}\text { CNSL } 504 & \text { Professional Studies in } \\ & \text { Counseling }\end{array}$
CNSL 506 Counseling Children and Adolescents

3
CNSL 507 Methods in Group Facilitation 3

CNSL 520 Guidance Principles,
Organization and
Administration

3
$\begin{array}{ll}\text { CNSL } 521 & \begin{array}{l}\text { Career Counseling and } \\ \text { Development }\end{array} \\ & \end{array}$
CNSL 522 Appraisal Procedures in Counseling 3
CNSL 524 Consulting in the Schools 3
CNSL 525 Multi-Cultural Counseling 3
CNSL $526 \begin{aligned} & \text { Developmental Guidance } \\ & \text { and Counseling }\end{aligned}$
CNSL 591 Supervised School Guidance Internship (three credits for two semesters)

MFT 541 | Introduction to Theories of |  |
| :--- | :--- |
|  | Family Systems |

Research/Capstone Requirements ( 6 credits): ED 598 Research in Education 3
Plan A: CNSL 599 Thesis 3
or
Plan C: CNSL 595 Applied Research in Counseling

## STUDENT DEVELOPMENT IN HIGHER EDUCATION 45 credits

> Graduates are prepared to function in a variety of settings in higher education including student centers, residence halls, and academic and career counseling offices.

Core Courses ( 12 credits):
CNSL 500 The Dynamics of Group Behavior

3
CNSL 501 Theories and Techniques in Counseling 6
CNSL 503 Supervised Counseling Practicum

3
Directed Electives ( 30 credits):
CNSL 521 Career Counseling and Development
CNSL 525 Multi-Cultural Counseling 3
CNSL 530 Student Development in Higher Education 3
CNSL 5.31 Student Services in Higher Education
CNSL 532 Program Design in Student Services
CNSL 533 Legal, Financial, and Policy Issues in Student Affairs

CNSL 592 Supervised Internship in Higher Education (two semesters)
ED 598* Research in Education
Additional course as approved by advisor

Capstone ( 3 credits):
Plan A: CNSL 599 Thesis or
Plan C: CNSL 595 Applied Research in Counseling

* ED 598 may be waived by advisor based on undergraduate record of statistics and research.


## PROFESSIONAL COUNSELING 51 credits

The professional counseling programs prepare students to pursue employment in a variety of rehabilitation and mental health agencies. Students may decide to specialize in either Rehabilitation Counseling, Rehabilitation Counseling with a substance abuse focus, or Mental Health Counseling. The professional counseling programs provide the foundational coursework necessary for individuals interested in meeting State of Connecticut Department of Public Health requirements for becoming Licensed Professional Counselors (LPC). The curriculum is also approved by the Connecticut Certification Board for students pursuing credentials as a Licensed Alcohol and Drug Counselor (LADC). There are additional post-master's training requirements for both LPC and LADC candidates.

Core (30 credits):
CNSL 500 The Dynamics of Group Behavior
CNSL 501 Theories and Techniques in Counseling
CNSL 503 Supervised Counseling Practicum
CNSL 504 Professional Studies in Counseling
CNSL 507 Methods in Group Facilitation
CNSL 521 Career Counseling and Development
CNSL 522 Appraisal Procedures in Counseling
CNSL 568 Alcohol and Drug Counseling
PSY 598 Research in Psychology

Specialization Courses ( 12 credits): either Mental Health Counseling:

CNSL 571 Mental Health Counseling3 Family Systems
PSY 530 Psychopathology

Rehabilitation Counseling:
CNSL 560 Introduction to Rehabilitation Counseling
CNSL 561 Advanced Rehabilitation Counseling
CNSL 563 Medical Aspects of Rehabilitation Counseling 3
CNSL 571 Mental Health Counseling 3

Rehabilitation Counseling/Substance Abuse:
CNSL 560 Introduction to Rehabilitation Counseling
CNSL 561 Advanced Rehabilitation Counseling
CNSL 563 Medical Aspects of Rehabilitation Counseling
CNSL 571 Mental Health Counseling

Internship (6 credits):
CNSL 594 Supervised Clinical Practice - Professional Counseling (two semesters)

Capstone ( 3 credits): either
Plan A: CNSL 599 Thesis or
Plan C: CNSL 595 Applied Research in Counseling

3 CERTIFICATE IN PROFESSIONAL COUNSELING (OCP 502)
Admission criteria: Master's degree in counseling.

The Advanced Graduate Certificate program in Professional Counseling is designed for practicing counselors who already hold a master's degree in counseling and are preparing for state licensure as a Professional Counselor through the State of Connecticut Department of Public Health. A certificate in advanced graduate work in Professional Counseling is issued upon completion of a combination of any 12 credits of selected 500-level courses, with a grade of B or better, designated for the certificate program.

## 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 (three 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 (i.e., audio and videotapes) for intensive review.

On completion of 300 of the 500 clinical hours required for graduation, each stu-
dent 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 credits):
PSY 512 Seminar in Developmental Psychology
CNSL 500 The Dynamics of Group Behavior $\qquad$
CNSL 501 Theories and Techniques in Counseling

Marriage and Family Therapy Specialization (51 credits) - 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 555 Dysfunctional Family Processes
MFT 556 Systemic Perspectives on Mental Disorders
MFT 557 Action Methods in Marital and Family Therapy
MFT 583 Marriage and Family Therapy Practicum I

3
MFT 584 Marriage and Family Therapy Practicum II
MFT 585 Marriage and Family Therapy Internship
PSY 598 Research in Psychology 3
Elective required (3 credits)

* included as a pre-candidacy prerequisite


## Special Opportunities

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

## 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 Doctorate in Educational Leadership. Nondegree programs leading only to certification are not available in this department.

## Programs <br> MASTER OF SCIENCE IN EDUCATIONAL LEADERSHIP

With the assistance of their advisor, students will select 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 credits): Graduates are prepared to assume leadership positions within public and private schools at the level of teacher.

## Strand II - Curriculum Leadership ( 30 credits): Graduates are prepared to pro-

vide 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 credits):
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 credits)Strand I - Educational Leadership
Required courses ( 6 credits):
EDL 514 Administration
EDL 555 Leadership for Culturally Diverse Schools

Elective courses ( 6 credits):
Students select advisor-approved elective courses to complete their graduate program

Strand II - Curriculum Leadership
Required courses ( 6 credits):
EDL 551 Curriculum Leadership
EDL 555 Leadership for Culturally
Diverse Schools
Elective courses ( 6 credits):
Students select advisor-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 pass the Connecticut Administrator Test and go on to be 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

Admissions 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 the completion of EDL 590 and submission of an application portfolio evaluated on 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 (Students who do not hold an educator's certificate issued by the Connecticut State Department of Education must also pass Praxis I)
- Two letters of reference from school administrators
- A formal essay which focuses on (1) the reasons that led the candidate to the area of school leadership, and (2) future career goals
- Materials required from the EDL 590 course
- Successful presentation of the application portfolio to a team of faculty members.

EDL 590 will be offered only twice a year and students may enroll with permission of the chair. All applicants must take this course in either the spring or summer semester. Application portfolio presentations will be scheduled at the end of the EDL 590 course. All application and supporting materials for admission to the program must be received by April 1 for students taking EDL 590 in the summer and October 15 for students taking EDL 590 in the spring.

## Program of Study

The sixth-year certificate in Educational Leadership, including recommendation for certification for the Intermediate Administrator/Supervisor, requires a minimum of 30 credits. Requirements include completion of EDL 590, 22 credits of pro-
fessional core and 5-8 credits of advisorapproved electives.

Pre-admission Course Requirement (3 credits):
EDL 590 Leaders as Learners: Educational Leadership and Self-Assessment

Professional Core ( 22 credits):
EDL 605 Leadership in Teaching and Learning I
EDL 606 Leadership in Teaching and Learning II
EDL 610 School Leadership I
EDL 611 School Leadership II
EDL 615 Understanding External Environments of School I
EDL 616 Understanding External Environments of School II
EDL 690 Internship in Educational Leadership I
EDL 691 Internship in Educational Leadership II

Electives (5-8 credits of advisor-approved electives)

Note: To receive certification, students must also pass a performance-based examination administered by the State of Connecticut. The State of Connecticut also requires 50 months of teaching experience prior to licensure and completion of a designated course in special education, which may be used as part of the elective requirements.

## DOCTOR OF EDUCATION IN EDUCATIONAL LEADERSHIP

The doctorate in education (Ed.D.) has been designed for delivery to a cohort of full-time educational professionals on weekends, evenings, and during the summer. The program has many innovative features and serves teachers and administrators in PK-12 education who want to prepare for a variety of leadership positions: principals, lead teachers, department heads, curriculum and assessment specialists, assistant superintendents, and superintendents. The Ed.D. is based on the premise that learning takes place through an integration of course work and experiences that stem from a clear conception of leadership, the knowledge base of the field, and a structure that allows doctoral students and faculty to collaborate on shared work improving education in the State of Connecticut.

## Admissions

Admission to the program is available only once a year for a cohort of 25 students. Deadline for admission is announced yearly on the program's Web site. To be considered for admission to the Ed.D. in Educational Leadership, applicants must have earned a master's degree in an appropriate discipline or professional field and have professional goals that are consistent with the goals and beliefs of the program. Admission to the program is open to all qualified applicants without regard to age, race, sex, religion, physical disability, or national origin.

## Admission Criteria

3 The follow minimum criteria have been established for admission into the Ed.D. Program:
3. Two positive letters of reference from leaders in education familiar with the applicant's work
4. Vita that illustrates important workrelated experiences
5. Acceptable scores on the General Test and the GRE Writing Assessment
6. An acceptable personal statement covering three important topics:

- Career goals
- Reasons for pursuing a doctorate
- Ability and commitment to devote four weeks to summer study for the first two summers of the program and some additional on-campus summer study during the third or fourth summers

7. Personal interview with admission committee

## Admission Process

The application packet for the Ed.D. can be obtained from the Admissions Office, the Office of Graduate Studies, or from the Graduate Studies and Program Web sites. Admission decisions are determined by the faculty and an admission committee.

## Program of Study

The program is divided into four major components: (1) a required core in educational leadership; (2) a specialty area; (3) a series of inquiry-oriented seminars; and (4) the dissertation component. These components and the credits required in each component are summarized below.

Component I:
Core in Educational Leadership (18 credits)
Component II:
Specialty area in one of the following ( 15 credits):

- Administrative Leadership
- $\backslash$ Curriculum and Literacy

Component III:
Inquiry Seminars (18 credits)

Component IV:
Capstone: Dissertation (12 credits)

## Total: minimum 63 credits

Component I establishes the foundational core of the program with particular emphasis in education leadership and teaching and learning. Four core courses are required of all candidates. Courses include: EDF 700; EDL 701, 702, 705; and EDT 700. All courses in the core are open only to Ed.D. students. Nine credits of the core courses will be taken during the initial summer of study and another nine credits will be completed during the second summer.

Component II includes a specialty area of the student's choice. At the present time two specializations are available:

- Administrative Leadership. This specialization is for students who aspire for administrative positions in public schools. It could lead to certification for intermediate administrator (a State of Connecticut certificate) and the superintendency, but certification is not the emphasis of this specialization.
- Curriculum and Literacy. This specialization is for students who plan leadership careers in PK-12 settings such as reading and curriculum specialists. It includes courses in literacy, curriculum, and instructional leadership.

Component III of the program includes research courses, field-based inquiry projects, and a series of seminars designed to help students understand the processes of inquiry. Component III leads into and facilitates Component IV, the completion of the dissertation and dissemination of the results of the students' study to appropriate audiences. Special course work in research and ongoing inquiry projects will culminate with the completion of the student's dissertation. Major performance assessment (Leadership Summative Portfolio and Assessment Exercises) will occur during the
end of the second academic year. More information about all of these components is available on the program's Web site.

## Candidate Assessment

The curriculum of the Ed.D. Program has been designed to align with national and state standards for doctoral studies in the field of educational leadership and with the program's conceptual framework. Prior to being granted the Ed.D. degree, each candidate will complete a dissertation and demonstrate proficiency on each program standard. Criteria for judging performance on other standards are described in the document, Student Assessment Handbook.

During the second year of the program, each Ed.D. candidate will complete a summative portfolio. This portfolio will consist of evidence (artifacts, evaluations, projects, and reflections) gathered from the beginning of the program. All entries will be tied to the program's conceptual framework and to the program's advanced leadership standards. Reflections on how the work could be changed or improved may also be included. Candidates will present their portfolios to a group of faculty and colleagues.

Foundational Core (18 credits):
EDL 705 Leadership to Promote Effective Teaching and Learning

6
EDT 700 Leadership for Technology in Schools
EDL 701 Leading Organizational Change I
EDL 702 Leading Organizational Change II

3
EDF 700 The Purposes of Education in America

Research and Dissertation (30 credits
required; up to six additional credits optional):
EDL 710 Inquiry Seminar I: The Study of Human and Organizational Learning (repeated for up to 6 credits)
2 EDL 690 Internship in Educational Leadership I: Theory and Practice
EDL 691 Internship in Educational Leadership II: Research and Practice

Curriculum and Literacy
RDG 667 Multicultural Literature in the Classroom
RDG 675 Reading and Writing as Integrated Process
EDL 717 Inquiry Seminar VIII:
Dissertation 2
EDL 718 Inquiry Seminar IX: Dissertation III
EDL 719 Inquiry Seminar X: Dissertation IV (may be repeated for up to 6 credits over three calendar years)
EDL 720 Inquiry Seminar XI: Disseminating Research Findings

Specialty Study ( 15 credits of electives in Administrative Leadership or Curriculum and Literacy):

Administrative Leadership
EDL 610 School Leadership I 3
EDL 611 School Leadership II 3
EDL 615 Understanding External Environments of School Leadership I
EDL 616 Understanding External
Environments of School Leadership II 3
EDL 617 Personnel and Program
Evaluation
BUS 553 Human Resource Management 3
BUS 583 Organizational Leadership 3
EDL 634 Seminar in Curriculum Development 3
EDL 652 Advanced Topics in Educational Leadership 1-6
EDL 680 Educational Planning 3

3 EDL 681 The Superintendency I: Leading District Operations
3 EDL 682 The Superintendency II: Board and Public Relations 3
EDL 695 Internship in Educational Leadership: The Superintendency I
EDL 696 Internship in Educational Leadership: The Superintendency II
EDL 697 Readings and Conference 1-6

EDL 711 Inquiry Seminar II: Quantitative Research
EDL 712 Inquiry Seminar III: Qualitative Research
EDL 713 Inquiry Seminar IV: Study of Organizational Change
EDL 714 Inquiry Seminar V: Advanced Research Design
EDL 715 Inquiry Seminar VI: Advanced Research Internship
EDL 716 Inquiry Seminar VII: Dissertation I

2 RDG 680 Current Trends and Issues in Reading and Language Arts
RDG 686 Literacy Instruction for
Diverse Populations II

RDG 698 Research Seminar
RDG 700 Seminar in Literacy
EDL 634 Seminar in Curriculum
EDL 652 Advanced Topics in Educational Leadership 1-6
EDL 697 Readings and Conference 1-6 (repeated for up to 6 credits)

## MASTER OF SCIENCE IN PEDAGOGY AND LEADERSHIP 34 credits (Plan C)

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

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 advisor.

Core courses ( 24 credits):
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
EDT 533 Distance Learning and Networking II

Professional Education (3 credits):
3 One of the following:
3 EDF 500 Contemporary Educational
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

Research and Capstone Requirements ( 6 credits):
Plan A: 33 credits, including EDF 500 (or EDF 516, 524, 525, 538, 583), ED 598 and EDT 597, Final Project
Plan B: 33 credits, including EDF 500 (or EDF 516, 524, 525, 538, 583), ED 598 and EDT 597, Final Project

Computer Prerequisite:
Certification to use the Internet and the MAC Lab. Graduate students must also have a personal computer and e-mail account.

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.

## PHYSICAL EDUCATION AND HEALTH FITNESS STUDIES

## Faculty

David Harackiewicz (Chair), Antone

Capitao, Frank Frangione, Diane
Hurlburt, Judith Bourell Miller, Peter
Morano, Victoria Morley, Jack Olcott
(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 fields of exercise science and sports medicine. 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 professionals in exercise science and sports medicine.

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.

Note: No more than 9 credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## MASTER OF SCIENCE IN PHYSICAL EDUCATION <br> 30 credits

Admissions requirements: Admission to Graduate School

## Electives:

3-6 credits of courses other than Education or Physical Education as approved by faculty advisor

Professional Education:
3-6 credits of Education courses other than Physical Education, as approved by faculty
advisor, from: EDF 500, 516, 524, 525, 538 , or 583.

Specialization:
15-18 credits of department offerings as approved by faculty advisor.
PE 402 Organization and Administration of Physical Education
PE 405 Elementary Methods in Physical Education
PE 406 Adapted Physical Education
PE 410 Exercise Physiology
PE 411 Organization and Management of Health Promotion Programs
PE 415 Fitness Assessment and Exercise Prescription
PE 420 Perceptual and Motor Development
PE 422 Motor Learning
PE 425 Implementation and Evaluation of Health Promotion Programs
PE 445 Internship in Athletic Training
PE 450 Practicum in Exercise Science
PE 470 Internship in Exercise and Health Promotion
PE 490 Independent Study in Physical Education
PE 500 Improving Student Learning in Physical Education
PE 507 Human Perspective in Sport
PE 515 Sport, Physical Activity, and Exercise Psychology
PE 519 Sport Biomechanics
PE 520 Current Issues in Physical Education
PE 522 Physical Activity and Health
PE 523 Theories of High-Level Performance in Sport
PE 524 Sport, Physical Education, Athletics, and the Law
PE 525 The Regulation of Intercollegiate and Interscholastic Athletics
PE 530 Nutrition for Health, Fitness, and Sport Performance
PE 592 Advanced Physiology of Sport and Exercise
PE 598 Research in Physical Education (required for all plans)
PE 599 Thesis (required for Plan A only)
Capstone Requirement::
Plan A (Thesis) or Plan B (Comprehensive Exam)

## 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 $\mathrm{PK}-12$ teacher certification and does not result in a master's degree. For information on admission to this program, see page 51 .

## 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

Helen R. Abadiano (Chair, Barnard 245), Barry A. Davies, Catherine Kurkjian, Patti Lynn O'Brien, Barbara Steele, Jesse Turner (Dept. phone: 832-2175)

## Department Overview

The Department of Reading and Language Arts is committed to promoting and enhancing quality instruction in reading and language arts. Accordingly, it offers a Master of Science degree program and a Sixth-Year Certificate in Reading and Language Arts. The Master of Science degree offers specializations in Classroom Instruction in Reading and Language Arts, and Corrective and Remedial Reading and Language Arts. The master's program also offers a specialization in ReadingMathematics; the department is considering two additional specializations. Check with the department on the status of these specializations. The Sixth-Year degree program may include courses leading to a reading consultant certification by the State of Connecticut. An Advanced Official Certificate Program in Reading and Language Arts is also available for students who have completed a Master of Science degree in Reading and Language Arts. All programs require practicum, clinical, or field-based experiences under close supervision in order to provide students with opportunities to apply their skills.

## Admission

To apply to the Department of Reading and Language Arts Master of Science degree or

Sixth-Year Certificate program, a student must be admitted to the graduate program. Submit an application for graduate admission, official copies of transcripts, and application fee directly to the Graduate Office. The requirements for formal admission to the Master of Science degree program in Reading and Language Arts are explained in the admissions packet distributed by the Graduate Office at the time of application. Admission packets may also be requested from the department or downloaded from the department Web site at
www.reading.ccsu.edu/Programs/APPLICAT.HTM. Admission requirements include (1) letters of recommendation, (2) application essay, (3) department interview, (4) CT certification and experience qualifications, and (5) basic computer literacy.

Students seeking endorsement as a Reading and Language Arts Consultant in the State of Connecticut must apply to the Graduate Office and the Department of Reading and Language Arts for admission to the Advanced Official Certificate Program. In addition to the general requirements for admission to the Reading and Language Arts program, the candidate must have completed a Master of Science degree in Reading and Language Arts.

## Program Requirements

Program Portfolio: A Program Portfolio is required of all Master of Science degree and Sixth-Year Certificate students graduating from the Department of Reading and Language Arts. The student and the program advisor develop the portfolio during the course work phase of the student's program. The portfolio will be a reflection of student competencies from areas recommended by the Connecticut State Department of Education and the International Reading Association. Evidence of membership to a state/regional, national and/or international professional organization in Reading and Language Arts, as well as attendance or participation in state/regional and/or national/international conferences for each year a student is enrolled in the program must be included in the portfolio.

CCSU "NT" Account: A CCSU "NT" account is required for all courses in the graduate programs in Reading and Language Arts. An "NT" account may be obtained via the CCSU Computer Center.

Mid-Program Evaluation: Students in the Master of Science degree and Sixth-Year Certificate program in Reading and Language Arts must meet with their pro-
gram advisor following completion of fifteen (15) graduate credits for a mid-program evaluation. For the Master of Science degree candidates, a mid-program evaluation is required for the approval of an application for comprehensive examination or thesis writing. For the Sixth-Year Certificate program candidates, a mid-program evaluation is required for the practicum course. Students are expected to bring in their program portfolio for evaluation.

## Planned Program Of Graduate Study

Following admission, students admitted to the Master of Science degree and Sixth-Year Certificate program in Reading and Language Arts must meet with their assigned program advisor to complete a planned program of graduate study. Only courses approved in the planned program of study will be counted toward graduation.

## MASTER OF SCIENCE DEGREE PROGRAMS IN READING AND LANGUAGE ARTS

The Master of Science degree in Reading and Language Arts is designed to increase knowledge and to improve skills of teachers in the area of reading and language arts. The program offers a specialization in Classroom Instruction in Reading and Language Arts to assist students to become more effective classroom teachers in the areas of reading, writing, listening, speaking, viewing, and visually representing. Additionally, the program may include courses leading to a specialization in Corrective and Remedial Reading and Language Arts that will enable students to develop those skills in the corrective and remedial processes of reading and language arts. The program also offers courses leading to a specialization in Reading-Mathematics. The department is considering two additional specializations. Check with the department on the status of these specializations.

The student's planned program of graduate study may total $30-36$ credits and should include the following:
Research: RDG 598 (3 credits) and
Plan A: ED 599 Thesis
or
Plan B: RDG 598 and Comprehensive exam Area of specialization (18-24 credits)

Specialization in Reading and Language Arts - Classroom Instruction in Reading and Language Arts or Corrective and Remedial Reading and Language Arts Planned program of graduate study will be developed by the student and the program advisor. Program advisor's evaluation of student's needs, background, and experiences in reading and language arts will determine the courses for Planned Program. Specialization in Corrective and Remedial Reading and Language Arts requires the clinical sequence, including RDG 594, 595, and 596. The student's planned program of graduate study may include selected courses from the following: RDG 569 Folktelling Art and Technique
RDG 578 Teaching Writing in the Elementary School
RDG 579 Technology in Reading and Language Arts Instruction
RDG 585 Reading in Content Area
RDG 586 Literacy Instruction for Diverse Populations I
RDG 587 Bibliotherapy
RDG 588 Teaching Children's Literature
RDG 589 Creative Language Arts
RDG 590 Current Trends in Developmental Reading K-12
RDG 591 Developmental Reading in Primary Grades
RDG 592 Middle School Level Literacy Development
RDG 593 Developmental Reading in Secondary Schools
RDG 594 Diagnosis of Reading and Language Arts Difficulties
RDG 595 Remedial and Corrective Techniques in Reading and Language Arts
RDG 596 Clinical Practices in Reading and Language Arts

Specialization in Reading-Mathematics 12-15 credits each in reading and language arts and mathematics. Planned Program will be developed by the student and the program advisor. Program advisor's evaluation of student's needs, background, and experiences in reading and language arts and mathematics will determine the courses for Planned Program. The student's planned program of graduate study may include selected courses from the following:

Reading and Language Arts
RDG 578 Teaching Writing in the Elementary School
RDG 585 Reading in Content Area
RDG 586 Literacy Instruction for Diverse Populations I

RDG 588 Teaching Children's Literature
RDG 589 Creative Language Arts
RDG 590 Current Trends in Developmental Reading K-12
RDG 591 Developmental Reading in Primary Grades
RDG 592 Middle School Level Literacy Development
RDG 593 Developmental Reading in Secondary Schools

## Mathematics

12-15 credits in mathematics as selected with the academic advisor

## SIXTH-YEAR CERTIFICATE IN READING AND LANGUAGE ARTS

The Sixth-Year Certificate in Reading and Language Arts 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 certification-track 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 program advisor.

Course requirements will be based on the student's needs in terms of fulfilling professional and personal goals. Related areas of study may be developed in disciplines such as Elementary Education, Educational Leadership, Educational Technology, Mathematics, and Special Education. A minimum of 15 credits of 600-level courses is 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 credits)
RDG 698 Research Seminar (3 credits)
Related Area of Study (6 credits)
Area of Specialization ( 15 credits):
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 credits)

Electives (0-3 credits)

## Non-Certification Track

Research (3 credits):
RDG 698 Research Seminar
Related Area of Study (6 credits)
Area of Specialization (15-18 credits): RDG 680 Current Trends and Issues in Reading and Language Arts

Electives (3-6 credits)

## ADVANCED OFFICIAL CERTIFICATE PROGRAM IN READING AND LANGUAGE ARTS (OCP 503) <br> This is a non-degree program providing coursework to lead to endorsement as a Reading and Language Arts Consultant in the State of Connecticut. Students are expected to have a Master of Science degree in Reading and Language Arts and to take courses required by the State of Connecticut for Reading and Language Arts Consultant Certification, including prerequisite courses when necessary. The required courses are as follows, for a total of 12 to 24 credits of course work:

RDG 588 Teaching Children's Literature RDG 694 Organization, Administration, and Supervision of Reading Programs
RDG 696 Practicum for Reading and Language Arts Consultants

Required prerequisites:
RDG 594 Diagnosis of Reading and
Language Arts Difficulties
RDG 595 Remedial and Corrective Techniques in Reading and Language Arts
RDG 596 Clinical Practices in Reading and Language Arts

SPECIAL EDUCATION

## Faculty

Ernest Pancsofar (Chair, Barnard 232), Mitchell Beck, John Foshay, Joanne Walker,

Mae Williams, Michael Williams (joint appointment) (Dept. phone: 832-2400)

## Department Overview

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

The second specialization contains two strands and 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 sciences, integrated science, mathematics, or physics. Strand A leads to a master's degree and does not provide coursework to lead to a cross endorsement in special education. Strand $\mathbf{B}^{*}$ both leads to a master's degree and provides coursework that may lead to a cross endorsement for either elementary or secondary (including middle level) special education.

* pending DHE approval


## Specializations

MASTER OF SCIENCE PROGRAM FOR STUDENTS ALREADY CERTIFIED IN SPECIAL EDUCATION
30 credits
General Education Elective (3 credits)
Professional Education (6 credits)
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 566 Pupil Personnel Services in Special Education

3

Specialization ( 15 credits):
Electives - Students usually take 15 credits of advanced-level course work in special education. Up to 6 credits of related course work from other departments may be included at the advisor's discretion.

Research (6 credits):
SPED 519 Action Research in Special Education (Plan C)
ED 598 Research in Education 3

## MASTER OF SCIENCE PROGRAM FOR STUDENTS WITH CERTIFICATION IN OTHER AREAS OF EDUCATION*

Strand A: Completion of Planned Program does not lead to certification (30 credits)

Professional Education (12 credits):
ED 598 Research in Education 3
SPED 566 Pupil Personnel Services in
Special Education
SPED 519 Action Research in Special
Education (Plan C)
and one of the following:
EDF 500 Contemporary Educational Issues

3
EDF 516 School and Society 3
EDF 524 Foundations of Contemporary Theories of Curriculum 3
EDF $525 \begin{aligned} & \text { History of American } \\ & \text { Education }\end{aligned}$
EDF 538 The Politics of Education 3
EDF $583 \begin{aligned} & \text { Sociological Foundations of } \\ & \text { Education }\end{aligned}$
Specialization ( 15 credits):
Choose 6 credits from:
SPED 511 Behavioral/Emotional Disorders
SPED 512 Learning Disabilities 3
SPED 513 Developmental Disabilities 3
Choose at least 9 credits from:
SPED 506 Foundations of Language for the Exceptional Child

3
SPED 510 Inclusive Education 3
SPED 530 The Family, the School, and the Handicapped Child

3
SPED 536 Introduction of the Autistic
Child
SPED 560 Crisis Intervention in the
Schools
SPED 578 The Juvenile Offender as an Exceptional Learner

3
SPED 580 The Special Education Teacher as Consultant
SPED 590 Early Intervention for Infants, Toddlers, and Preschoolers with Special Needs

Note: Other courses offered in the
Department of Special Education may be substituted as they become available; i.e., special topics.

Elective (3 credits):
Students choose an additional course with their advisor.

Strand B: Completion of Planned Program leads to an endorsement in special education (36-39 credits).

Professional Education (9 credits):
ED 598 Research in Education
SPED 519 Action Research in Special Education (Plan C)
and 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 3
EDF 583 Sociological Foundations of Education

Specialization (27-30 credits):
SPED 511 Behavioral/Emotional Disorders
SPED 512 Learning Disabilities
SPED 513 Developmental Disabilities
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 NeedsElementary
or
SPED 518 Instructional Methods for Students with Special NeedsSecondary
SPED 520 Seminar for Special Educators and one of the following:
SPED 521 Student Teaching in Special Education-Elementary
SPED 522 Student Teaching in Special Education-Secondary
SPED 523 Practicum in Special Education-Elementary
SPED 524 Practicum in Special Education-Secondary
*pending DHE approval

# TEACHER EDUCATION 

## Faculty

Nancy Hoffman (Chair, Barnard 277), Elizabeth Aaronsohn, Aram Ayalon, Ronnie Casella, Gail Cueto, Basanti Dey-
3 Chakraborty, Maxine Howell, Lawrence Klein, Dorothy Lawrence, Daniel Mulcahy, 832-2415)

## Department Overview

The Department of Teacher Education is committed to the initial preparation and continuing professional education of those involved in early childhood, elementary and secondary education. Accordingly, the department offers programs leading to a Master of Science degree in the following areas: Early Childhood Education, Educational Foundations, Elementary Education and Secondary Education. The Department 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 EDUCATION
333 credits
Coordinator: Maxine Howell (832-2422)
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:

Introductory Block 1 ( 9 credits):
EDTE 502 Focus on Diversity in Education

EDF 516 School and Society
ED 598 Research in Education

Curriculum and Instruction Block 2 (9 credits):
EDEC 551 Programs and Curricula in Early Childhood Education
EDEC 552 Programs and Curricula in Early Childhood Education II
EDEC 554 Observation and Assessment in Early Childhood Education

Specialization Block 3 ( 9 credits):
Choose from the following options:
a) Leadership/Directorship:

EDL 513 Supervision
EDEC 561 Administration in Early Childhood Education
EDEC 553 Family, School and Community Partnerships in Early Childhood Education
b) Working with Families:

SPED 530 The Family, the School, and the Handicapped Child
EDEC 553 Family, School and Community Partnerships in Early Childhood Education
RDG 586 Literacy Instruction for Diverse Populations I
c) Urban Education:

Three from
EDF 510 The Social, Political, and Cultural Context of Urban Schools
EDEL 509 Education and the Development of Cultural Understanding
EDEL 531 Education in the Inner City
EDEL 485 Approaches to Discipline in Elementary School (K-8)

Capstone Block (6 credits):
EDEL 591 and EDEL 592 (all students will be Plan C). Capstone prerequisite is completion of all Block 1 courses and no less than 12 credits in Block 2 and 3.

Program Sequence: Students are encouraged to complete the Introductory Block 1 before taking courses in the Curriculum and Instruction and Specialization Blocks 2 and 3. Courses in the Curriculum and Instruction and Specialization Blocks may be taken concurrently with courses from the Introductory Block with permission of advisor.

Note: A maximum of 6 credits in 400 -level may be taken with the approval of the graduate advisor.

## MASTER OF SCIENCE IN EDUCATIONAL FOUNDATIONS/ SECONDARY EDUCATION

Coordinators: Nancy Hoffman (832-2425), Aram Ayalon (832-2135)

This program is designed to offer teachers and other educators the opportunity to pursue graduate studies in the foundations of education or a combination of foundations and secondary education. There are, accordingly, two strands from which a choice is made. Strand 1 is centered on the theme of policy studies in American education. Strand 2 employs an approach to the study of curriculum and instruction in secondary education which integrates both theory and practice. Teacher certification in a secondary or NK-12 area is required for admission to Strand 2.

## Strand 1: Educational Foundations and Policy Studies

30 credits

Core courses ( 24 credits, no sequence specified):
EDF 500 Contemporary Educational Issues
EDF 516 School and Society
EDF 521 History of Educational Ideas
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
ED 598 Research in Education

Electives ( 6 credits):
EDF 530 Multicultural Education
EDF 522 Comparative Education
or
other electives approved by advisor
or
Thesis plus one elective approved by advisor
Capstone requirement:
Plan A (Thesis) or Plan B (comprehensive exam)

## Strand 2: Secondary Curriculum, Foundational and Instructional Issues 30 credits

Introductory Block 1 (9 credits): EDTE 502 Focus on Diversity in Education

## EDF 516 School and Society <br> ED 598 Research in Education

Curriculum and Instruction Block 2 (9 credits):
EDSC 505 Innovation in Secondary Education
EDSC 556 Instructional Theory and Practice
EDF 524 Foundations of Contemporary Theories of Curriculum

Specialization Block 3 ( 9 credits):
Choose from the following options:
a) Foundations: EDF 583, EDF 522, EDF

525, EDF 538, EDF 500
b) Subject areas: Choose 3 courses in the subject area in which certified or in literacy.

Capstone Block (3 credits):
EDSC 586 (all students are Plan C).
Capstone prerequisite is completion of all Block 1 courses and at least 12 credits in Blocks 2 and 3.

Program Sequence: Students are encouraged to complete the Introductory Block 1 before taking courses in the Curriculum and Instruction and Specialization Blocks 2 and 3. Courses in the Curriculum and Instruction and Specialization Blocks may be taken concurrently with courses from the Introductory Block with permission of advisor.

Note: No more than 9 credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## MASTER OF SCIENCE IN ELEMENTARY EDUCATION 33 credits

Coordinator: Susan Seider (832-2429)

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.

Introductory Block 1 (9 credits):
EDTE 502 Focus on Diversity in Education
EDF 516 School and Society
ED 598 Research in Education

Curriculum and Instruction Block 2 (9 credits):
EDEL 508 Current Trends in Elementary
Education
EDEL 512 Assessment of Learning
EDEL 529 Analysis of Teaching
Specialization Block 3 ( 9 credits): Choose from the following options:
a) Urban Education: Three from EDEL 509, EDEL 531, EDEL 485, RDG 586, LING 497
b) Working with Families: Three from SPED 501, SPED 510 or other SPED course approved by advisor; EDEC 553; RDG 586
c) Subject Area Curriculum: Three from FA 490, SCI 555, MATH 506, 507, 508, or 509, EDEL 537, RDG course ( 500 level)
d) Literacy: Three from 500 -level RDG courses or TESOL courses (LING 497 and RDG 586 are recommended.)
e) Summer Through Summer: MATH 531, SCI 555, FA 490. This option would also substitute EDTE 540 and ED 545 for capstone and ED 598; EDTE 510 for EDTE 502.

Capstone Block (6 credits):
EDEL 591 and EDEL 592 (all students will be Plan C). Capstone prerequisite is completion of all Block 1 courses and at least 12 credits in Blocks 2 and 3.

Program Sequence: Students are encouraged to complete the Introductory Block 1 before taking courses in the Curriculum and Instruction and Specialization Blocks 2 and 3. Courses in the Curriculum and Instruction and Specialization Blocks may be taken concurrently with courses from the Introductory Block with permission of advisor.

Note: A maximum of six credits in 400level courses may be taken with the approval of the graduate advisor.

## 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 advisor 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 51. 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 advisor, 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 elementary education. Students in this program 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. Some 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 the Option 2 program 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 <br> 56 credits

21 of the 56 credits 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 ( 14 credits):
EDTE 420 Field Experience Practicum
EDTE 510 Methods of Inquiry into Pedagogy and Leadership in Diverse Communities (field experience required)*
RDG 315 Introduction to Literacy
RDG 316 Comprehensive Reading Instruction II
EDT 490 Instructional Computing
EDTE 540 Advanced Seminar in Leadership and Learning Communities*

Fall (17 credits):

| EDTE 315 | Principles of Learning <br> (field experience required) |
| :--- | :--- |
| SPED 315 | Introduction to Educating <br> Learners with |
| RDG 412 | Exceptionalities <br> Literacy in the Elementary <br> SCI 555 <br> School <br> Teaching of Science in the <br> Elementary School* |
| EDTE 540 | Advanced Seminar in <br> MATH 531 <br>  <br> Leadership and Learning <br> Communities* <br> Basic Concepts of <br> Elementary School <br> Mathematics* |

Spring (13 credits):
EDEL 430 Elementary Education Student Teaching
EDTE 540 Advanced Seminar in Leadership and Learning Communities*
EDEL 422 Elementary Education General Methods

Second Summer ( 12 credits):
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 POSTBACCALAUREATE CERTIFICATION PROGRAM IN MIDDLE LEVEL EDUCATION

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

## MASTER OF SCIENCE PROGRAM IN PEDAGOGY AND LEADERSHIP 34 credits (Plan C)

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

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 credits toward the master's.

Core (18 credits):
EDTE 530 Internship in Pedagogy and Leadership I
EDTE 540 Advanced Seminar in Leadership and Learning Communities ( 1 credits taken 2 times)
ED 535 Integrating Curriculum Development with Educational Technology
ED 545 Integration of Methods of Research and Assessment

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

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

Directed Elective (3 credits):
EDF 500 Contemporary Educational Issues
or
EDF 516 School and Society
Specialization (9 credits):
Students select three courses for 9 credits 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

Holly Hollander, Acting Director (832-2417)
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, 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 Literacy Center (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 335, provides faculty and students with opportunities to create learning outcomes through using state-of-the-art technology in multi-media, computer-based instruction and other technological delivery systems.

Zdzislaw B. Kremens, Dean
Olusegun Odesina, Associate to the Dean and Graduate Coordinator
Phone: (860) 832-1800
Fax: (860) 832-1804
Web address: http://wwwv.ccsu.edu/technology
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.

## COMPUTER INFORMATION TECHNOLOGY

## Faculty

Computer Electronics and Graphics Technology: Veeramuthu Rajaravivarma, Karen Coale Tracey (Dept. phone: 832-1830)

Computer Science: Joan Calvert (director MSCIT), Bradley Kjell, Neli Zlatareva (Dept. phone: 832-2710)

Management Information Systems: Marianne D'Onofrio, Michael Gendron (phone: 832-3297)
(Web site address: www.cs.ccsu.edu/cit/ index.htm)

## Overview

The Master of Science Computer Information Technology program is offered by the Department of Computer Electronics and Graphics Technology, in conjunction with the Computer Science Department, School of Arts and Sciences, and the Management Information Systems Department, School of Business. For details of the program, see page 37 of this catalog.

## ENGINEERING TECHNOLOGY

## Faculty

J. Bean, P.E., Chair (832-1825);
G. D. Alungbe, P.E.; P. F. Baumann, A. Gates, P.E.; L. Lema, CMfgE; E.J. Maydock; O.A. Powell, P.E.; Z. Prusak; and E. Sarisley, P.E. (Dept. phone: 832-1815; Fax: 8321811; Web site: www.ccsu/technology)

## Overview

The Master of Science in Engineering Technology graduate program offers two specializations - Civil/Construction and Mechanical/Manufacturing. The Master of Science in Engineering Technology with a specialization in Civil/Construction Engineering Technology is designed for the working professional to continue his or her education at night at CCSU. The program will extend the knowledge of students into areas of established and emerging technologies in Architecture/ Engineering/Construction (AEC) industries, including the study of Geographic Information Systems (GIS), Global Positioning Systems (GPS), site development, urban hydrology, construction engineering administration, and infrastructure rehabilitation and management.

The Master of Science in Engineering Technology with a specialization in Manufacturing/Mechanical Engineering Technology provides students with academic experience in applied engineering methods in the areas of mechanical and manufacturing. Specialization areas focus on advanced materials, manufacturing and assembly, project administration, and technical management. Technical electives include mechanical design and analysis, manufacturing methods, materials, quality control, and applied engineering management. The program is designed to provide applied engineering methods to aid graduates and engineers in remaining current with technology, improve productivity, and assist with advancement into leadership positions in industry.

## Program

The Master of Science in Engineering Technology degree is a planned program of study requiring 30 credits of graduate courses, including the written and oral cap-
stone requirement. The Master's degree program consists of two areas of study - the Foundation Studies (12 credits) and the Engineering Technology Specialization (15 credits). The candidate selects one Specialization, either in Civil/Construction Engineering Technology or Manufacturing/ Mechanical Engineering Technology. The Capstone requirement (three credits) has two options of study: Plan A-Research Thesis with written dissertation and oral defense; or Plan C-Research Project with a design project, written report, and oral defense. The graduate candidate must be accepted into the graduate program and have his/her planned program approved by the graduate advisor. According to graduate policy on courses, no more than nine credits of 400 -level courses, as approved by the graduate advisor, can be applied towards the MSET degree.
I. Foundation Studies ( 12 credits)

Six credits are encumbered and six credits are electives selected from University courses approved for graduate study by the ET Department and the department offering the course.
ET 592 Research and Development of Experiments
STAT 453 Applied Statistical Inference 3 Elective, to be approved by the graduate advisor
Technical elective (ET, ETC, ETM, CM, MFG or EMEC 400- or 500-level, approved by graduate advisor)
II. Engineering Technology Specialization: Student selects one Specialization and completes 15 credits of graduate courses in a planned program approved by advisor.

Specialization-Civil/Construction Engineering Technology ( 15 credits)
ET 556 Architectural and Civil Engineering Technology CAD 3
ET 571 Design/Construction Integration of Structures 3
or
ET 578 Value Engineering for AEC 3
ET 577 Engineering Technology
CM 525 Construction Equipment
Operation \& Management 3
and one of the following:
CM 505 Construction Project Delivery Systems

| CM 515 | Construction Law |
| :--- | :--- |
| CM 535 | Computer Applications in <br> Construction Management |
| CM 545 | Construction Risk <br> Management |

Specialization—Manufacturing/Mechanical Engineering Technology ( 15 credits)
ET 517 Automated Assembly and Manufacturing Cell Design 3
ET 523 Contemporary Engineering Materials
ET elective (one 500- or 400 -level course) 3 ET electives (two 500-level courses)
III. Capstone Requirement: (3 credits) The master candidate must select either Plan A, Thesis, or Plan C, Research in Engineering Technology, and each requires a written and oral defense of the research.

Plan A: ET 599 Thesis, 3 credits. The preparation of analytical research and thesis under the supervision of a graduate advisor requires a written and oral defense.
or
Plan C: ET 598 Research in Engineering Technology, 3 credits. An applied engineering project conducted under the supervision of graduate advisor. Requires written report and oral defense. Extensive projects may be approved for up to 6 credits (in such case one, not two, ET 500 -level electives will be required).

## TECHNOLOGY MANAGEMENT

## Faculty

Paul J. Resetarits, Chair, Manufacturing and
Construction Management
(Resetarits@ccsu.edu); Graduate Advisors: Stuart Bennett, James DeLaura, Jacob Kovel, Raymond Perreault, Michael Vincenti (Dept. Office: Copernicus Hall; Dept. phone: 832-1830)

## Overview

The Master of Science in Technology 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,
project management, 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 advisors 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 business and industry. Many of the courses for this degree are offered online.

## Program

The Master of Science in Technology 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 credits) as follows:
$\begin{array}{ll}\text { IT } 500 & \begin{array}{l}\text { Industrial Applications of } \\ \text { Computers }\end{array}\end{array}$
IT 502 Human Relations and Behavior in Complex Organizations
IT 510

IT 551
IT 598*
AC 510 Industrial Planning and Control
Project Management
Research in Technology
Accountog 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 advisor. 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,
- Environmental and Occupational Safety,
- Manufacturing Operations,
- Quality Management, and
- Robotics and Automation.
c. All three plans have capstone course requirements of $0-3$ credits.

Plan A: IT 599 Thesis
Plan B: Comprehensive exam
Plan C: IT 595 Applied Research Topic in Technology

Note: No more than nine credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## TECHNOLOGY EDUCATION

## Faculty

Peter Rodrigues (Chair; rodriguesp@ccsu.edu), Patrick Foster, John Larkin, Peter J. Vernesoni, Michael J. Williams (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 advisor, 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 advisor, 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 advisor to plan a program of advanced study.

## Programs

## 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
- 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 major area
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.

[^2]Additional electives as approved by the faculty advisor - students may focus on instruction, curriculum development, administration/ supervision, special education, or research.

Technology Education offerings approved by advisor (12-21 credits)

Research (3-6 credits):
TE 598 Research in Technology Education (required as part of first 12 credits of the graduate program)
ED 599 Thesis (for Plan A)
TE 596 Special Projects in Technology Education (for Plan C)
Comprehensive Examination (for Plan B)
Note: No more than nine credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study, for the M.S. degree.

## TECHNOLOGY EDUCATION

## CERTIFICATION PROGRAM FOR

## COLLEGE GRADUATES

This 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 Admission Office. Once the student is accepted into the certification program, an advisor 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.

The George R. Muirhead Center for International Education was designated as a Center for Excellence in International Education in 1986, and 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 advisors 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. Students may also 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. Midlevel reading, writing, speaking and comprehension skills may be demonstrated by examination or through appropriate course work.

## Faculty

International Studies Program Director: Dr. Ronald Fernandez (832-3755)

African Studies: C. Charles Mate-Kole (Coordinator, Psychology Dept.), Gabriel Alungbe, Ali Antar, Carol Austad, Walton Brown-Foster, James Buxton, Carol Carter-Lowery, Vivian Cross, Tennyson Darko, Ghassan El-Eid, Gloria Emeagwali, Parker English, Sheri

Fafunwa-Ndibe, Cheryl Harrison, Beverly Johnson, Peter Kyem, Colleen Larsen, Peter LeMaire, Andrew Moemeka, Segun Odesina, Peter Osei, Warren Perry, Evelyn Newman Phillips, Timothy Rickard, Segun Sogunro, Renee White (Phone: 832-3105)

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

## European Union/West European

 Studies: Carmela Pesca (Coordinator, Modern Languages Dept.), Richard Benfield, Paloma LaPuerta, Angela Morales, Maria Passaro, Paul Petterson, Timothy Rickard, Karen Ritzenhoff, Marie-Claire Rohinsky, Robert Stowe, Ronald Todd, Martha Wallach (Phone: 832-2882)
## Latin American Studies: Antonio

 Garcia-Lozada (Coordinator, Modern Languages Dept.), Walton Brown-Foster, Gloria Caliendo, Nelson Castaneda, Adolfo Chavarro, Gail Cueto, Francisco Donis, Ronald Fernandez, Frank Gagliardi, Gustavo Mejía, Serafín Méndez-Méndez, George B. Miller, Thomas Mione, Cynthia Pope, Alfred C. Richard, Moisés Salinas, Lilián Uribe (Phone: 832-2895)Middle Eastern Studies: Ali Antar (Coordinator, Physics and Earth Sciences Dept.), Fatemah Abdollahzadeh, Karen Beyard, Anthony Cannella, Ghassan ElEid, Gloria Emeagwali, Joseph McKeon, Norton Mezvinsky, Anastasios Papathanasis, Timothy Rickard, Nanjundiah Sadanand, Leyla ZidaniEroglu (Phone: 832-2932)

Slavic/East European Studies: Richard Benfield (Coordinator, Geography Dept.), Gavro Altman, Jay Bergman, Paul
Karpuk, David Kideckel, Brian Sommers, Jaroslaw Strzemien, Ewa Wolynska (Phone: 832-2879)

## 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 credits in International Studies (Plan A, Plan B or Plan C)

Common Core (12 credits):
IS 570 Modern World Issues
IS 571 International Diversity and Integration
GEOG 544 The Geography of World Economic Development
COMM 543 Intercultural Communication
Specialization ( 12 credits):
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 (6 credits):
Plan A: IS 598 Research in International Studies and IS 599 Thesis in International Studies or
Plan B: IS 598 Research in International Studies, comprehensive exam and three credits of directed electives or
Plan C: IS 598 Research in International Studies and IS 595 Special Project in International Studies

Note: No more than nine credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## 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.

## Advisors

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 advisor appropriate to their regional or thematic specialization. This advisor 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: $(\mathrm{O})=$ odd year, $(\mathrm{E})=$ even year, no symbol $=$ course offered both semesters of the academic year, [c] = computer-intensive course.

Note: Only 400-level courses listed in the Graduate Catalog, unless otherwise noted, may be taken for graduate credit and be included in the student's planned program of study, when approved by the program advisor.

## ACCOUNTING

Note: Additional work will be required for graduate credit in 400 -level courses.
AC 402 Fundamentals of Corporate Taxation 3
Prereq.: AC 401; for graduate students, permission of chair. Analysis of federal tax law relating to the formation, operation, and liquidations of corporations, including dividend distributions and stock redemptions. Fall, Spring, Summer.

AC 403 Estate Taxation and Probate Accounting
Prereq.: AC 401. A basic course in estate taxation and probate accounting. Area coverage includes: post- mortem tax planning, examination of the U.S. Estate and Fiduciary tax returns, and probate accounting rules.

AC 407 Advanced Accounting
Prereq.: AC 313. Partnership accounting, consignments and installation sales, parent and subsidiary accounting, consolidations and mergers, agencies, and branches.

## AC 430

Accounting for Non-Profit Institutions
Prereq.: AC 313; for graduate students, permission of chair. 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 445 Auditing
3
Prereq.: AC 313, AC 340, STAT 201; for graduate students, permission of chair. 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 3
Prereq.: AC 313, AC 340, STAT 201; for graduate students, permission of chair. Role and responsibilities of internal auditors in financial auditing.
Understanding the need and role of governmental auditing. Topics include operational audits, compliance audits, performance audits.

AC 490

## Current Accounting Topics

Prereq.: Permission of instructor; for graduate students, permission of chair. Seminar course that will focus on current topics in financial accounting, tax, managerial accounting, accounting systems. Course content will vary from semester to semester. May be repeated with different topics for a maximum of 6 credits. Irregular.

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 510 is a required course for MS Technology Management students and cannot be used as an elective in the MBA program.

AC 530 Fundamentals of Financial and Management Accounting 3 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 Making 3
Prereq.: 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
3
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 Systems 3
Prereq.: 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 3

Prereq.: AC 445 and admission to MBA program; or permission of MBA
Accounting Concentration Coordinator. Previously BUS 535. 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. Irregular.

## 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. Spring. [c]

AC 539 Current Topics in Accounting
1 to 3
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. Survival distributions and life tables, life insurance, life annuities, net premiums, premium reserves, multiple life functions, and multiple decrement models. Fall. (O)

ACTL 480 Topics in Actuarial Science
1 to 3
Prereq.: Permission of instructor. Topics chosen from theory of interest, risk theory, demography, and graduation. Spring. (E)

ACTL 481 Review-SOA/CAS Course I
Review and extension of the principles of calculus and probability as related to the material on the SOA/CAS Course 1 exam. Spring.

ACTL 482 Review-SOA/CAS Course II
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. Fall. (O)

## ACTL 566 Actuarial Models II

Prereq.: STAT 416 (may be taken concurrently) and ACTL 465. Previously ACTL 466. Continuation of ACTL 465. Topics chosen from survival models, frequency and severity models, compound distribution models, stochastic process models, and ruin models. Spring. (O)

ACTL 580 Advanced Topics in Actuarial Science 3
Prereq.: Permission of instructor. Seminar in risk theory, basic actuarial principles, actuarial models, actuarial modeling, or other advanced topic. May be repeated under different topic for a maximum of 6 credits. Spring.

## ACTL 583 Review - SOA/CAS Course 3

Prereq.: ACTL 566 (may be taken concurrently). Previously ACTL 483. Review and extension of the principles of actuarial models as related to the material on the SOA/ CAS Course 3 exam. Spring. (O).

ACTL 584 Review - SOA/CAS Course 4 3
Prereq.: STAT 425 (may be taken concurrently), 567,575. Previously ACTL
484. Review and extension of the principles of modeling, estimation and fitting of frequency, severity and survival distributions, regression, time series, forecasting, and credibility theory as related to the material on the SOA/CAS Course 4 exam. Spring. (E).

## ANTHROPOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.
ANTH 422 Native Americans 3
This course can be taken for the American Studies program. Native American cultures, their distinct life ways and contemporary problems. Fall.

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. Fall. (E)

ANTH 426 People and Cultures of Eastern Europe
A survey of culture in the nations of Eastern Europe concentrating on their contemporary aspects. Spring. (E)

ANTH 428 Cultures of Latin America
Prereq.: ANTH 140 or ANTH 170 or SOC 110. Introduction to modern and pre-Columbian societies in Latin America. Objectives include tracing the historical roots of social and economic relations in Latin America today, and the diverse responses Latin Americans have made and are making to rapid social change. Fall.

ANTH 430 Theories of Culture
Prereq.: ANTH 140 or 170 or permission of instructor. A historical survey of major schools of thought in socio-cultural anthropology. Includes critical analysis of Evolutionist, Historicist, Functionalist, Structuralist, Interpretive, and Marxist explanations with focus on post-1960s period. Fall.

ANTH 433 Independent Study in Anthropology 3 Prereq.: Senior standing and permission of department chair. Directed study in Anthropology. On demand.

ANTH 437 Internship in Anthropology 3
Prereq.: Permission of instructor and written acceptance of sponsoring organization. Anthropologically relevant work experience in an appropriate local,
national, or international venue. Includes consultation with faculty, analysis of related resources, and preparation of final report. On demand.

ANTH 440 The Supernatural
3
A study of the beliefs in gods and spirits, visions, rites relating to beings and powers of other realms, and the effects of religion, magic, and witchcraft on human lives. Contrasts diverse forms of spirituality with varieties of naturalistic, materialistic, and atheistic perspectives. Fall.

ANTH 445 Folklore and Myth
3
The characteristics, meanings, and functions of myths, legends, heroic epics,
fairy tales, animal fables, proverbs, riddles, toasts, jokes, and graffiti. From the folklorist and anthropological perspectives. Spring. (O)

## ANTH 450 Archaeological Field School

3 to 6
This course can be taken for the American Studies program. Provides instruction in survey techniques, mapping, scientific excavation, photographic and laboratory skills and analysis. Field schools are operated in both historical and prehistorical archaeology. Enrollment is limited. Send letter of application to department. May be repeated. Summer.

ANTH 451 Field School in Cultural Anthropology 3 to 6 Prereq.: Permission of instructor. Development of qualitative research skills central to cultural anthropology through language study, home stays, seminars, speakers, and excursions. Normally involves travel outside the United States. Irregular.

ANTH 465 Theories of Human Evolution and Behavior
Prereq.: ANTH 140 or 160 or permission of instructor. This course can be taken for the American Studies program. Examination of major schools of thought in biological evolution, with special emphasis on their application to human behavior, from the pre-Darwinian period to sociobiology. Spring. (E)

ANTH 470 Anthropology and Modern World Issues
Prereq.: ANTH 140 or SOC 110 or 111 , or permission of instructor.
Anthropological approaches to understanding and addressing contemporary world problems, such as ecological degradation, population, underdevelopment, war and diplomacy, and cultural extinction. Fall. (E)

ANTH 475 Topics in Anthropology
Examination of selected topics in Anthropology. Irregular.

## 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 Cycladic 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 411 Roman Art
Prereq.: ART 110 or 112. Historical development of painting, sculpture and architecture from Romulus to Constantine. Spring.

ART 412 Oriental Art 3
Historical development of visual arts of Far Eastern societies: architecture, painting, sculpture and minor arts of China, India, Japan, and Korea. Irregular.

ART 414 American Art
3
Prereq.: ART 110 or 112 or 113 . This course can be taken for the American Studies program. Historical development of painting, sculpture and architecture in America from the 17th century to the present.

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

ART 420 Issues in Contemporary American Art 3
Prereq.: ART 110 or 112 or 113 . American art post-World War II to the present with emphasis on topics such as post modernism, public sculpture, feminist art, multiculturalism and contemporary art criticism. Includes visits to Hartford and New York galleries. (O)

ART 424 Illustration III
Prereq.: ART 324. A successful portfolio review is required before enrollment. Topics in the development of individual media techniques.

ART $430 \quad$ Color Drawing
Prereq.: ART 230 or 252 or 431 . A successful portfolio review is required before enrollment. Advanced course in drawing using a painterly approach.
Strengthening of individual direction through an exploration of space, composition, color, and surface in a variety of color drawing mediums. Fall.

ART 431 Life Drawing I 3
Prereq.: ART 130 or 435 . A successful portfolio review is required before enrollment. Structural approach to drawing the nude and clothed model with focus on gesture, proportion, and the figure in the environment. Open to majors only.

ART 432 LIfe Drawing II
Prereq.: ART 431 or permission of instructor. A successful portfolio review is required before enrollment. Continuation of ART 431. Open to majors only.

ART 435 Advanced Drawing
3
Prereq.: Permission of instructor. A successful portfolio review is required before enrollment. Emphasis on development of expressive use of line and value.
Various materials used including ink, pencil, conte crayon, chalk, wire, charcoal, and others.

ART 441 Intaglio II
3
Prereq.: ART 341, graduate standing or permission of instructor. A successful portfolio review is required before enrollment Continuation of Intaglio I. Spring.

ART 443 Silkscreen II
3
Prereq.: ART 343, graduate standing or permission of instructor. A successful portfolio review is required before enrollment. Continuation of Silkscreen I. Fall.

ART 450 Advanced Watercolor Painting and Related Media 3
Prereq.: ART 250 or permission of instructor. A successful portfolio review is required before enrollment. This course will explore the various watercolor processes and the effects unique to each, i.e., tempera, aquarelle, water acrylics, and colored inks. Historical and contemporary examples of watercolor techniques will be discussed.

ART 460 Ceramics III 3
Prereq.: ART 360. A successful portfolio review is required before enrollment. Advanced clay and glaze techniques.

ART 464 Design-Handcraft Materials and Techniques II
A successful portfolio review is required before enrollment Prereq.: ART 264 or 435. A successful portfolio review is required before enrollment. Continuation and extension of Art 264. Varied handcrafts, materials, and processes are explored as modes of artistic expression.

ART 465 Studio Topics
1 to 3
A successful portfolio review is required before enrollment 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 . A successful portfolio review is required before enrollment. Course exploring possibilities of materials and equipment in jewelry and metal work, with emphasis on design.

ART 468 Ceramics IV
Prereq.: ART 460. A successful portfolio review is required before enrollment. Thesis-clay and glaze design used to express a statement in form.

ART $490 \quad$ Curatorship 3
Theory and practice in collection management, gallery and museum programming, and exhibition design. On demand.

ART 494 Location Studies - Art 3 or 6
Direct contact with cultural resources internationally. Consideration of principles common to all arts and those unique to art and architecture. Field trips to exhibits, private collections, artist's ateliers, operas, and museums. Preparatory reading, discussion, critical analysis and concluding projects. Summer.

ART 498 Independent Study 3
Prereq.: Formal application to Art Department chair following procedure approved by the Art Department faculty. Individually planned program of independent study in Art or Art Education for students who wish to pursue specialized areas not covered in regular course offerings or go beyond that provided for in the program. Must be requested three weeks before new semester.

ART $500 \quad$ Problems in Art Education 3 Prereq.: 9 credits of approved graduate study or approval of advisor. Required of all Art 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. Spring. [c]

ART $509 \quad$ Advanced Studies in Art History
Prereq.: Permission of department chair. Selected topics in the history of art announced each semester. Students may not take ART 509 for credit under the same topic more than once. No credit given to students who have taken a previous course on the same topic. On demand. NOTE: This is a "link" course, on demand, with ART $408,411412,414,416$, or 420.

ART 549 Advanced Painting I 3
Prereq.: Permission of department chair. Previously ART 452. Exploration of varied qualities of painting media, historical and contemporary techniques and styles.

ART $550 \quad$ Advanced Painting II
Prereq.: Permission of instructor or chair or admission to M.S. in Art Education.
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 $551 \quad$ Advanced Painting III
3
Prereq.: Art 550. Continuation of ART 550.
ART 559 Advanced Ceramics I
3
Prereq.: Permission of department chair. Previously ART 469. Emphasis on skills in wheel use, glazing and firing techniques.

## ART 560 Advanced Ceramics II

Prereq.: Permission of instructor or chair or admission to M.S. in Art Education.
Various types of firings. Advanced techniques leading to professional studio potter.
ART 561 Advanced Ceramics III
3
Prereq.: ART 560. Using self-designed clay and glaze to make a mini solo exhibition.

## ART 565 Advanced Topics in Art

Prereq.: Permission of department chair. Selected topics in studio art and/or art education announced each semester. Maximum credits in one studio area and/or art education is 12 . Students may not take ART 565 for credit under the same art education topic more than once. On demand.

ART 570 Advanced Sculpture I
3
Prereq.: Permission of instructor or chair or admission to M.S. in Art Education. Previously ART 462. Students pursue directed assignments in several sculptural areas. Past and present styles discussed. Studio and seminar.

ART $571 \quad$ Advanced Sculpture II
Prereq.: ART 570 or equivalent. Previously ART 562. In-depth exploration of one or possibly two sculptural processes to be announced. Irregular.

ART 572 Advanced Sculpture III
3
Prereq.: ART 571. Continuation of ART 571.
ART 576 Independent Study in Art and/or Art Education 1 to 6 Prereq.: Department chair's approval, and a minimum of 6 credits in the area selected for independent study. Maximum credits in any one studio area or in art education research is 12 . Maximum credits permitted during one semester is 6 . Course is only for advanced graduate students who have shown evidence of ability to complete satisfactorily graduate work in art or art education. The student does independent studio or research work of advanced nature and works with an assigned advisor for criticism.

ART 597 Exhibition Research (Plan C)
Prereq.: 21 credits of approved graduate study or recommendation of student's graduate advisor. 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 advisor. Designed to familiarize student with techniques and resources associated with research in the field of specialization. Opportunity for practical application will be provided. Fall. [c]

ART $599 \quad$ Thesis (Plan A)
Prereq.: 21 credits of approved graduate study or recommendation of student's graduate advisor. Preparation of the thesis under the supervision of the thesis advisor. [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. Spring. [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. Fall. [c]

BIO 410 Ecological Physiology 4
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 250 or 311. 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. Fall. (E) [c]

BIO 412 Human Physiology 3

Prereq.: BIO 201 and 202, or permission of department chair; and CHEM 250 or 311. Study of the human body and its reactions to internal and external environmental changes. Physiology of the musculoskeletal, nervous, circulatory, respiratory, excretory and endocrine systems is considered. Integrative mechanisms of the system are emphasized. Spring. [c]

BIO 413 Human Physiology Laboratory 1
Prereq. or coreq.: BIO 412. Laboratory course to accompany BIO 412. One three-hour laboratory per week. Spring.

BIO 416 Immunology
Prereq.: BIO 201 and 202, or permission of department chair. Introduction to the structure of the immune system, the immunoglobulins, antigen- antibody interactions, infection immunity, lymphocytes, histocompatibility and genetic regulations. Spring. [c]

BIO 417 Immunology Laboratory
1
Prereq. or coreq.: BIO 416. Introduction to the anatomy and histology of the immune system and an introduction to some immunochemical and immunodiagnostic laboratory techniques involving the principles of precipitation, agglutination and immunoelectrophoresis. One three-hour laboratory per week. Spring.

## BIO 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 laboratory period per week. Spring. (E) [c]

BIO 425
Aquatic Plant Biology
4
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. Fall. (E) [c]

BIO 434 Ecology of Inland Waters and Estuaries 4
Prereq.: BIO 201 and 202, or permission of department chair; CHEM 122. A comparison of freshwater and estuarine environments, with emphasis on physical and chemical parameters influencing the distribution of aquatic organisms, nutrient cycling, and factors affecting aquatic productivity. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. Fall. (O) [c]

BIO 436 Environmental Resources and Management 3
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. Spring. (E) [c]

## BIO 438 Aquatic Pollution

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

## BIO 440 Evolution

3
Prereq.: BIO 201 and 202, or permission of department chair. Mechanisms of inter-generational change including mutation selection, and drift; sexual selection; speciation; and extinction. Irregular. [c]

## BIO $444 \quad$ Plant Taxonomy

3
Prereq.: BIO 201 and 202, or permission of department chair Scientific approach to identification and classification of locally occurring plants using taxonomic keys. Includes ferns, fern allies, conifers and flowering plants, with emphasis on the latter. Field walks and plant collections required. Two hours of lecture and one three-hour laboratory per week. Irregular. [c]

## BIO 449 Plant Physiology

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

## BIO $450 \quad$ Investigations 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. Irregular.

BIO $480 \quad$ 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 one three- hour field or laboratory per week. Fali. (E) [c]

BIO 481 Comparative Vertebrate Anatomy
Prereq.: BIO 201 and 202, or permission of department chair. Comparative anatomy and functional morphology of representative organ systems of vertebrates. Laboratories include dissection and study of preserved material of representative vertebrates. Two hours of lecture and two three-hour laboratories per week. Irregular. [c]

BIO 497 Biosynthesis, Bioenergetics and Metabolic Regulation Laboratory
Pre- or co-requisite: BIO 496 or 506. Laboratory to accompany BIO 496 or 506. One three- hour laboratory per week. Irregular. [c].

BIO $500 \quad$ Seminar in Biology 1 or 2 Prereq.: BIO 201, 202; or permission of department chair. Study of contemporary topics in biology through individual readings, discussions and presentations. Irregular [c]

BIO 505 Molecular Biology 4
Prereq.: BIO 306 or permission of the department chair. For entering graduate students. Introduction to the structure and function of DNA. Emphasis on approaches currently being used to analyze the expression of genes. Examination or regulated gene expression and its relationship to cellular growth and differentiation. Three hours of lecture and one three-hour laboratory per week. This is a bridge course with BIO 495 . No credit given to students with previous credit for BIO 495. Irregular. (c).

BIO 506 Biosynthesis, Bioenergetics and Metabolic Regulation 3 Prereq.: BIO 306, 311, or 316; and CHEM 312; or permission of department chair. For entering graduate students. Study of the molecular reactions that sustain life in connection to their role in biological systems. Structure and function of biomolecules. Bioenergetic principles involved in the synthesis and degradation of biological macromolecules. Integration and regulation of metabolic pathways will be discussed. This is a bridge course with BIO 496. No credit will be given to students with previous credit for BIO 496. Irregular. (c).

BIO 508 Coastal Ecology
3
Prereq.: BIO 405 or BIO 434 or permission of department chair. Introduction to northeastern coastal ecology. Emphasis will be upon intertidal and shallow estuarine systems with a comparative ecosystems perspective. Three hours of lecture. Spring. (O) [c]

BIO 509 Coastal Ecology Laboratory
1
Prereq.: BIO 508, may be taken concurrently, or permission of department chair. Laboratory to accompany BIO 508. One three-hour laboratory per week. Some Saturday field trips required. Spring. (O) [c]

BIO 515 Foundations of Ecology 3
Prereq.: BIO 405 or permission of department chair. Introduction to the ecological primary literature through review of classic theoretical papers and manipulative experimental tests. This will include mathematical approaches, models, experimental design, and field experimental methodology regarding questions in population biology, community ecology and ecosystems ecology. Three hours of lecture. Fall. (O)

BIO 517 Human Anatomy, Physiology, and Pathophysiology 6 Prereq.: BIO 201, CHEM 311 or 550; or permission of department chair. 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, excretory and endocrine systems with special applications to the health sciences. Summer. [c]

## BIO $518 \quad$ Applied Physiology

3
Prereq.: BIO 412 or 517 (previously BIO 418). For students in anesthesia and health sciences; others require permission of anesthesia program coordinator. A continuation of BIO 517 with emphasis on organ system physiology and pathophysiology. Cardiac, renal, and respiratory systems will be stressed. Spring.

BIO 520
Plant Ecology
3
Prereq.: BIO 405 or permission of department chair. Interactions between plants and their living and non-living surroundings. Reproductive ecology, species interactions including competition, community structure, succession, phytogeography with emphasis on the tropics, and the biodiversity crisis. One Saturday field trip required. Three hours of lecture. Fall. (E)
mission of anesthesia program coordinator. A comprehensive investigation into the pharmacological agents and their utilization with relevance to the health sciences. Special consideration given to pharmacodynamics.

BIO $540 \quad$ Topics in Advanced Biology 3 to 4
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. Irregular. [c]

BIO 562 Developmental Biology
Prereq.: BIO 306 or permission of department chair. Structural and functional aspects of development of organisms are studied. Emphasis on cellular differentiation and primary morphogenesis. Irregular. [c]

BIO $570 \quad$ Advanced Genetics
Prereq.: BIO 306 or permission of department chair. Study of contemporary genetic research. Readings will be assigned from various texts and journals. Irregular [c]

BIO 572 Laboratory Rotation in Cell and Molecular Biology Prereq.: Permission of department chair. Supervised research in three different cell 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]

BIO $590 \quad$ Research Problem 1 to 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 advisor. 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 advisor. 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 advisor. advisor. Preparation of the thesis under the supervision of the thesis advisor.

## BUSINESS

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

## BUS 401 Marketing in Cyberspace

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

BUS $591 \quad$ Global Strategy
Prereq.: Admission to MBA program or permission of MBA director. To be taken during the last semester of the student's planned program. Capstone course that integrates the major elements of functional areas of international business. Global operations are examined from a strategic perspective. Irregular.

BUS 595
Field Studies in International Business
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. Irregular.

## BUSINESS EDUCATION

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

## BE 410 Office Education Methods

3
Prereq.: Senior status, MIS 201, Keyboarding Proficiency Examination, and Word Processing Proficiency Examination or WP 204. Concepts underlying office systems technologies taught at the secondary level. Includes instructional methods and techniques, teaching and reference material, and the use of community resources. Spring. [c]

BE 450 Office Systems Application Software and
Records Management

3
Prereq.: BE 410. Survey of selected office application software and evaluation techniques. Includes a discussion of records management, forms design, formatting, and layout. Fall. [c]

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 education. Irregular.

BE 524 Organization and Administration of Business and Marketing Education
Prereq.: Permission of Business Education coordinator. Designed to orient students to organization and administration of typical high school business and marketing education programs. Programs are explained in relation to current federal vocational acts. Fall.

BE 530 Teaching Accounting, Basic Business, and Marketing Education

3
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. Fall. [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. Irregular.

BE 598 Research in Business Education 3
Prereq.: Completion of Business Education certification program. Designed to familiarize student with techniques and resources associated with research in business and marketing education. Opportunity for practical application will be provided. Required of all master's degree candidates. Course should be taken within first 15 credits of graduate study by all students not planning to write a thesis. Students planning to write a thesis should take course immediately preceding BE 599. Irregular.

BE 599 Thesis
Prereq.: BE 598 and 21 credits of approved graduate study. Preparation of the thesis under the supervision of the thesis advisor.

## CHEMISTRY

Note: Additional work will be required for graduate credit in 400 -level courses.
CHEM 406 Environmental Chemistry
Prereq.: CHEM 301, 311. Nature and properties of pollutants, their interaction with each other and the environment, preventative and remedial methods of control. Laboratory concerned with sampling and analysis of pollutants. Two hours of lecture and one two-hour laboratory period per week. Spring. (O) [c]

## CHEM 432 Chemistry Seminar

1
Prereq.: CHEM 321 or 322 . Students will prepare presentations on topics of current interest in various fields of chemistry and may be required to attend seminars by faculty or outside speakers. Introduction to the use of the library, litera-
ture, and searching procedures in chemical research. One conference per week. Spring. [c]

## CHEM 454 Biochemistry

Prereq.: CHEM 312. General principles of biochemistry, chemical constituents of cells, metabolic pathways, energies, and biochemical regulators. Three lectures per week. Spring.

## CHEM 455 Biochemistry Laboratory

Coreq.: CHEM 454. Experimental work to accompany CHEM 454. One laboratory period per week. Spring.

CHEM 456 Toxicology
3
Prereq.: CHEM 312 and BIO 122. Classes of toxic chemicals, their biotransformation and mechanisms of toxicity in humans. Includes natural and man-made chemicals, methods of risk assessment, environmental, and occupational regulatory standards. Fall.

CHEM 460 Inorganic Symmetry and Spectroscopy
Prereq.: CHEM 322. Electronic structure and theories of bonding as they relate to the molecular structures, properties, and spectroscopy of inorganic compounds. Primary focus will be on the compounds of the d-block elements. Three hours of lecture and one three-hour laboratory per week. Spring. (E)

CHEM 461 Descriptive Inorganic Chemistry
Prereq.: CHEM 321. A systematic study of main-group elements and the multitude of compounds they form. Acid-base, substitution, and oxidation-reduction reactions along with structural descriptions will be emphasized. Three lectures per week. Spring. (O) [c]

CHEM 485 Topics in Chemistry
Prereq.: Permission of instructor. Advanced treatment of chemistry topics in analytical chemistry, inorganic chemistry, organic chemistry and physical chemistry. Three lectures or two lectures and one two-hour laboratory period per week depending on topic. May be repeated with different topics for a maximum of 9 credits.

CHEM 501 Topics in Analytic Chemistry
Prereq.: Permission of instructor. Advanced course covering areas in analytical chemistry, including chromatographic, optical and X-ray methods. Irregular.

CHEM 511 Topics in Organic Chemistry
3
Prereq.: Permission of instructor. Introduction to advanced synthetic methodology as well as a mechanistic exploration of several important classes of organic chemical reactions. Irregular.

## CHEM 521 Topics in Physical Chemistry

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

CHEM $550 \quad$ Basic 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. Summer [c]

CHEM 551 Topics in Biochemistry
Prereq.: Permission of instructor. Advanced topics in biochemistry. Irregular.
CHEM 561 Topics in Inorganic Chemistry
3
Prereq.: Permission of instructor. Advanced topics in inorganic chemistry including bonding, electronic structure, group theory, materials, and other topics of current interest. Irregular.

CHEM 590 Topics in Advanced Chemistry
Prereq.: Permission of instructor. Selected topics in analytical, biochemistry, inorganic, organic, and physical chemistry. May be taken once in each field of chemistry.

CHEM 598 Research in Chemistry
Prereq.: CHEM 435 and permission of department chair. Seminar to familiarize student with techniques and resources for research in his/her specialization. Opportunity for practical application provided, each student making thorough literature search on assigned chemical problem and learning related experimental techniques.

CHEM 599 Thesis 3 or 6
Prereq.: CHEM 598; or CHEM 435 and permission of thesis advisor.
Preparation of thesis under the supervision of the thesis advisor.

## CHINESE

Note: Additional work will be required for graduate credit in 400-level courses.
CHIN 410 Business Chinese I
3
Prereq.: CHIN 342 or CHIN 352 or permission of instructor. Development of oral and written skills needed for conducting business in China with business firms. Study of the cultural attitudes of Chinese business people. (E)

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
3
Prereq.: CHIN 342 or 352 , or permission of instructor. Introduction to classical Chinese literature, with an emphasis on etymology, semantics and grammar of classical Chinese. (O)

## CHIN 476 Classical Chinese II

Prereq.: CHIN 475 or equivalent. Masterpieces of classical Chinese literature, with an emphasis on the moral teachings of Confucius. (O)

## COMMUNICATION

COMM 500 Introduction to Graduate Studies in Organizational Communication
Introduction to the theoretical, mythological, and philosophical perspectives that constitute the study of organizational communication. Fall.

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. Fall.

COMM 503 Research Methods in Communications
3
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. Fall.

COMM 504 Organizational Communication Audits 3
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. Spring.

COMM 505 Social and Behavioral Dimensions of Persuasive Communication
Prereq.: COMM 500. Theories and empirical research related to the influence of audiences external to an organization. Fall.

COMM 506 Principles and Processes of 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. Spring.

COMM 507 Campaign Monitoring and Evaluation
Prereq.: COMM 506. Methods and procedures used to monitor and evaluate communication campaigns. Focuses on the effective definition of campaign objectives as a requirement to measure the success of a campaign. Both quantitative and qualitative methodologies are explored. Fall.

COMM 512 Communication and Change 3
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. Irregular.

COMM 522 Corporate Communication 3
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. Fall.(E)

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. Fall. (O)

COMM 544 Strategies in Negotiation and Conflict Resolution
Prereq.: 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. Fall. (E)

## COMM 551 Policy Issues in Organizational and Managerial

 CommunicationPrereq.: COMM 500. Examines communication's impact on decision- making, planning, organizational policy, and ethics. Spring. (E)

COMM 562 Communication and High-Speed Management
Prereq.: 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. Spring. (O)

COMM 585 Special Topics
3
Prereq.: COMM 500. Study of selected topics in organizational and managerial communication. May be repeated once with different topic. Irregular.

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 advisor.

## COMPUTER ELECTRONICS TECHNOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
CET $449 \quad$ Advanced Networking
Previously TC 449. Prereq.: CET 349; for graduate students, permission of chair. Advanced router configurations, LAN switching theory and design, VLANs, WAN theory, design and technology, PPP, Frame relay, and ISDN. Laboratory activities include developing solutions for routing problems and
implementing segmentation with bridges, routers, and switches. Can count as elective in CIT Technology Specialization. Fall.

## CET 453 Microcomputers

Previously TC 453. Prereq.: CET 363. Microprocessor architecture including basic memory design, address decoding and internal register structure, and assembly language programming including addressing modes and instruction set. Laboratory work consists of programming and debugging assignments. Spring. [c]

## CET 479 Internet Technologies

Previously TC 479. Prereq.: CET 349. For graduate students, permission of chair. Laboratory-based course emphasizing concepts, tools, applications, and development of internet-related technologies. Includes the planning, design, building, and management of an HTTP server. Can count as elective in CIT Technology Specialization. Spring [c].

CET 501 Applied Networking Technology
Previously IT 501. Prereq.: CET 113 (formerly TC 113 ) or permission of instructor. Functions and capacities of LAN/WAN networks including design concepts of HTTP servers. Spring. [c]

CET 502 Applied Networking Technology II
Prereq.: CET 501 or permission of department chair. Covers router configurations, router protocols, switching and hub terminology. Implementation of router startup commands, manipulation or router configuration files, IP and data link addressing. Interconnect routers, hubs and switches. On demand. [c]

CET 513 Computer Applications for the Professional 3 Previously TC 513. Prereq.: CET 113 (formerly 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]

CET 533 Digital Telecommunications 3
Prereq.: CET 443 or permission of department chair. Digital communication techniques including coding, decoding, multiplexing, synchronous and asynchronous communication. Digital transmission for computer networks and modems. Covers digital radio principles and fiber optic applications. On demand. Computer Electronic Technology

CET 543 Telecommunications Systems 3 Prereq.: CET 533 or permission of department chair. Radio and optical transmission systems, electromagnetic waves propagation, reflection, refraction and diffraction. Covers satellite communication related to broadcasting, telephony and data transmission. Introduction to characteristics and applications of antennas, cellular phones, fiber optics cables. On demand.

## COMPUTER INFORMATION TECHNOLOGY

CIT 599 Integrative Experience in CIT
3
Prereq.: CIT core and specialization, or permission of instructor. Integrating experience in computer science, management information systems, and technology. On demand. [c]

## COMPUTER SCIENCE

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

CS 407 Advanced Topics in Computer Science 3
Prereq.: CS 152 and 254 and permission of instructor. This course provides an opportunity to introduce into the curriculum topics of interest and new courses on an experimental basis. May be repeated with different topics for up to 6 credits. [c]

CS 410 Introduction to Software Engineering
3
Prereq.: CS 355. An examination of the software development process from the initial requirement analysis to the operation and maintenance of the final system. The scope of the course includes the organization of software development projects, the verification and validation of systems, the problems of security and pri-
vacy, and the legal aspects of software development, including software protection and software liability. Irregular. [c]

$$
\text { CS } 423 \quad \text { Computer Graphics }
$$

Prereq.: CS 253. Wire frame and solid graphics in two and three dimensions, data structure for computer graphics, geometrical transformations in computer graphics, raster, and vector display device technologies. Fall. [c]

CS 460 Database Concepts
Prereq.: CS 253. Data base systems are considered from both the designer's and user's point of view. Physical implementation and data access techniques are studied. Irregular. [c]

CS 462
Artificial Intelligence
3
Prereq.: CS 253. Presentation of artificial intelligence as a coherent body of ideas and methods to acquaint the student with the classic programs in the field and their underlying theory. Students will explore this through problem-solving paradigms, logic and theorem proving, language and image understanding, search and control methods, and learning. Spring. [c]

CS 463 Algorithms
Prereq.: CS 253. Topics include algorithms in combinatorics, integer and real arithmetic, pattern matching, list processing, and artificial intelligence.
Algorithmic analysis and domain-independent techniques are also considered. Irregular. [c]

CS 464 Programming Languages 3
Prereq.: CS 253. Emphasis on programming languages as one of many tools in the software development effort. Comparison of different language usages of data types, information hiding, control structures, block structure, sub-programs, re-entrance, and recursion. Irregular. [c]

CS $465 \quad$ 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. Fall. [c]

## CS 473 Simulation Techniques

Prereq.: CS 152 or 213 , and STAT 315. Basic principles of simulation methods using digital computers. Topics covered include random number generators, stochastic variate generators, computer models, and simulation languages. Irregular. [c]

## CS 481 Operating Systems Design

Prereq.: CS 355. Theory and design of computer operating systems. Topics include machine and interrupt structure, memory, processor, device, and information management. Spring. [c]

## CS 483 Theory of Computation

Prereq.: MATH 218 and CS 463. The concept of algorithm, correctness and efficiency of algorithm, decidable vs. undecidable problems, recursion, halting problem, formal languages, context free and context-sensitive grammars, and introduction to automata and parallel algorithms. Irregular. [c]

CS 485 Microprocessors
Prereq.: CS 354. Acquaints students with the basic techniques in the design and use of microprocessor software and hardware. Topics include microprocessors, differences and similarities, instructions, software and hardware components, applications, and future uses. Irregular. [c]

CS $490 \quad$ Computer Communications Networks and Distributed Processing

3
Prereq.: CS 253 and 254. Study of networks of interacting computers. The problems, rationale, and possible solution for both distributed processing and distributed data bases will be examined. Irregular. [c]

CS 495 Legal, Social, Ethical, and Economic Issues in Computing 3 Prereq.: Permission of instructor. Topics include privacy, security, law of torts in computing, and legal protection of software. Spring. [c]

CS 498 Senior Project 1 to 3 Prereq.: senior standing, 21 credits toward major including one advanced course. Opportunity for student to participate in design and implementation of large problem with small group of people. Problem will be chosen in consultation with instructor. Majors only. [c]

CS $499 \quad$ Seminar in Computer Science 3
Opportunity for student to explore topics of current interest not covered in normal curriculum. Majors only. Irregular. [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 $501 \quad$ Foundations of 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. Spring. [c]

CS 502 Computing and Communications Technology 3
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. Spring. [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. Fall. (O) [c]

CS 550 Topics in Human-Computer Interaction 3
Prereq.: CS 501, 502. Study of the design, evaluation and implementation of interactive computing systems for the joint performances 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. Irregular. [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. Irregular. [c]

## CS 580

Topics in Database Systems and Applications
3
Prereq.: CS 501, 502. Database technology needed to develop and manage sophisticated database systems. Topics include design of database management systems, advanced database applications, hypermedia, and object-oriented database management systems. Irregular. [c]

CS 590 Topics in High Performance Computing and Communications
Prereq.: 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. Irregular. [c]

## CONSTRUCTION MANAGEMENT

## CM 505 Construction Project Delivery Systems <br> 3

Explanation of various project delivery systems. Emphasis on design-bid-build, design-build, program management and construction management practices. Additional topics include ethics, professionalism, public responsibility, TQM and partnering. Fall (O).

CM 515
Construction Law
3
Principles of the legal doctrines relating to owners, design professionals and contractors. Emphasis on the legal issues surrounding the formation and interpreta-
tion of contracts, contract clauses, and legal remedies available to all parties. Spring. (E).

CM 525 Construction Equipment Operation and Management 3 Selection and management of construction equipment for efficient and effective construction operations. Focus on equipment fundamentals and integration of equipment into the construction process. Economic considerations associated with equipment acquisition, ownership and replacement also covered. Spring. (E).

CM 535 Computer Applications in Construction Management 3 Examination of computer applications in the construction process. Emphasis on project management, communications, document control, estimating, claims management and financial management applications. Fall.

CM 545 Construction Risk Management
A study of procedures that may be used to identify and solve problems arising during the construction process. Field problems requiring systematic problem solving, decision matrices and other risk assessment and mitigation tools will be addressed. Fall.

## COUNSELING AND FAMILY THERAPY

CNSL 500 The Dynamics of Group Behavior
Prereq.: Admission to the graduate program and/or permission of department 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 6
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.: Acceptance into degree candidacy in relevant counseling program. A minimum of 100 hours of supervised clinical experience in field setting. Includes direct service with clients, including experience in individual counseling and group work Also includes on-campus group seminars. Fall, Spring, Summer.

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.

CNSL 506 Counseling Children and Adolescents
Prereq.: CNSL 501 or permission of chair. An examination of counseling theories and strategies for working with children and adolescents. Spring, Summer.

CNSL 507 Methods in Group Facilitation
3
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 520 Guidance Principles, Organization and Administration 3 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. Spring.

CNSL 521 Career Counseling and Development 3
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. Fall.

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. Spring.

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. Fall.

CNSL 525 Multicultural Counseling
Prereq.: Admission to the graduate program. Study of the effects of culture on world view and various approaches to counseling. Emphasis placed on the development of culturally appropriate skills for use with diverse populations.

CNSL 526 Developmental Guidance and Counseling 3
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. Fall.

CNSL 530 Student Development in Higher Education 3
Prereq.: Admission to the graduate program and/or permission of department chair. Overview of college student development, including characteristics of contemporary students. Fall.

CNSL 531 Student Services in Higher Education 3
Prereq.: CNSL 530. Overview of student services in higher education including characteristics of special student populations. Spring.

CNSL 532 Program Design in Student Services
3
Prereq.: CNSL 530. Design of experiential education for adults in higher education, including needs assessment, creation of developmental programs and learning communities, and program implementation and evaluation. Spring.

CNSL 533 Legal, Financial, and Policy Issues in Student Affairs 3 Prereq.: Admission to the Program in Student Development in Higher Education (Counseling). Examination of policy formation, law, and financial issues as they pertain to student affairs administration in higher education. Fall.

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. Fall.

CNSL 561 Advanced Rehabilitation Counseling
Prereq.: CNSL 560 or permission of the department chair. Case management and service coordination services including independent living services, job development, and placement of individuals with disabilities. Fall.

CNSL 563 Medical Aspects of Rehabilitation Counseling
Prereq.: CNSL 560 or permission of the department chair. The rehabilitation counselor's role as a member of the health care team will be studied. General characteristics of various disability groups and identification of the medical specialists who serve these groups will be presented. Spring.

CNSL $568 \quad$ Alcohol and Drug Counseling
3
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 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 591 Supervised School Guidance Internship
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

Emphasis on actual practical experience, student/faculty/administrative interaction, and the special concerns which affect the conduct of student development services. Taken two semesters for a maximum of 6 credits.

CNSL 594 Supervised Clinical Practice-Professional Counseling 3 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.: Permission of advisor; ED 598 or equivalent as accepted by advisor. Critical review of research in counseling. A research proposal and completed report is required. Should be taken concurrently with field work experience.

CNSL 599 Thesis
Prereq.: Permission of advisor; ED 598 or equivalent as accepted by advisor. Preparation of the thesis under the supervision of the thesis advisor.

## CRIMINAL JUSTICE

CJ $501 \quad$ 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. Fall.

CJ $510 \quad$ 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 inter- relationship 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. Spring.

CJ 520 Proseminar on the Administration of Justice 4 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. Fall.

CJ 525 Program Planning and Evaluation 3
Prereq.: CJ 501 or 510 or 520 ; or permission of department chair. 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. Spring.

CJ $530 \quad$ Offender Profiles
3
Prereq.: CJ 501 or 510 or 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. Fall.

## CJ 533 Research Methods in Criminal Justice

3
Prereq.: Admission to the Criminal Justice program or permission of department chair. 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. Spring.

CJ 534 Quantitative Analysis in C'riminal Justice Research 3
Prereq.: CJ 533 or permission of department chair. Analysis of quantitative criminal justice data using compute applications. Spring.

CJ 535 Correctional Counseling
Prereq.: CJ 501 or 510 or 520; 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. Irregular.

CJ 536 Field Studies in Criminal Justice 3 Prereq.: CJ 533 and 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
3
Prereq.: CJ 501 or 510 or 520; or permission of department chair. 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. Irregular.

CJ 540 Assessing and Developing Performance in Criminal Justice Organizations
Prereq.: CJ 501 or 510 or 520 ; or permission of instructor. Analysis of methods and strategies for managing human resources in criminal justice organizations. Topics include recruitment and selection, job analysis and classification, performance appraisal, training and development, employee unions, and workplace trends in criminal justice agencies. Irregular.

CJ $570 \quad$ Leadership and Supervision of Criminal
Justice Organizations

Prereq.: CJ 501 or 510 or 520; or permission of department chair. 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. Spring.

CJ $575 \quad$ Organizational Development and Evaluation of Criminal Justice Organizations
Prereq.: CJ 501 or 510 or 520 ; or permission of department chair.
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. Spring.

CJ 580 Public Policy in the Criminal Justice System 3 Prereq.: CJ 501 or 510 or 520 ; or permission of department chair. 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. Irregular.

CJ 599 Thesis 3
Prereq.: CJ 533 and completion of 21 credits of approved graduate study; or permission of thesis advisor. Preparation of the thesis under the supervision of a thesis advisor. On demand.

## CRIMINOLOGY

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

## CRM $450 \quad$ Drugs and Society

3
Prereq.: CRM 337 ; or graduate status; or permission of instructor. Selected social issues relating to illegal drug use, including international and national drug trafficking, money laundering, drug enforcement, drug-related crimes, prevention strategies, and legalization. Irregular.

CRM 475 Controlling Anger and Aggression
Prereq.: CRM 337 or graduate status or permission of instructor. Multi-disciplinary overview of theory and research on anger and aggression. Topics include the emotion of anger, theories of aggression, and intervention strategies. Irregular.

## 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. Contact the Department at 832-2557 for additional information.

DES $419 \quad$ History of Design
Prereq.: ART 110 or 112 or 113. History and philosophy of design function and aesthetics. Topics include graphic design, industrial design, and architectural design.

DES 436 Graphic/Information Design III
3
Prereq.: ART 224 and DES 322. 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] Open to majors only.

DES 437 Design Internship 3
Prereq.: DES 322 and permission of instructor. Internship with professional graphic/information design organization. [c] Open to majors only.

DES 438 Graphic/Information Design IV 3
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] Open to majors only.

## DES 439 Central Design

3
Prereq.: DES 322, successful Central Design portfolio review and permission of instructor. Graphic/information design practice. Features real project and production situations with simulation of a "real world" graphic/information design atmosphere. Open to majors only. [c]

DES 465 Topics in Graphic/Information Design
Prereq.: Permission of instructor. Selected topics in graphic/information design. May be repeated with different topics for a maximum of six credits. Open to majors only. [c]

DES 498 Independent Study in Graphic/Information Design 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 6 credits. On demand. Open to majors only.[c]

DES 499 Computer Applications for Graphic/Information Design 3 Prereq.: DES 325 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. Open to majors only. [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. Fall. [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. Spring. [c]

DES 503 Graphic/Information Design Practice I
Prereq.: DES 502. Applied design research and practice in graphic/information design. Emphasis on creativity, practical problem solving, technical proficiency, and presentation. Fall. [c]

DES 504 Graphic/Information Design Practice II
3
Prereq.: DES 503. Continuation of DES 503. Additional research and practice, portfolio, and presentation development. Spring. [c]

DES 520
Advanced History of Design
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 creation of visual language in design.

DES 537 Advanced Design Internship
3
Prereq.: DES 503, portfolio review, and permission of instructor. Internship with professional graphic/information design organization. On demand..

DES 597 Research Project (Plan C) 3
Prereq.: DES 503, 598. Completion of 21 s.h. of planned program required. Preparation of the research project under the supervision of research project advisor. Acceptance of the research project by the Research Project Committee (selected by student with approval of research project advisor) is required.

DES 598 Research Methods in Design
3
Prereq.: DES 520 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. Fall. [c]

## 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 sedimentary rock types. Three one-hour lectures and one three-hour laboratory period per week. Fall. (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 per week. Fall. (O)

## ESCI 430 Oceanography

3
Prereq.: BIO 121, CHEM 121, PHYS 121. Introduction to physical properties and chemical composition of sea water, its topography and circulation, and relationships to activities of plants and animals. Three lectures per week. Field work by arrangement. Spring. (O)

## ESCI 431 Introduction to Hydrogeology

4
Prereq.: ESCI 121, MATH 122 or equivalent, and PHYS 121 or 125 . Basic hydrogeologic principles. Overview of hydrologic and geologic relationships of ground water, contamination, and cleanup. Fluid mechanics with application to porous media. Quantitative techniques will be used. three lectures and one twohour laboratory recitation per week. Fall.

ESCI $442 \quad$ 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, quasigeostrophic theory, performance characteristics of NWS prediction models. Three lecture hours and a two-hour laboratory per week. Spring. (E)

## ESCI $450 \quad$ Environmental Geology

Prereq.: Permission of instructor. Geological factors that control or affect human habitat and land use potential. Earthquakes, landslides, floods, groundwater seepage, cave collapse, and similar processes are briefly discussed. Attention is focused on major landscape changes in urban areas during the last 25 years and on methods of preventing, avoiding, or compensating for geological hazards. Spring.

## ESCI 452 Independent Study in Earth Science

Prereq.: Approved plan of study of arrangement with supervising instructor and approval of department chair. Special work in laboratory, theory, or research to meet individual requirements in areas not covered by regular curriculum. May be taken more than one semester up to 4 credits.

ESCI $461 \quad$ Physical Meteorology 3
Prereq.: ESCI 129, PHYS 121 or 125 (may be taken concurrently), or permission of instructor. Examination of the physical basis of the earth's atmosphere. Structure, composition, gas laws, atmospheric thermodynamics and hydrostatics,
atmospheric stability, solar radiation, and the energy budget of the earth. Three lecture hours per week. Fall. (E)

ESCI 462 Dynamic Meteorology
Prereq.: ESCI 461, MATH 126 or 221 (may be taken concurrently).
Continuation of ESCI 461, with emphasis on dynamic processes of the earth's atmosphere. Equations of motion, geostrophic and gradient winds, thickness and thermal wind, circulation and vorticity, mechanism and influences of pressure changes. Three lecture hours per week. Spring. (O)

ESCI $490 \quad$ Topics in Earth Science
Selected studies in earth science which are not offered presently in the curriculum of the department. Course may be repeated with different topics for a maximum of 6 credits.

ESCI 502 Planetarium and Observatory Workshop
Prereq.: In-service experience in teaching science or permission of the department chair. Planetarium and telescope operation and curriculum study at the elementary and secondary school level. Students will create integrated planetarium experiences and design observing sessions appropriate to various interests and time of year. On demand.

ESCI $518 \quad$ 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 $519 \quad$ Topics in Geology
3
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.: 15 credits in planned program of study for MS in natural Sciences:
Science Education, or permission of instructor. Focus on global issues related to science education. Students examine current literature and conduct an informal research project on current issues. Requirements include preparation of research paper. Spring (O).

## ESCI 599 Thesis

Prereq.: ESCI 598 and permission of the thesis advisor. Preparation of the thesis under the supervision of the thesis advisor.

## ECONOMICS

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

## ECON 420 Urban Economics

Prereq.: ECON 200, 201. This course can be taken for the Urban Studies pro-
gram. 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 435 Economic Development

Prereq.: ECON 200. Problems of accelerating development in developing 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. Economic systems, both theoretical and actual. Topics include the economy as a system, classification of economic systems, bases or criteria for comparison of systems, market economics, market socialism, and command economies.

ECON 445 Labor Economics
Prereq.: ECON 200, 201. Economic analysis of human resources as a factor of production. Special attention is devoted to demographics, labor market structures, wage determination, career decision-making, training, and the roles of employee organizations.

## ECON 450 Money, Credit, and Banking

Prereq.: ECON 200. Money and its functions, including structure of the American banking system, with emphasis on monetary theory and policy.

ECON 455 Public Finance
3
Prereq.: ECON 200, 201. Analysis of federal revenues and expenditures, including an examination of federal budget concepts, fiscal policy, cost-effectiveness analysis, tax efficiency and equity, and debt management problems.

## ECON 460 Economic Forecasting

Prereq.: ECON 200, 201 and STAT 104 or equivalent. The 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.

## ECON 462 Industrial Organization

Prereq.: ECON 201. Study of the structure, conduct, and performance of selected U.S. industries. The effects of concentration on prices, outputs, profits, and technological change will be analyzed.

ECON 465 Government and Business 3
Prereq.: ECON 201. Role of government in the mixed economy with special emphasis on antitrust laws, regulation and de- regulation, 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 program ming, 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. Spring. (O)

ECON 498 Advanced Topics in Economics
Prereq.: ECON 200, 201 or permission of instructor. An examination of advanced selected topics in economics which are not otherwise offered as part of the department's regular courses. Course may be repeated with different topics for a total of 6 credits.

ECON 499 Independent Study in Economics
Prereq.: Permission of instructor. Students may specialize in projects of an advanced nature not covered by regular course offerings. Supervision is given through periodic conferences with each student and through several group meetings to discuss findings and common problems.

## EDUCATION

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.

ED 501
Probe in Education
1 to 3
Prereq.: Permission of faculty advisor. 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
3
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 3 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 6 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. Spring.

ED $550 \quad$ 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. Spring.

## ED 595 Individual Study Project

Prereq.: Permission of department chair. Individual or small group directed study of a specific topic under the direction of a faculty member. May be repeated with different topics for a total of 6 credits. On demand.

ED 598 Research In Education
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 3
Prereq.: PSY 512 or equivalent or permission of instructor. Preparation of the thesis under the supervision of the thesis advisor.

## EDUCATION - EARLY CHILDHOOD

## EDEC 550 Communication and the Young Child

Prereq.: Matriculation in the M.S. program. Exploration of young children's language development, including language/thought connections, symbolic representation through art and early writing, and the "sense of story" development. The relationship of play to communication, stage appropriate children's literature, and home/school partnerships are also addressed. Fall (E)

EDEC 551 Programs and Curricula in Early Childhood Education
Prereq.: Matriculation in the M.S. program. Analysis of contemporary early childhood program models and practices including their historical and philosophical foundations. Includes an examination of criteria for establishing and evaluating contemporary early childhood programs. On-site observations and interaction with young children required. Fall.

EDEC 552 Programs and Curricula in Early Childhood Education II 3 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. Spring.

## EDEC 553 Family, School and Community Partnerships in Early Childhood Education <br> 3

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. Spring.

EDEC 554 Observation and Assessment in Early Childhood Education 3 Prereq.: EDEC 552 and matriculation in M.S. 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. Fall (O)

## EDEC 561 Administration in Early Childhood Education

3
Prereq.: EDEC 552. Policies, procedures, and leadership responsibilities for the management of early childhood education programs. Topics include implementation of goals, budgeting and financial management, and meeting standards for a State of CT Child Day Care license. Summer.

EDEC 585 Issues, Trends, Research in Early Childhood Education 3 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. Irregular.

## EDUCATION - ELEMENTARY

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

EDEL 485 Approaches to Discipline in Elementary School (K-8) 3
Examination of the purposes, processes, and strategies of varied approaches to discipline in elementary education, kindergarten through grade eight. Spring.

## EDEL 508 Current Trends in Elementary Education

Prereq.: Matriculation into M.S. program in Elementary 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. Fall.

EDEL 509 Education and the Development of Cultural Understanding 3 Prereq.: Matriculation into M.S. program in Education. Study of attitudes, values, and expectations of educators as related to cultural diversity. Strategies presented to develop respect of students for cultural pluralism. Research related to the reduction of racial, ethnic, and sex stereotyping and biases is surveyed. Spring.

## EDEL 512 Assessment of Learning

Prereq.: EDEL 508. Study of current assessment theory and practices, with emphasis on designing data-driven classroom instruction based on a variety of formal and informal assessments. Spring.

EDEL 529 Analysis of Teaching
Prereq.: Acceptance to Elementary Education M.S. program and successful completion of 18 credits in planned program. 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." Spring.

EDEL 531 Education in the Inner City
3
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. Fall.

EDEL 537 Social Studies Methods (1-6)
3
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. Fall.

EDEL 591 Designing Action Research in Elementary and Early Childhood Education
Prereq.: Matriculation in either Elementary or Early Childhood, 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. Fall.

EDEL 592 Implementing and Documenting Action Research in 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. Spring.

## EDUCATION - SECONDARY

Note: Additional work will be required for graduate credit in 400 -level courses.
EDSC 414 Preliminary Student Teaching (Technology Education) 6 Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public middle school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations.

EDSC 415 Student Teaching (Technology Education) 6 Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public senior high school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations.

EDSC 420 Student Teaching - Elementary Music Education 4.5 Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of the Office of Field Experiences. Eight-week period in the last semester spent in a music education department of a public elementary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with children.

## EDSC 421 Student Teaching - Secondary Music Education

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

EDSC 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. Fall. (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. Spring. (E)

EDSC 582 Supervision of Secondary School Teaching
Prereq.: Permission of content area department chair and Assistant Dean of Education and Professional Studies. Supervised teaching experience for graduate students who possess a Durational Shortage Area Permit from the State of Connecticut. Not to be credited towards master's degree. Supervision will continue for sequential semesters.

EDSC 586 Seminar in Secondary Education
Examination of issues relevant to the teacher in the middle or high school. Investigation of a specific curricular issue through qualitative methods of inquiry. Spring. (O)

## EDUCATION - TEACHER EDUCATION

EDTE 502 Focus on Diversity in Education 3
Prereq.: Admission to MS Program in Early Childhood Education, Elementary Education, or Educational Foundations/ Secondary - Strand 2 (Secondary Curriculum and Instructional Issues). Study of diversity in educational settings and practices, with emphasis on processes of inquiry, reflection, collaboration and critical analysis. This course is a prerequisite to all other courses in early childhood, elementary and secondary education. May be taken concurrently with other courses with permission of advisor. Fall, Spring, Summer.

EDTE 510 Methods of Inquiry into Pedagogy 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 strategies for teachers and teacher empowerment and leadership.

EDTE 530 Internship in Pedagogy and Leadership I
Prereq.: Admission to either the full-year Post- Baccalaureate certification program or Professional Program for a dual certification. Site-based consecutive internship. Practice teaching at a classroom level commensurate with requirements of dual certification and fulfilling the responsibilities of teaching faculty at the school. Fall.

EDTE 540 Advanced Seminar in Leadership and Learning Communities 1 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

EDF 500 Contemporary Educational Issues
Contemporary educational issues and the ways they are affected by social, political, and economic forces of society.

## EDF 510 The Social, Political, and Cultural Context of

 Urban SchoolsPrereq.: Matriculation into M.S. 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. Summer.

## EDF 516 School and Sociery

Prereq.: Matriculation into M.S. program. Presentation and analysis of factors, institutions, and events relating to school's role in sociery. Sociocultural analysis and interpretation of historic development, as well as contemporary influences affecting dynamic role of school in American life today. Irregular.

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. Irregular

EDF 522 Comparative Education 3
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. Irregular.

EDF 524 Foundations of Contemporary Theories of Curriculum 3 Study of the social, psychological, and philosophical influences that shape the curriculum and a range of curriculum positions in the United States and in other countries. Fall (O)

EDF 525 History of American Education 3
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. Fall.

EDF 530 Multicultural Education 3
Seminar addressing issues relared to the education of culturally diverse populations with emphasis on cultural and linguistic diversity in the context of American public schools. Fall

## 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. Spring.

EDF 583 Sociological Foundations of Education
Sociological principles and information applied to problems and situations in education. Emphasis on cultural forces that affect education, institutions, and agencies which relate to the public school and social structure of the school. Summer.

EDF 597 Supervised Readings in History and Philosophy of Education

1-3
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
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. Fall.

EDF $700 \quad$ The Purposes of Education in America
Prereq.: Admission to the Ed. D. program. A critical examination of the social, political, economic, and moral purposed of American education and their implications for goals, curriculum, teaching, evaluation, organization, administration, and financing of education. Summer.

## EDUCATIONAL LEADERSHIP

EDL 513 Supervision
Study of major problems confronting supervisors in improving instruction: interpreting educational objectives to staff and public, coordinating education programs, teacher-supervisor relations, evaluating instruction, and supervision of student teachers.

EDL 514
Administration
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. Fall, Summer.

EDL 552 Topics in Educational Leadership
3
Prereq.: Permission of department chair. Comprehensive inquiry into a specific area of educational leadership. It may be repeated once with different content. Irregular.

## EDL 553 Internship in Student Development

1 to 3
Prereq.: Permission of instructor. A supervised internship concerning leadership activities in institutions of higher education. Students initiate and complete an action plan and professional portfolio.

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 SixthYear 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.
Spring, Summer [c]
EDL 605 Leadership in Teaching and Learning I
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. Fall. [c]

## EDL 606 Leadership in Teaching and Learning II

Prereq.: EDL 605. Continuation of EDL 605. Includes a second 35-hour onsite field experience in an urban public school (Sixth-Year Certificate students) or research component. Spring. [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. Fall. [c]

EDL 611 School Leadership II
Prereq.: EDL 610. Continuation of EDL 610. Includes a second 35-hour onsite field experience in a rural public school setting. Spring. [c]

EDL 615 Understanding External Environments of School Leadership I

3
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. Fall. [c]

EDL 616 Understanding External Environments of School Leadership II

3
Prereq.: EDL 615. Continuation of EDL 615. Includes a second 35-hour onsite field experience in a suburban public school setting. Spring. [c]

EDL $617 \quad$ 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
Study of curriculum design including the setting of objectives, selection of content material, instructional techniques, and program evaluation.

EDL 635 Seminar in Supervision
The study of program evaluation including the design of a staff in-service program for developing instructional and organizational competencies.

## EDL 636 Dynamics of Educational Leadership

Understanding of the various groups and subgroups to which a supervisor and curriculum specialist relates and of the significance of these relationships for leadership behavior. Demonstration of personal skills necessary to work successfully with groups of adults and conduct a successful one-to-one conference.

EDL $640 \quad$ The Principalship
3
Identifies those skills which exemplify effective principals. Among the topics and skill competencies to be examined are school organization, curricular needs, program and staff development, strategies for institutional change, fiscal management, and leadership styles. Spring.

EDL 652 Advanced Topics in Educational Leadership
1 to 6
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. Irregular. [c]

EDL 680 Educational Planning
3
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. Spring. [c]

EDL 681 The Superintendency I: Leading District Operations 3 Prereq.: Admission to Ed.D or sixth-year program; or chair's permission based on meeting requirements for Intermediate Administration Certification. The work of the superintendent from an internal perspective. Operational skills and understandings necessary to manage and coordinate the organizational structures and resources of the district to ensure learning for all students. Fall.

EDL 682 The Superintendency II: Board and Public Relations 3 Prereq.: EDL 681 or permission of chair, based on meeting requirements for Intermediate Administration Certification. The work of the superintendent from an external perspective. Creating effective relationships with the board of education the public. Spring.

EDL 690 Internship in Educational Leadership I: Theory and Practice

2 or 5
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. Fall. [c]

EDL 691 Internship in Educational Leadership II: Research and Practice 2 or 4 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. Spring. [c]

## EDL 695 Internship in Educational Leadership: The Superintendency I

Prereq.: Admission to Ed. D., or Gth year; 092 cert.; 681/682 and/or chair's permission, based on meeting requirements for Intermediate Administration Certification. Part one of supervised administrative internship. Interns apply strategic, organizational, and contextual leadership skills. Students will conduct organizational assessments to design an action plan and initiate the development of a professional portfolio. Fall.

EDL 696 Internship in Educational Leadership: The Superintendency II
Prereq.: EDL 695. Also based on meeting requirements for Intermediate Administration Certification. Part two of a supervised administrative internship in the superintendency. Students will complete their professional portfolio. Spring.

EDL 697 Readings and Conference 1 to 3
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. Irregular. [c]

EDL 701 Leading Organizational Change I: Theory
Prereq.: Admission to the Ed.D. program. Theoretical foundations of change emphasizing organizational development, chaos theory, models of systemic change and critical theory. Using structural, human resource, political and symbolic frameworks, leaders design organizational improvement plans that purposefully sustain meaningful change. Summer. [c]

EDL $702 \quad$ Leading Organization Change II: Program
Prereq.: EDL 701. Theoretical foundations and practical applications of strategies aimed at organizational development and evaluation. Application of quantitative and qualitative methods to assess organizational outcomes. Summer. [c]

EDL 705 Leadership to Promote Effective Teaching and Learning 6 Prereq.: Admission to Ed.D. program. Focus on new research on human learning and teaching. This course will explore the leadership implications of this research for the design and support of formal instructional environments aimed at helping all individuals achieve their full potential.

EDL 710 Inquiry Seminar I: The Study of Human and Organizational Learning
Prereq.: Admission to the Ed.D. program. Educational research ethics and the relationship between research and the purposes of schooling. Students refine information-gathering skills and plan a field study to describe human and/or organizational learning (to be completed during the academic year). Summer. [c]

## EDL 711 Inquiry Seminar II: Quantitative Research

Prereq.: EDL 710. Quantitative methods for educational research with emphasis on climate and attitude surveys, comparative studies addressing race, class and gender differences and quasi-experimental designs. First field study is on-going. Fall. [c]

EDL 712 Inquiry Seminar III: Qualitative Research 3

Prereq.: EDL 711 Qualitative research applications for educational interviews, participant-observation, case study, content analysis, ethnography, historical inquiry and philosophical studies. Ethical and methodological issues.
Completion of first field study. Spring. [c]
EDL 713 Inquiry Seminar IV: Study of Organizational Change 2 Prereq.: EDL 712. Application of quantitative, qualitative and action research methodologies to studies of the change process. Students prepare a proposal, including an integrative review of the literature, for a nine-to twelve-month study of organizational and cultural change. Summer. [c]

EDL 714 Inquiry Seminar V: Advanced Research Design 2
Prereq.: EDL 713. Topics include design of expcriments, randomized field experiments, interrupted time series, critical ethnography, portraiture and other advanced quantitative and qualitative methods. Matching design and method to contexts, questions and researcher intentions are discussed. Students complete their second field study. Fall. [c]

EDL 715 Inquiry Seminar VI: Advanced Research Internship 2 Prereq.: EDL714. Continued study of advanced research design. Students begin the dissertation proposal including the needs assessment, the consultation at the field site, the writing of the literature review and the carrying out of the pilot studies of methods and instrumentation. Spring. [c]

EDL 716 Inquiry Seminar VII: Dissertation I
Prereq.: EDL 715. Completion and defense of the dissertation proposal. Preparation for the comprehensive examination. Students work through the summer with their dissertation committee both individually and in small group tutorials. Summer. [c]

EDL 717 Inquiry Seminar VIII: Dissertation II
6
Prereq. EDL716. Dissertation research and writing. Seminars provide intellectual and emotional support for problem-solving related to ethical, political and methodological dilemmas, conflicts of purpose, time management and stress. One-on-one and small group meetings with the dissertation advisor. Fall. [c]

EDL 718 Inquiry Seminar IX: Dissertation III 6
Prereq.: EDL 717. Continuation of EDL717. Seminars provide intellectual and emotional support. One-on-one and small group meetings with the dissertation advisor. Students complete the dissertation. Spring. [c]

EDL 719 Inquiry Seminar X: Dissertation IV
1
Prereq.: EDL 718 Required continuation of EDL 718 for students who have not completed their dissertations or received approval to enroll in EDL 720. May be repeated for up to six credits over three calendar years. On demand.

EDL $720 \quad$ Inquiry Seminar XI: Disseminating Research Findings 2 Prereq.: EDL 718 and permission of doctoral program coordinator. Students defend their completed dissertations and present their findings during professional development workshops for educational leaders. Preparation of conference proposals and articles for publication. Summer.

## 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. [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. Fall. [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. Fall. [c]

EDT 511 Topics in Educational Technology
Prereq.: Matriculation or permission of instructor. Selected topics in the field of educational technology and instructional design. Fall, Spring, Summer. [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. Spring. [c]

EDT 521 Interactive Multimedia for Instruction I
Prereq.: EDT 512. Application of multimedia principles emphasizing screen design, branching, instructional, and media strategies, using flowcharts, storyboards, and evaluation techniques. Spring. [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. Fall. [c]

EDT 531 Interactive Multimedia for Instruction II
Prereq.: EDT 521. Production of multimedia through hands-on experiences that include CD-ROM mastering, digital audio and video, animation, graphics, programming, and subsequent evaluation procedures for Educational Technology. Summer. [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. Spring. [c]

EDT 533 Distance Learning and Networking II 3
Prereq.: EDT 532. This course is the second in the distance education sequence and continues the work started in EDT 532. Attention will be paid to developing advanced distance learning solutions involving the Internet, offline materials and interactive instructional movies. Students will create distance education instruction for clients. Summer.

EDT 572 Optimizing Engineering Productivity 3
Objective analytical techniques, modified with concepts of participative deci-sion-making by the work force, to illustrate the development of modern manufacturing processes in an engineering/technology workplace. Spring.

EDT 575 Facilities Engineering 3 Engineering planning of production facilities that will result in efficient integration of the workforce, material flow, and compatible site location with access to adequate transportation alternatives. Fall.

EDT 597 Final Project 3
Prereq.: Permission of EDT advisor 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. Summer. [c]

EDT 700 Leadership for Technology in Schools 3
Prereq.: Admission to the Ed.D. program. Technology applications to enhance professional practice, increase organizational learning, and enhance productivity. Participants document their progress in meeting TSSA standards, and develop and carry out individualized learning plans.

## ELECTRO-MECHANICAL TECHNOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.
EMEC 414 Automated Assembly Cell Design
Previously TC 414. Prereq.: ET 251, IT 480. Industrial robotics programming, cell design procedures, product evaluation, feeder selection, cell layout, and multi-task end effector design. Emphasis on developing a cost-effective automated assembly cell followed by cell simulation testing and evaluation. Fall. [c]

EMEC 463 Programmable Logic Controllers 3 Previously TC 463. A study of programmable sequence controllers and programmable logic controllers for motion and process control. The use of ladder logic is included. Spring.

## ENGINEERING TECHNOLOGY

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

## ET 405 Applied Structural Systems

3
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. Spring.

ET 422 Computer Systems and Integration
Prereq.: TC 113 or permission of instructor. Laboratory-based program solving course on the installation, configuration, and diagnostics of computer hardware and software, including operating systems, networks, hardware components, and integration. Emphasis on installing and trouble shooting computer systems. Irregular. [c]

ET 451 Soil Mechanics and Foundations
Prereq.: ET 357. Fundamentals of soil behavior and its use as a construction material. Principles of effective strength, permeability, shear strength, and consolidation. Application to construction problems in shallow and deep founda-
tions, slope stability, retaining structures and excavation drainage. Lecture/lab required. Fall.

ET 454 Introduction to Transportation Engineering 3 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. Lecture/lab required. Fall.

ET 458 GPS Mapping for GIS
3
Prereq.: TC 353 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 $460 \quad$ Computer Aided Design and Manufacturing (CAD/CAM) 3 Prereq.: ET 260 or permission of instructor. Applied parametric solid modeling for design, drawing, assembly, mass property analysis, and manufacturing tool path simulation utilizing integrated CAD/CAM soft- ware. Emphasis on the design and manufacture of products. Lecture/Laboratory. Fall. [c]

ET 461 Composites and Plastics Manufacturing Processes 3 Prereq.: ET 256 or ET 356 or CHEM 111 or CHEM 121, or permission of instructor. Analytical study of thermoplastic, thermoset, and polymer matrix composite materials, and the manufacturing processes utilized in the plastics and composites molding and fabrication industry. Lecture/ Laboratory. Spring.

ET 462 Manufacturing Process Planning and Estimating
Prereq.: TC 121, TC 216, ET 340; or permission of instructor. Design and planning of production processes and operation sequence for discrete parts. Group Technology and Cellular Manufacturing. Tolerance analysis of parts and processes. Development of process plans, routings, operation sheets, and cost estimates for manufacturing operations.

ET 463 Plastics and Composite Tool Design
Prereq.: ET 256, 260 and 461. Principles for design of molds and tooling for the production of plastic and composite products. Fall. [c]

ET 464 CAD Solid Modeling and Design 3
Prereq.: ET 260 and 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 twohour laboratory per week. Spring. [c]

ET 466 Design for Manufacture
Prereq.: ET 260, 340, or permission of instructor. Design principles and contemporary industrial practices for product realization. DFX and evaluation of designs. Integration of product functions with design and manufacturing process. Mistake proofing, design for manual, automated, and robotic assembly. Product liability issues.

ET 467 CAE Applied Finite Element Analysis
Prereq.: ET 357 or permission of instructor. Application of the finite element method to structural engineering problems. Study of plane stress, plane strain, shell and continuum finite elements, mesh generation, proper element density and element interfacing, and composite modeling problems. Fall. [c]

ET $468 \quad$ Composite Design and Analysis 3
Prereq.: ET 467 and ET 256 or ET 356; or permission of instructor. Study of the design and analysis of composite structures using classical composite theory coupled with the finite element method. New methods of structural redesign using composite materials. Fall. [c]

ET $470 \quad$ Structural Steel Design
Prereq.: TC 356, ET 397. An introduction to the analysis of steel structures using classical and computer methods. Application of design, fabrication, and construction in structural steel using standard specifications. Topics on beams, columns, trusses, and frames. Fall.

ET 471 Reinforced Concrete Structures
Prereq.: ET 357, 397. Applications of design and construction in reinforced concrete and timber structures. Topics on beams, columns, slabs, footings, retaining walls, form work, and prestressed concrete fundamentals. Spring.

## ET 472 Timber Structures <br> 3

Prereq.: ET 397. A study of the physical properties of wood used in structures and architecture. Influence on strength of moisture content, species, and preservation treatments are emphasized. Design and construction applications in bridges and buildings. Spring.

ET 475 Hydrology and Storm Drainage 3
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. Lecture/lab required. Spring. [c]

## ET 476 Environmental Technology

3
Prereq.: CHEM 111 or 121, MATH 115. Environmental effects on air, water, and land from construction activities. Case studies with discussion of corrective action. Fall.

## ET 497 Engineering Economy

3
Prereq.: MATH 125, senior standing. Technical and engineering aspects of financing the construction of infrastructure facilities, determination of costs, and justification of improvements. [c] Fall, spring, summer.

ET 500 Topics in Engineering Technology
3
Prereq.: Permission of instructor. Selected topics in engineering/technical applications. Opportunity for the student to acquire knowledge of new and emerging technologies. Not for independent study. On demand.

ET 501 Independent Study in Engineering Technology
Prereq.: Permission of instructor. Studies of special areas in engineering technology providing for individual research and application. May be repeated with different topics for a maximum of 6 credits. On demand.

ET 517 Automated Assembly and Manufacturing Cell Design 3 Prereq.: Admission to MSET or MSTM, or permission of E.T. department chair. 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. Fall. (E) [c]

## ET 523 Contemporary Engineering Materials

 3Prereq.: Admission to the MSET or MSTM, or permission of E.T. department chair. 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. Spring. (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. Spring. [c]

ET $540 \quad$ Advanced Geometric Dimensioning and Tolerancing 3 Prereq.: STAT 104, ET 340; or permission of department chair. 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. Irregular.

ET 542 Production Cost Estimates
3
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. Spring. [c]

ET $550 \quad$ Global Positioning Systems Applications 3
Prereq.: ET 457. Global Positioning System (GPS) use for control surveying, GIS data acquisition and land surveying applications. Students will gather GPS field data and perform differential processing including static, kinematic, pseudo-kinematic, and real time GPS. Fall. [c]

ET 556 Architectural and Civil Engineering Technology Computer Aided Design
Prereq.: Admission to MSET or MSTM, or permission of E.T. department chair. MicroStation CAD software in practical projects applications. Introduction to 3D design and solid modeling. Irregular. [c]

ET 568 CAE Applied Finite Element Analysis 3
Prereq.: ET 357 and 464, or permission of instructor. Application of the finite element method to structural problems. Spring. [c]

## ET 571 Design/Construction Integration of Structures

Prereq.: ET 470 and ET 471; or permission of department chair. A critical analysis of constructability. Students analyze the implications of design decisions on the construction of concrete, steel and timber projects. Case studies of various construction projects in the Hartford area are utilized. On demand.

ET 572 Optimizing Engineering Productivity
Objective analytical techniques, modified with concepts of participative deci-sion-making by the work force, to illustrate the development of modern manufacturing processes in an engineering/technological workplace. Spring

ET $575 \quad$ Facilities Engineering
Engineering planning of production facilities that will result in efficient integration of the workforce, material flow, and compatible site location with access to adequate transportation alternatives. Fall.

ET 577 Engineering Technology Project Administration 3
Examination of principles and practices of project administration. Topics include planning, budgeting, permitting, programming, personnel, legal, public involvement, tort liability, emergency handling, and dealing with federal and state government requirements. Fall.

ET $578 \quad$ Value Engineering for AEC
3
Prereq.: ET 497 or permission of department chair. Applications of processes related to reducing costs; improving quality and service while increasing customer satisfaction. Concepts of value analysis, cost/benefit, cost modeling and life cycle costing in materials and systems engineering applications. On demand.

## ET 592 Research and Development of Experiments <br> 3

Prereq.: Matriculation in MSET program and completion of 15 credits of approved graduate study. Concepts and procedures for obtaining, evaluating, and reporting existing and measured data. Fall. [c]

ET 598 Research in Engineering Technology 3
Prereq.: ET 592 and permission of project advisor. Technical laboratory project conducted under the supervision of project advisor. Written and oral defense of project required. On demand. [c]

## ET 599

Thesis
Prereq.: ET 592 and permission of thesis advisor. Preparation of thesis under supervision of advisor. 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 401 Advanced Composition <br> 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. in English programs.

ENG 403 Technical Writing
3
A course designed to assist students in planning, researching, structuring, writing, revising, and editing technical materials. Emphasis on various types of writing
drawn from an industrial/professional context: reports, correspondence, directories, manuals, technical articles. Not applicable to M.A. in English programs.

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 observations in middle and high school classrooms. Not applicable to M.A. in English programs.

ENG 445 American Drama
Development of American drama and its contribution to literature. Irregular.
ENG 449 Major American Authors
3
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 $450 \quad$ Chaucer
3
Readings in Chaucer, with special emphasis on The Canterbury Tales and Troilus and Criseyde. Irregular.

ENG 461 Shakespeare: Major Comedies
3
Close analysis of major comedies and pertinent critical problems. Irregular.
ENG 462 Shakespeare: Major Tragedies
3
Close analysis of major tragedies and pertinent critical problems. Irregular.
ENG 463 Elizabethan and Jacobean Drama
Major dramatists from Kyd to Ford, excluding Shakespeare. Irregular.
ENG 464 Restoration and 18th-Century Drama 3
English drama from 1660 to 1800 , primarily comedy. Readings from the works of such dramatists as Wycherly, Etherege, Dryden, Congreve, Vanbrugh,
Farquhar, Gay, and Sheridan. Irregular.

## ENG 470 The Victorian Novel

Representative Victorian novelists with special emphasis on Trollope, Eliot, Dickens, Thackeray, and Hardy. Irregular.

ENG 474 Contemporary American Novel
American novels which have come to prominence since World War II and the changing cultural environment which they reflect. Irregular.

ENG 475 The British Novel to 1832
Form and content of the novel with readings selected from Behn, DeFoe, Richardson, Fielding, Sterne, Smollett, Johnson, Burney, Walpole, Austen, and Scott. Irregular.

ENG 476 The Modern British Novel
Form and content of the novel with readings selected from Joyce, Woolf, Ford, Conrad, Lawrence, Huxley, Forster, Greene, Waugh, and others. Irregular.

ENG 477 Modern British Poetry
Major works of Hardy, Hopkins, Yeats, D.H. Lawrence, Owen, Sassoon, Auden, Dylan Thomas, Larkin, Hughes, and others. Irregular.

ENG 478 Modern American Poetry 3
The study of important American poets from Dickinson to the present. Irregular.
ENG 480 Modern Irish Literature
Study of the major themes and traditions in Irish writers of the 20th century. Included will be works by Yeats, Joyce, Synge, O'Casey, O'Connor, and others. Irregular.

ENG 486 Literature and Film
Study of films adapted from novels and plays. The course investigates the nature of the relationship of these forms. Attention will be paid to the theory of film with comparison to the aesthetics of the printed word and the live performance. Attendance at screenings required. Spring. Not applicable to M.A. in English program.

ENG 487 20th-Century British Drama
Study of major British playwrights of the twentiech century. Selections may be from the works of Shaw, Coward, Maugham, O'Casey, Eliot, Beckett, Osborne, Pinter, Shaffer, Ayckbourn, Churchill, Gray, Hare, Stoppard, and others. Irregular.

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. Not applicable to M.A. in English program.

ENG 491 Children's Literature
Balanced selection of the best literature available to children. Traditional forms of fables, legends, myths, epics, fairy tales, and folk tales of the world; examination of how these represent the universal needs and aspirations of all cultures. Major authors and illustrators included. Not applicable to M.A. in English programs.

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. in English programs.

ENG 495 Internship
Prereq.: Permission of faculty advisor and department chair. Intern projects under the guidance of an English faculty advisor or the department chair. This course can help fulfill requirements for minors in writing, journalism, TESOL, and descriptive linguistics. It cannot be used to help fulfill requirements for an English major or minor.

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. Fall.
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. Spring.

## 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. (not applicable to M.A. in English.) Spring.

## 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. (not applicable to M.A. in English.) Fall.

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 take this course under different topics for a maximum of 6 credits. Irregular.

ENG 548 Advanced Studies in American Literature
Selected topics in American literature. May be taken under different topics for a maximum of 6 credits. This is a link course with ENG 448 . No credit given to students who have taken the same topic in ENG 448.

ENG 558 Advanced Studies in British Literature
Selected topics in British literature. May be taken under different topics for a maximum of 6 credits. This is a link course with ENG 458 . No credit given to students who have taken the same topic in ENG 458. Fall, Spring.

ENG 590 Graduate Tutorial: Individual Guided Reading
Prereq.: Permission of department chair. A graduate tutorial set up as an independent study for students who wish to pursue intensive, guided research on a particular author or literary period. Fall, Spring, Summer.

ENG 598 Research in English
Prereq.: Admission to degree program in English or permission of instructor. Research skills in literature. Introduces the techniques resources of literary
research through an examination of the theory, history, and practice of literary criticism. Fall.

ENG 599 Thesis
3
Prereq.: Admission to the M.A. program in English, a minimum of 15 credits in English and American Literature, and permission of the department chair. Preparation of the thesis under the supervision of the thesis advisor. On demand.

## FINANCE

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

## FIN 400 Advanced Managerial Finance

3
Prereq.: FIN 301, 310 and 320. An advanced course in financial management of the business firm. Utilizes a case study approach to stress the application of financial management theories. Topics include asset management, investment decisions, and financial structure of the firm. [c]

FIN 410 Securities Analysis 3
Prereq.: FIN 301, 310 and 320. An advanced course in investments with emphasis on security analysis and portfolio management practices. Topics include financial statement analysis, use of derivatives, and special techniques employed in forecasting, timing, and the development of investment strategies. [c]

FIN 425
Financial Derivatives
3
Prereq.: FIN 301, 310 and 320; for graduate students, permission of department chair. Valuation of financial derivatives, including options and futures, applications to portfolio, and corporate risk management. Fall.

FIN 430 International Financial Management
Prereq.: FIN 295. A study of the principles and practices of corporate finance in an international setting. Explores the primary elements of international monetary economics with emphasis on exchange rate analysis. Major topics of study include exchange risks, capital budgeting process of the multi-national corporation, and the international financial markets. [c]

FIN $490 \quad$ Independent Study in Finance 1 to 3 Prereq.: FIN 301, 310 and 320. Individualized readings and/or research by individual under the direction of a Finance faculty member. Topics will vary. May be repeated up to a total of 3 credits. On demand. [c]

FIN 496 Practicum in Finance 1 to 6
Prereq.: Permission of instructor. Students work on a real world project under the direct supervision of a faculty advisor. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be repeated for a maximum of 6 credits. On demand.

FIN $498 \quad$ Finance Seminar
Prereq.: Permission of instructor. Course content varies. Fall.
FIN 499 CFA Seminar
Prereq.: FIN 295, 310, 410 or permission of instructor. Focuses on the advanced investment concepts which are the foundation of Chartered Financial Analyst (CFA) professional designation. Topics include ethical and professional standards, quantitative methods, global markets and instruments, analysis of stock and bond investments, and portfolio management. Spring.

FIN 541 International Financial Management 3
Prereq.: Admission to MBA program or permission of MBA director. Basic understanding of the factors and skills necessary to manage exchange rate risk. Financial modeling and forecasting are utilized in strategic and operational planning and in the investment decision process.

FIN $549 \quad$ Current Topics in Financer 1 to 3
Prereq.: Admission to MBA program or permission of MBA director. Financial issues in multinational firms and/or international finance markets. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits.

## FINE ARTS

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

## FA $490 \quad$ Integrating the Fine Arts for the Young Learner 3

 Prereq.: Permission of department chair in Art, Music, or Theatre. Study of the aesthetic experience, its importance for children, and its interrelationship with empirical knowledge. Music, the visual arts, and movement will be investigated, with an emphasis on discovering resources and developing techniques for integrating each. Summer.
## FRENCH

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

## FR 441 Advanced Oral Practice

Prereq.: Permission of instructor. Open only to non-native speakers of French. Taught in French. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. Fall. (O)

FR 451 The Structure of Modern French
Prereq.: Permission of instructor. Taught in French. Assists in the improvement of all aspects of oral expression. Includes study of the sound system, description of word forms, and analysis of syntactic structures. Intensive practice in pronunciation. Irregular.

FR $460 \quad$ Advanced Grammar and Composition 3
Prereq.: FR 336 or permission of instructor. Taught in French. Written expression of French, particularly in idiomatic-free composition, designed to develop the ability to express shades of meaning. Comprehensive study of French grammar and levels of style. Use of translation from English. Spring. (E)

## 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. Spring. (O)

## FR 521 Medieval and Renaissance French Literature <br> 3

Prereq.: Admission to M.A. in Modern Language or permission of chair. Previously FR 510. Taught in French. Culture, language and literature from the 9th through the 16th centuries and their relation to contemporary society. Fall. (O)

FR 532 17th- and 18th-Century French Literature
Prereq.: Admission to M.A. in Modern Languages or permission of chair. Previously FR 571. Taught in French. The main currents of 17 th- and 18 th-century thought in literature, the arts and the sciences, with emphasis on the evolution of classicism. Spring (E).

FR 553 19th-Century French Literature
Prereq.: Admission to M.A. in Modern Languages. Previously FR 581. 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. Fall. (E)
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. Irregular.
FR 573 20th-Century French Literature
Prereq.: Admission to M.A. in modern languages or permission of chair.
Previously FR 471. Taught in French. Major works and movements of 20th-century literature from Surrealism to Post-Modernism.

FR 588 Contemporary Society in the Francophone World
Prereq.: Permission of instructor. Taught in French. Contemporary societies, institutions, traditions, and values in the Francophone world, with emphasis on France. Spring. (O)

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

## GEOGRAPHY

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

## GEOG 414 Teaching Methods in Geography

2 to 3
Prereq.: Admission to the Professional Program. Concepts, methods, and materials for teaching geography. Middle-level certification students selecting the Complementary Subject Matter Area in geography will enroll for two credits; all others will enroll for three credits. Fall.

GEOG 430 Internship in Geography
Prereq.: Permission of the department chair. Students will work in an environment directly related to the track or planned program they are following, under the supervision of a geography faculty member. Written reports are required. No credit given to students with credit for GEOG 420. On demand.

## GEOG 433 Issues in Environmental Protection

3
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 3 Study of our nearest neighbors south of the border, concentrating on people, the land on which they live, and related problems, primarily from a regional point of view. Fall.

## GEOG 435 Japan and Korea

3
Study of the physical framework, resources, economic activities, and characteristic landscapes of Japan and Korea. Activities of the people of Japan and Korea in relation to their environment and resources, and the differing problems of development facing both nations. Fall. (O)

## GEOG 436 South America

A survey of the countries of South America with emphasis on people, places, and problems. Spring.

## GEOG 437 China

3
Physical, economic, political, and historical geography of China. Special consideration of her population, resources, agricultural growth, and industrial expansion. Discussion of the geographic bases and the expansion of the Chinese State and the contemporary foundation of Chinese national power. Fall. (E)

## GEOG 439 Urban Geography

3
This course can be taken for the Urban Studies program. Form, function, and evolution of urban settlements with reference to attributes of place. Emphasis is also placed on internal structure and regional relationships of cities. Provides a methodological basis for thought involving the planning process, including preservation planning and systems analysis. Personal on-site study of a current urban problem within the state is expected. Spring.

GEOG 440 Rural Land 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. Fall. (O)

## GEOG 441 Community and Regional Planning

This course can be taken for the Urban Studies program. Prereq.: GEOG 241 or permission of instructor. Philosophies, theories, and principles involved in planning of regions and urban areas. Fall (E).

GEOG 445 Environmental Planning
Prereq.: GEOG 110 or permission of instructor. Examines the environmental impacts of land development and natural constraints on planning and public policy decision-making. Case studies and field work will emphasize aspects of environmental planning in the Greater Hartford region. Spring.

GEOG 446 Sub-Saharan Africa
3
Relationships between physical environment and human development in Africa south of the Sahara. Spring. (E)

GEOG 448 Russia and Neighboring Regions
3
Environmental, cultural, and economic patterns that give character to the various regions of Russia. Its contemporary political economy viewed in spatial and historical context. Examination of Russia's relationship with Central Asia, East Asia, Eastern, Europe and the EC. Fall. (E)

GEOG 450 Tourism Planning
Prereq.: GEOG 290, 291 or permission of chair. Integrated and sustainable development approach to tourism planning explored through lectures, seminars and case studies at the national, regional, and community levels. Focus on public and private initiatives in tourism planning. Fall.

GEOG 451 Tourism Development in Southern New England
Prereq.: GEOG 290 or 291 or permission of instructor or department chair. Study of the tourism industry, including perspectives on supply, demand, and socio-economic impacts. Focus on issues, problems, and opportunities in tourism, including functions of state and regional tourism agencies in southern New England. Spring. (E)

## GEOG 452 European Union

Environmental, cultural, and economic patterns that give character to the different countries, regions, and cities of the European union. Analysis of spatial changes associated with European integration. Spring.

GEOG 453 Recreation and Resort Planning 3
Prereq.: GEOG 450 or permission of instructor or department chair. Study of the supply, location, distribution, use, planning, management, and impact of recreation facilities in both urban and rural situations. Spring.

## GEOG 454 Geography of Tourism Marketing

3
Prereq.: GEOG 290 and MKT 295 or permission of instructor. Examination of geographic elements and issues within the tourism industry, with a focus on how these influence the spatial aspects of tourist behavior and industry development strategies. Spring.

GEOG 455 New Directions in Tourism
3
Prereq.: GEOG 290 or 291 or permission of instructor or department chair. Study of contemporary forms of tourism including ecotourism, heritage tourism, and educational travel, which have their own impacts, management, and planning needs, and which differ notably from the traditions of mass tourism. Fall.

GEOG 469 Readings in Geography
3
Prereq.: Permission of instructor. Directed independent studies in geography. May be taken more than once for credit. On demand.

GEOG 471 Topics in Human Geography:
Prereq.: GEOG 220 or permission of instructor. Selected topics in human geography. May be repeated with different topics for a maximum of 6 credits. On demand.

## GEOG 472 Topics in Physical Geography

3
Prereq.: GEOG 272 or 275 or 374 or permission of instructor. Selected topics in physical geography including urban climates, microclimatology, global change, coastal environments, and the impact of glacial and periglacial processes on landforms. May be repeated with different topics for a maximum of 6 credits. Fall.

GEOG 473 Geography of Natural Resources
Prereq.: GEOG 110 or permission of instructor. Examines the definition, location, and evaluation of management. Focus on management strategies and cost benefit analyses of environmental degradation associated with resource use. Examples illustrated with GIS and remote sensing techniques. Spring. (O)

GEOG 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 GIS for a municipality or non-profit organization. Portions of the database will be implemented. Concentration on vector software. Fall. [c]

## GEOG 483 Topics in Planning

Prereq.: GEOG 241 or permission of instructor. Selected topics in planning. May be repeated with different topics for a maximum of 6 credits. On demand.

## GEOG 500 Graduate Studies in Geography

Prereq.: Permission of advisor. History and philosophy of geographic thought with emphasis on current research trends in physical and human geography. Fall.

GEOG 514 Studies in Systematic Geography
Prereq.: Permission of advisor and instructor. Advanced study in one of systematic specialties of the department. May be taken more than once for credit. This is a link course with GEOG 400 level topics courses. On demand.

GEOG 516 Studies in Regional Geography
Prereq.: Permission of advisor 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 advisor 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 advisor. Sitebased 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. This is a link course with GEOG 442. Fall (O)

GEOG 544 The Geography of World Economic Development
Prereq.: GEOG 500 or IS 570 or permission of instructor. Spatial patterns of world economic development with consideration of contemporary changes in selected developing countries. Spring.

GEOG 559 Advanced Field Studies in Regional Geography 3 or 6 Prereq.: Permission of graduate advisor. On-site group studies in regional geography. Normally involves travel outside the United States. Summer.

GEOG 595 Special Project in Geography 3
Prereq.: GEOG 598 and permission of graduate advisor. 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 597 Geography Capstone Seminar (Plan B)

Prereq.: GEOG 598, completion of 21 credits in the M.S. program in geography, and permission of graduate advisor. Directed readings seminar for Geography graduate students taking the comprehensive exam (Plan B). Comprehensive exam will be taken following completion of the course. Spring.

## GEOG 598 Research in Geography <br> 3

Prereq.: Permission of advisor. Designed to familiarize student with techniques and resources associated with research in field of geography. Practical application. Fall.

GEOG 599 Thesis
Prereq.: GEOG 598 and permission of graduate advisor. Preparation of the thesis under the supervision of the thesis advisor. Spring.

## 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. Fall.

## GRAPHICS TECHNOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
GRT 442 Print Production
3
Previously TC 442. Prereq.: GRT 212 (formerly TC 212). Applied study of preproduction, production, and post-production in the printing industry. [c]

## GRT 462 Advanced Graphic Arts Techniques

Previously TC 462. Prereq.: GRT 442. Integrated experience of advanced instruction in both flexo, offset and digital printing. Experiences will include advanced color work and direct to press operations. Cultural and historical aspects of graphic arts and industrial visitations. (Lab). Fall. arts and industrial visitations. [c]

GRT $472 \quad$ Introductory and Publications Photography
Previously TC 472. Principles of
Previously TC 472. Principles of conventional and digital camera techniques. Includes camera handling, exposure, composition, developing, printing, and editing. Darkroom plans and equipment listings will be evaluated. Field trips to selected photography studios. (Lab) Open to all students. Fall.

## 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.

HHSP 494 Introduction to Hospice Care
Prereq.: Permission of instructor. Introduction to the concepts and practices of hospice care. On demand.

HHSP 495 Clinical Implementation of Hospice Care 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
3
Prereq.: HHSP 494 or permission of instructor. Ethical and legal aspects of hospice care. On demand.

HHSP 500 Topics in Health and Human Services
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. Irregular.

## HISTORY

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

## HIST 423 Colonial Period of American History

Prereq.: HIST 261 or equivalent, HIST 301 or 310, or permission of instructor. Development of America to 1763 . Fall.

## HIST 424 Establishment of a New Nation

Prereq.: HIST 261 or equivalent, HIST 301 or 310, or permission of instructor. Establishment of the United States of America from 1763 to 1800. Spring.

HIST 425 Era of National Development
Prereq.: HIST 301 or 310 or permission of instructor. This course can be taken for the American Studies program. Political, social, and economic development from 1800 to 1850 , with special emphasis on the development of party systems. Fall.

HIST 426 The United States, 1850-1896
Prereq.: HIST 301 or 310 or permission of instructor. This course can be taken for the American Studies program. The U.S. 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. Spring.

HIST 427 The United States, 1890-1933
Prereq.: HIST 301 or 310 or permission of instructor. This course can be taken for the American Studies program. Industrial growth, immigration, political reform, the Great Depression, and the rise of the United States as a world power. Fall.

HIST 428 The United States since 1933
Prereq.: HIST 301 or 310 or permission of instructor. This course can be taken for the American Studies program. Major political, social, economic, cultural, and diplomatic developments since 1933. Spring.

HIST 429 Women and Reform in American Society, 1870-1920 3 Prereq.: HIST 301 or 310 or permission of instructor. Involvement of women in suffrage reform, temperance, immigration reform, the social hygiene movement, the crusade against prostitution and white slavery, birth control, socialism, and problems of gender between 1870 and 1920 will be considered. Spring. (O)

## HIST 431 Ancient Northeast Africa

Prereq.: HIST 301 or 310 or permission of instructor. Aspects of the history and legacies of ancient northeast Africa with focus upon Nubia, Egypt, and Aksum. Irregular.

HIST 433 History of Ancient Greece
Prereq.: HIST 301 or 310 or permission of instructor. Greek institutions from the Mycenaean period to the accession of Constantine. Fall.

HIST 434 History of Ancient Rome 3
Prereq.: HIST 301 or 310 or permission of instructor. Roman institutions from the regal period to the reign of Constantine. Spring.

HIST 435 History of Later Medieval Europe
3
Prereq.: HIST 301 or 310 or permission of instructor. The Late Roman empire to the 11th century. Spring. (E)

HIST 441 Renaissance and Reformation
Prereq.: HIST 301 or 310 or permission of instructor. History of Europe during the Age of Transition and the Era of the Religious Wars, 1300-1648. Fall. (E)

HIST 442 European History, 1650-1815
Prereq.: HIST 301 or 310 or permission of instructor. Social, economic, political, and cultural forces of the period in relation to formation of modern society and government. Spring. (E)

HIST 443 European History, 1815-1918
Prereq.: HIST 301 or 310 or permission of instructor. Political, economic, and social institutions in relation to rise of liberalism, nationalism, socialism, and imperialism. Fall.

HIST 444 European History, 1918 to Present
Prereq.: HIST 301 or 310 or permission of instructor. National and international problems of European states. Spring.

HIST 445 European Intellectual History, 1750-1870
Prereq.: HIST 301 or 310 or permission of instructor. Main currents of
European thought and culture from 1750 to 1870 . Fall. (E)
HIST 446 European Intellectual History, 1870-Present
Prereq.: HIST 301 or 310 or permission of instructor. Main currents of European thought and culture from 1870 to the present. Spring. (E)

HIST 447 History of the Soviet Union
Prereq.: HIST 301 or 310 or permission of instructor. Study of the rise and fall of Soviet Communism, 1917-1991. Irregular.

HIST 448 Stalin and Stalinism
Prereq.: HIST 301 or 310 or permission of instructor. Historical study of Stalin and Stalinism stressing multi- disciplinary perspectives, considered in the light of the collapse of the Soviet Union. Irregular.

HIST 453 History of Modern China
Prereq.: HIST 301 or 310 or permission of instructor. China during the late Ch'ing, Republican and Communist periods. Fall.

HIST 454 History of Modern Japan
Prereq.: HIST 301 or 310 or permission of instructor. Japan during the 19th and 20th centuries. Spring.

HIST 458 United States Sectionalism: the Clash of Cultures 3
Prereq.: HIST 301 or 310 or permission of instructor. Clash of Northern and Southern culture over the issues of slavery from 1787 to 1861 . Emphasis on the attempt to quell sectional disputes through political compromise, the rise of abolitionism, and the creation of a "Slave Power." Spring.

HIST 460 African Enslavement in the Americas
Prereq.: HIST 301 or 310 or permission of instructor. Comparative history of slavery in Latin America, the Caribbean, and the United States from 1492-1888. Fall. (O)

HIST 463 Constitutional History of the United States to 1900 This course can be taken for the American Studies program. Prereq.: HIST 301 or 310 or permission of instructor. Study of nation's fundamental law as influenced by political, economic, and social forces. Fall. (E)

HIST 465 Economic History of the United States
3
Prereq.: HIST 301 or 310 or permission of instructor. This course can be taken for the American Studies program. American economy from its agricultural beginnings through stages of its commercial, industrial, and financial growth.

HIST 466 History of American Technology
3
This course can be taken for the American Studies program. Prereq.: HIST 301 or 310 or permission of instructor. The history and development of technology in America, emphasizing sources of technology, its impact on the workplace, on the reorganization of production and management, and on change in the larger society. Fall.

HIST 469 African Americans in the 20th Century 3
Prereq.: HIST 301 or 310 or permission of instructor. This course can be taken for the American Studies program. Political, economic, social, and cultural developments in Black America since 1900. Fall. (O)

HIST 472 Modern Middle East
Prereq.: HIST 301 or 310 or permission of instructor. Historical developments in the 20 th century with a special emphasis on political, social, and economic conflicts. Fall.

HIST 473 History of Judaism
3
Prereq.: HIST 301 or 310 or permission of instructor. Analysis of major themes in the historical development of Judaism from ancient times to the present. Spring.

HIST 474 History of the Arab-Israeli Conflict
3
Prereq.: HIST 301 or 310 or permission of instructor. History of the Arab-Israeli conflict from the time of Israel's creation as a modern nation-state until the present. Spring.

HIST 476 African History through Film
3
Prereq.: HIST 301 or 310 or permission of instructor. 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. Irregular.

HIST 479 History of Poland: from the Piasts to Partition, 966-1795 3
Prereq.: HIST 301 or 310 or permission of instructor. The medieval Kingdom, the Polish Lithuanian Commonwealth, and the Partitions.Fall. (O)

## HIST 480 Modern Poland

3
Prereq.: HIST 301 or 310 or permission of instructor. Examination of the course of modern Polish history, including the restoration of independence in 1918, World War II, communist rule, Solidarity, and the recovery of sovereignty in 1989. Fall. (E)

HIST 481 The Jews of Poland
Prereq.: HIST 301 or 310 or permission of instructor. Topics include immigration and settlement, community development and rights and privileges before 1795, modernization, nationalism, anti-Semitism, independence, Polish-Jewish
relations during the holocaust, exodus and marginalization in communist Poland, and the new Polish Jews. Fall (E)

HIST 482 The Polish-American Immigrant and Ethnic Community 3 Prereq.: HIST 301 or 310 or permission of instructor. Topics include immigration and settlement in the United States, organizational infrastructure, heroes and myths, homeland politics and national consciousness, labor, class, ethnicity, cultural assimilation and political integration, and stereotypes and ethnic identity. Spring (O)

## HIST 483 History of Inter-American Relations

Prereq.: HIST 301 or 310 or permission of instructor. Inter-American relations from inception of the Monroe Doctrine to the present. Fall. (E)

HIST 484 History of Mexico
Prereq.: HIST 301 or 310 or permission of instructor. Mexico from high culture of the Mayans through conquest, colonial period, independence, and national development. Spring. (E)

HIST 488 American Business History
This course can be taken for the American Studies program. Prereq.: HIST 301 or 310 or permission of instructor. Historical examination of the forms and strategies employed by business in modern America. Spring. (O)

HIST 489 American Labor History
This course can be taken for the American Studies program. Prereq.: HIST 301 or 310 or permission of instructor. Historical examination of the response of American Labor to technological change and the development of a formal, institutionalized labor movement. Spring. (E)

HIST 493 Directed Readings in History 3 Prereq.: HIST 301 or 310 or permission of instructor and six credits of 400 -level History courses or permission of Department Chair. Individual program of studies for students with special interests and abilities. Topics to vary from semester to semester. Not more than 3 credits to be taken in one semester. On demand. May be repeated once.

HIST 497 Topics in History 3
Prereq.: HIST 301 or 310 or permission of instructor. 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.

HIST 501 Historiography
Focus on major trends in history writing and analysis of historical arguments and theories. Spring. Special Conditions: this is a mandatory course for all graduate history and social science majors. It should be taken during the first Spring in residence.

HIST 510 Seminar in Public History 3
Prereq.: Permission of instructor. Exploration of development, methodologies, and employment opportunities of the field Public History. Fall.

HIST 511 Topics in Public History
Prereq.: Permission of instructor. Topical knowledge and hands-on experiences in the practice of Public History in fields such as oral history, museums, archives, and historical editing. Spring. Special Conditions: May be repeated with different topics for a total of 6 credits.

HIST 521 Public History Internship
Prereq.: Completion of at least 21 credits in the student's planned program of study or permission of instructor. Hands-on experience in the practice of Public History. Students will work for private and public agencies utilizing their skills acquired in coursework. On demand.

HIST 532 Studies in Ancient Greek and Roman Civilization
Study of selected topics. Irregular.
HIST 540 Seminar in European History

HIST 542 Seminar in Modern Russian History
Selected topics in 19th- and 20th-century Russia with emphasis on multinational developments. Spring. (O)

HIST 545 History of South Africa since 1900
Focus on South Africa since 1900 with emphasis on the rise and fall of Apartheid and multifaceted dimensions of the liberation struggle and the process of democratization. Irregular.

HIST 560 Seminar in American History
Selected problems in historical research. Irregular.
HIST 565 Seminar in 17th- and 18th-Century America
Topics in 17th- and 18th-century American history. Irregular.
HIST 566 Civil War and Reconstruction in the United States
Topics and themes of the Civil War and Reconstruction eras in the United States. Fall. (E)

HIST 567 The United States in the 1920s
In-depth study of Age of Disillusionment via directed readings and seminar. Spring. (E)

## HIST 568 Seminar on the New Deal <br> 3

Study of agencies and policies of New Deal and their impact upon institutions of United States. Irregular.

HIST 570 Immigration in American History 3
Study of major waves of immigration into United States in 19th and 20th centuries. Fall. (O)

HIST 580 Seminar in Non-Western History
3
Selected problems in historical research specific to areas of the world other than the United States and Europe. May be repeated with different topics for a maximum of 6 credits. Irregular.

HIST 583 Seminar in Latin American History
Selected historical, political, social, cultural, or economic topics. Irregular.
HIST 593 Directed Study in History
3
Prereq.: Permission of graduate advisor and instructor. Selected readings and project appropriate to student's major field. Open only to students in M.S. program. Irregular.

## HIST 595 Public History Research Project

Prereq.: Permission of instructor. Hands-on experience in the practice of Public History. Students complete specialized projects based on client- oriented research and communicate their findings to non- academic audiences. Spring.

## HIST 598 Research in History

3
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. Irregular.

HIST 599 Thesis
6
Prereq.: Permission of advisor. Preparation of thesis under the supervision of the thesis advisor and second reader.

## HUMANITIES

Note: Additional work will be required for graduate credit in 400 -level courses.
HUM 490 The Culture and Civilization of Other Lands
3
An approach to better understanding of other peoples' life and culture as reflected in their language, music, literature, art, and folklore. The area covered may vary from section to section. Offered in English. May be repeated with different topics. Irregular.

HUM 494 Foreign Study Through Travel 3 or 6
Course will acquaint students with the civilizations of other countries through supervised travel abroad. Attention to the special needs and interests of participants. On demand.

## INDUSTRIAL TECHNOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
IT 402 Topics in Technology 1 to 3

Prereq.: Permission of the department chair. An individualized inquiry of comprehensive study into a selected technical area. The student may elect to examine processes, products, or developmental aspects of modern industry. Open only to Industrial Technology majors. Course may be repeated for a maximum of 6 credits for different topics.

IT 410 Industrial Safety<br>3

Theory of industrial safety with emphasis upon fundamental concepts in the industrial environment. Emphasis will be placed on the psychological, sociological , and physiological aspects of industrial safety.

IT 411 Industrial Hygiene
3
Lectures and laboratory exercises covering evaluation and control of exposure to dust, fumes, mist, vapors, gases, radiation, noise, and abnormal temperatures. Fall.

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

IT $415 \quad$ Fire Protection and Prevention
3
Measures related to safeguarding human life and preservation of property in prevention, detection, extinguishing fires. Spring.

IT 421 Evaluation Techniques in Industrial Hygiene 3
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. Spring.

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. Spring.

IT 456 Hazardous Material Management 3
Study of environmental regulations and their impact on industrial operations. Emphasis is on application of statutes, regulations and information sources concerning hazardous materials, waste handling and technical decisions pertinent to environmental and safety issues. Spring.

## IT 458 Productivity Improvement

3
Course deals scientifically with analytical and creative problems affecting time. It covers the principles of methods, design, and work measurement. The student acquires skill in using motion study techniques and learns how to establish standards. Applications to product design, machine and tool design, process planning, production scheduling, plant layout, budgeting, sales prices, manpower requirements, wage incentives, and methods of improvements are studied. Spring.

IT 464 Continuous Process Improvement 3
Prereq.: STAT 104. Application of statistical techniques to meet the needs of continuous quality improvement in the industrial environment. Topics include variation, control and capacity, SPC for short run, and advanced process control. Emphasis on developing a continuous quality improvement strategy through supplier certification standards. Fall.

IT 480 Robotics
Prereq.: Senior standing or permission of instructor. The course provides an overview of the industrial robot to introduce the student to the science of flexible automata. The course emphasizes features, capabilities, programming, selection, and implementation of industrial robots. Fall and Summer. [c]

IT $490 \quad$ Quality by Design
3
Planning techniques of Failure Mode and Effects Analysis (FMEA), Quality
Function Deployment (QFD), and Design of Experiments (DOE) will be presented. Spring.

IT 500 Industrial Applications of Computers
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. Fall.

IT 502 Human Relations and Behavior in Complex Organizations 3 Analysis of human relations in technological organizations, including motivation, corporate processes, communication, and power.

IT 510 Industrial Planning and Control 3
Principles underlying industrial management. Topics include organization for production, industrial risk, product research and development, and the management of capital goods. Spring, Summer.

IT $521 \quad$ Computer Aided Design and Drafting
Prereq.: TC 113 or permission of instructor. In-depth utilization of computer technology to create and modify two and three-dimensional engineering drawings. Space geometry, vector analysis and specialized drafting conventions will be used to generate a data base for a variety of design-drafting applications. This course is laboratory-oriented and intended to further the student's knowledge in drawing preparation using the computer and associate peripherals.

IT $551 \quad$ 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 tools to set goals tied to needs for successful project management. Spring. [c]
$\begin{array}{ll}\text { IT } 561 \quad \text { Application of Lean Principles } & 3 \\ \text { Tools and techniques of lean manufacturing as they are applied to an entire }\end{array}$ Tools and techniques of lean manufacturing as they are applied to an entire organization. Core methodologies in lean production include value stream mapping, teaming, productivity improvement, inventory reduction, pull systems, kanban, standard work, and cost reduction. Fall.

## IT 562 Supply Chain Issues

Key concepts in managing the flow of goods and information from raw material to end-use customer. Focuses on the design, analysis and decision-making methods used in industrial procurement. Highlights the integration of procurement with operations. Fall.

## IT 563 Logistics Issues

3
Issues related to logistics at the global level, emphasizing the integration of manufacturing logistics with operations and procurement to achieve optimal supply chain performance. Spring.

IT $564 \quad$ Quality Systems Management 3
Emphasis on the development and application of total quality system management (TQM) documents. Students will develop a planned quality document to meet domestic and international standards as defined by ISO-9000 and United States supplier certification programs. Spring. [c]

IT 595 Applied Research Topic in Technology
3
Prereq.: Permission of advisor. 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 to 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. Irregular.

## IT 598 Research in Technology

Prereq.: Permission of advisor. 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. Fall. [c]

IT 599 Thesis $\quad 3$
Prereq.: Permission of advisor. Preparation of thesis under the supervision of thesis advisor. On demand.

IT 664 Quality Data Collection and Analysis 3
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. Spring. [c]

IT $690 \quad$ Quality Auditing
3
Prereq.: IT 564 or permission of instructor. Emphasis on the administration, preparation, and performance of quality audits. Topics include conduct, ethics, and auditing tools and techniques related to various quality standards. Fall. [c]

## INTERNATIONAL BUSINESS

Note: Additional work will be required for graduate credit in 400 -level courses.
IB $491 \quad$ Special Topics in International Business 3
Prereq.: Senior standing or permission of instructor. Study of selected topics in international business presented by international scholars and executives. Topics will be announced in advance and will vary from semester to semester. May be repeated for a maximum of three credits. Irregular.

IB $511 \quad$ Contemporary Issues in International Business $\quad 3$
Prereq.: 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. Irregular. [c]

## INTERNATIONAL STUDIES

Note: Additional work will be required for graduate credit in 400 -level courses.
IS $450 \quad$ Internship in International Studies 3 Students will work under faculty supervision in an international environment related to their academic track or planned program. Written reports are required. On demand.

## IS 570 Modern World Issues

Examination of contemporary world problems such as population, underdevelopment, ecological degradation, war and diplomacy, and cultural extinction.

## IS 571 International Diversity and Integration

3
Study of the institutions and attitudes involved in international integration. Factors which influence this process such as ethnic and cultural diversity will be considered. Fall.

IS $590 \quad$ Graduate Field Study Abroad 3 or 6 Course taught abroad. May be repeated for a maximum of 6 credits.

IS 595 Special Project in International Studies 3
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 advisor. 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 Studies 3
Prereq.: Permission of instructor. Interdisciplinary seminar on one of the world's regions or countries. Aspects of its anthropology, economics, geography, history, government, politics, and sociology will be considered in a synthetic approach.

IS $598 \quad$ Research in International Studies 3
Prereq.: Permission of advisor. 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 3
Preparation of the thesis under supervision of the thesis advisor.

## ITALIAN

Note: Additional work will be required for graduate credit in 400 -level courses.
ITAL 441 Advanced Oral Practice 3
Prereq.: Permission of instructor. 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 14th-Century Italian Literature
Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Study of the period with special emphasis on Dante, Petrarch, Boccaccio. On demand.

ITAL 476 16th-Century Italian Literature 3
Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Major works of Italian renaissance. On demand.

ITAL 488 Italian Life and Culture 3
Prereq.: Permission of instructor. Discussion of contemporary Italian society, traditions, 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 topics 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. Irregular.
ITAL 588 Topics in Italian Cultural Studies
Prereq.: Permission of instructor. Taught in Italian. Selected topics in Italian cultural history, media studies, social and demographic changes, gender issues, and film analysis. May be repeated for a maximum of nine credits. Irregular.

ITAL 599 Thesis
3
Prereq.: Fifteen credits of approved graduate study and permission of graduate advisor. Preparation of thesis under the supervision of thesis advisor. On demand.

## LAW

Note: Additional work will be required for graduate credit in 400 -level courses.
LAW 400 Advanced Business Law
Prereq.: LAW 250. Advanced legal principles pertaining to commercial transactions and business organizations. Topics include contracts, sales, negotiable instruments, partnerships and corporations, accountant's legal liability, and bankruptcy.

LAW 522 Legal Aspects of Business and Industrial Organizations 3 Prereq.: 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. Irregular. LAW 584 Global Business Environment 3 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. Irregular.

## LINGUISTICS

Note: Additional work will be required for graduate credit in 400 -level courses.
LING 400 Linguistic Analysis
Previously ENG 400. Intensive analysis (syntactic, morphological, phonological) of selected data from English and other languages. Particular emphasis on developing analytical skills.

LING 430 Studies in Linguistics and the English Language 3
Previously ENG 430. Selected topics in linguistics. Students may take this course under different topics for a maximum of 6 credits. Irregular.

LING 431 The History of the English Language 3
Previously ENG 431. History, growth, and structure of the English language. Irregular.

## LING 496 TESOL Methods

Previously ENG 496. Principles, methods, and materials for teaching English to non-English speaking students at all levels. Acquisition and practice of basic language teaching skills. Intercultural communication in the ESOL classroom. Fall.

LING 497 Second Language Acquisition
Previously ENG 497. Major theories of language acquisition and their potential application to language learning. The theoretical bases of second language instruction. Spring.

## LING 512 Modern Syntax <br> 3

Previously ENG 512. Concepts and formalisms in grammar. Problem solving in English syntax. Contemporary developments in syntactic theory. Spring.

LING 513 Modern Phonology 3
Previously ENG 513. Characteristics and organization of sound systems of languages. Special attention to the sound system of English and how it fits into universal patterns. Generative and post-generative phonologies. Spring.

LING 515 An Introduction to Sociolinguistics 3
Previously ENG 515. Examination of the interlocking nature of language and society, with particular emphasis on sociolinguistic theory and field work. Fall.

LING 533 Second Language Composition
Previously ENG 533. Psycholinguistics of writing in a second language.
Principles, methods, and materials for teaching writing to students of English as a second or foreign language. The second language writing curriculum. Spring.

LING 535 Second Language Testing 3
Previously ENG 535. Linguistic and academic assessment of non-native speakers of English. Determination of language dominance and proficiency of bilinguals. Preparation of language tests. Fall.

LING 596 TESOL Practicum
Prereq.: LING 496. Students will teach ESOL under supervision. Spring.
LING 598 Research in TESOL and Applied Linguistics 3
Covers research topics and methods in TESOL and applied linguistics. Fall.
LING 599 Thesis
3
Prereq.: Admission to the M.S. program in TESOL, a minimum of 15 credits of graduate coursework in TESOL and applied linguistics, and permission of department chair. Preparation of the thesis under supervision of the thesis advisor. On demand.

## MANAGEMENT

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

## MGT 403 Social Issues for Managers

Prereq.: MGT 295. Defines contemporary issues of corporate social responsibility and explores the impact of these issues on managerial decision-making behaviors. Emphasizes contemporary social issues that emerge in the external environment of business. Defines societal expectations of organizations regarding corporate social responsibility.

## MGT 425 Labor/Management Relations

Prereq.: MGT 295. Study of issues related to labor-management relations. Topics include collective bargaining, labor-management contracts, contract negotiation and administration, grievance handling, employee discipline, and related topics. Methods for measuring staffing-related criteria are included. Spring.

## MGT 426 Business Organizational Behavior <br> 3

Prereq.: MGT 295. A study of human behavior in organizations. Covers topics such as communication, decision making, team development, leadership, motivation, and productivity. Attention is given to behavioral science methods, research, and findings as applied to organizational management.

MGT 431 Compensation and Benefits
Prereq.: MGT 305, STAT 201. Study of compensation theory and practice.
Topics include types of compensation and benefits, job analysis, job evaluation, pay structures, wage surveys, pay-for- performance, and methods for administering compensation and benefits.

MGT 449 Strategic Management
Prereq.: MGT 295, FIN 295 and MKT 295. An examination of the top-level managerial process of strategic management including strategy formulation and implementation, and environmental and competitive analysis with special emphasis on methods of organizational development to effect change.

## MGT $460 \quad$ Staffing

3
Prereq.: MGT 305. Study of issues related to the staffing organizations. Topics include job analysis, human resource planning, recruitment, selection, equal employment opportunity, and related topics. Methods of measuring staffingrelated criteria are included. Spring.

MGT 462 International Human Resource Management
Prereq.: MGT 305 Study of human resource issues for multinational organizations. Topics include recruitment, selection, performance, training, career planning, compensation, labor relations, and related topics for expatriates and multicultural workforces. Fall.

MGT $470 \quad$ 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.

MGT 472 Development 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.

MGT 473 Organizing and Managing for Innovation
Prereq.: MGT 345 and 348; or permission of instructor. Explores contemporary approaches for releasing employee, supplier and customer creativity to constantly innovate what and how an organization produces its products and services. Irregular.

MGT 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. Irregular.

## MGT 494 Entrepreneurship

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

## MGT 496 Practicum in Management and Organization

3
Prereq.: Permission of instructor and meet criteria dependent upon nature of the specific project(s) and permission of the chair of the Management and Organization Department. Students work on a real-world project under the direct supervision of a faculty advisor. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved project plan. May be taken for a maximum of 6 credits. On demand.

## MGT 498 Management Seminar 3

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.

## 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 <br> 3

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. Irregular.

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. Irregular.

MGT $555 \quad$ Management Systems and Operations 3 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. Irregular. [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. Irregular.

MGT 581 Production-Distribution Processes
3
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. Irregular.

## 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. Irregular.

MGT 583 Organizational Leadership 3
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. Irregular.

## MANAGEMENT INFORMATION SYSTEMS

Note: Additional work will be required for graduate credit in 400 -level courses.
MIS $400 \quad$ Business Decision Analysis Using Knowledge Bases 3 Prereq.: MIS 220 or 305 , or permission of instructor. 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 3 Prereq.: MIS 220 and 305, or permission of instructor. Impact of distributed systems on the business enterprise emphasized. Features of centralized, decentralized, and distributed systems; and technology implications as they relate to analysis, design, and development of distributed processing systems will be examined. [c]

MIS 415 Database Program Development
Prereq.: MIS 220 and 305, or permission of instructor. Introduction to application program development in a database environment with an emphasis on loading, modifying, and querying the database. Discussion of storage devices, data administration, and data analysis. Design and implementation of a major database project. [c]

MIS $450 \quad$ Enterprise Strategies and Transformations
Prereq.: Senior standing. Organizational transformations are critical for continued market success in an increasingly complex and dynamic global environment. Emphasizes integrative strategies spanning all business functions which are needed by evolving and established enterprises.

MIS 460 Emerging Technologies for Business
Prereq.: Senior standing. Analysis of current topics and developments in emerging technologies. Application of these technologies to support decision-making in enterprises. Design of alternate information systems and strategies. May be repeated under a different topic to a maximum of 6 credits. Irregular. [c]

MIS $461 \quad$ Structured Systems Analysis and Design in MIS 3
Prereq.: Completion of all other MIS core courses or permission of MIS chair. Capstone experience within MIS. Development of business application systems using structured and object-oriented analysis and design. Use and evaluation of modeling techniques and CASE tools. Includes information systems architecture, enterprise modeling, project management, and ethical issues. [c]

MIS 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 advisor. 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 $501 \quad$ Foundations of MIS

3
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 advantage 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

3
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 3
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. Irregular. [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.
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.

## MANUFACTURING TECHNOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
MFG 436 Advanced Computer Numerical Control 3
Previously TC 436. Prereq.: MFG 416 or permission of instructor. Investigation of advanced CNC programming and machining. Laboratory experiences include MacroB and parametric word address programming, 3-D and multi-axis CAM programming, and part machining using CNC mills, lathes, and wire EDM machine tools. Spring. [c]

## MARKETING

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

## MKT 413 Business 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 or permission of instructor. 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 rela-
tions, marketing, and management via case and/or site studies. The course will involve fieldwork and classroom seminar sessions.

## MKT 450 Competitive Strategy

Prereq.: Senior standing and AC 212, FIN 295, MGT 95, MIS 201, MKT 423; or permission of instructor. Achieving and sustaining competitive advantage in a complex, dynamic environment. Case studies, simulated scenarios and/or real world projects are assigned to demonstrate how business functions are integrated in making strategic marketing decisions. [c]

MKT 460 Export Marketing
Prereq.: MKT 295, 321 and senior standing or permission of instructor.
Opportunities, constraints, and complexities in the strategy of marketing products and services in overseas markets. Marketing activities and institutions that are unique to export marketing.

MKT 470 Marketing Communications Campaigns
Prereq.: MKT 306 or permission of graduate advisor. Applications of marketing communication theory. Students learn how an organization integrates its promotion mix elements to present a unified message, and then create a strategic promotion plan for a "real" client. On demand.

MKT 480 Marketing for Non-Profit Organizations
Prereq.: MKT 295. 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 Environment

Prereq.: Admission to MBA program or permission of MBA director. Determining the market potential of nations and regions for market planning and decision making. Research and analysis toward formulating entry, development and expansion strategies.

MKT 572 Marketing Management and Strategy
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. Irregular. [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. Irregular.

## 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 3
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. Fall.

MFT 544 Families in Context: Gender and Cultural Dimensions 3 Prereq.: MFT 541. Integral principles of human organization that influence family growth and development. Students gain an understanding of ethnicity and gender from a systemic framework. Fall.

MFT $551 \quad$ Structural/Strategic and Behavioral Family Therapies 3 Prereq.: 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. Spring.

MFT 552 Experiential, Intergenerational and Psychodynamic Family Therapies
Prereq.: MFT 551. Assessment and interventions from Experiential, Intergenerational, and Psychodynamic schools of family therapy are explored. Students learn diagnostics and treatment of human dilemmas and symptomatology from these schools of therapy. Fall.

## MFT 554 Couples Therapy

3
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. Fall.

## 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. Spring.

## 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. Spring.

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. Spring.

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. Fall.

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. Spring.

MFT $585 \quad$ Marriage and Family Therapy Internship 3 to 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 421 History of Mathematics

3
Prereq.: MATH 221 or 305 . Development of mathematics is traced from arithmetic of commerce, astronomy, geometry, and trigonometry in Babylonia,
Egypt, Greece, and Rome to the later accomplishments in algebra, geometry, and calculus. Spring. (O)

MATH 440 Selected Topics in Mathematics 1 to 3
Prereq.: Permission of instructor. Selected topics in mathematics covering specialized areas not covered in regular offerings or that go beyond that provided for in the standard curriculum. May be repeated with different topics for a maximum of 6 credits. Spring. (E)

MATH 446 Introduction to Computers and Computer Programming 3 Prereq.: MATH 121 or 125 or 441 or equivalent. Introductory course for those students with a limited mathematics background who desire a basic understanding of a computer, how it relates to everyday life and how to communicate with it. Topics include computer components, computer usage, programming, and the computer's impact on the many facets of our society. No credit given to mathemat-
ics majors or minors (except Elementary minors) or to students with credit for MATH 221, 471 or CS 151. Can be used to meet the requirements for a major or minor in mathematics only for students seeking elementary, early childhood, middle level, or special education certification. Not recommended for use in meeting certification requirements for secondary school mathematics. Spring. [c]

MATH 449 Mathematics Laboratory for Elementary School 3 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. Can be used to meet the requirements for a major or minor in mathematics only for students seeking elementary, early childhood, middle level, or special education certification. Not recommended for use in meeting requirements for secondary school mathematics. Summer.

## MATH 463 Introduction to Differential Equations

Prereq.: MATH 221. Methods of solution of ordinary differential equations, including the Laplace Transform. Some elementary applications in geometry, physics and chemistry. Fall. (O)

MATH 468 Symbolic Logic
Prereq.: MATH 366 or equivalent. Introduction to truth, validity and argument. Methods of deduction, propositional functions and quantifiers, logic of relations, deductive systems, and propositional calculus. Spring. (E)

MATH 469 Number Theory
Prereq.: MATH 366 or equivalent. Elementary theory of numbers. Divisibility, prime numbers, Fundamental Theorem of Arithmetic, congruences,
Diophantine equations, quadratic residues and continued fractions are among topics considered. Fall. (O)

MATH 470 Mathematical Methods in Operations Research Prereq.: STAT 200 or 215 or 315 , and MATH 110 or 228 . Selected topics chosen from the areas of linear programming, decision analysis, and network analysis. Spring. (O)

MATH 471 Computer Programming
3
Prereq.: MATH 221. Introduction to computer programming, with emphasis on the analysis of classes problems, the design of algorithms for solving them, and the use of computer language for implementation. No credit given to students with credit for CS 151. [c]

MATH 472 Computer Systems Organization
Prereq.: MATH 471 or CS 151, and MATH 221. Course introduces concepts of assembler language, machine language, macro-instructions, subroutines, program check out, structure of assemblers, use of an operating system. Oriented toward mathematics. No credit given to students with credit for CS 254. [c]

MATH 473 Applied Algebra
3
Prereq.: MATH 228 and 366. Applications of abstract and linear algebra to the areas of statistics, computer science, actuarial science and applied mathematics. Spring. (O)

MATH 477 Numerical Analysis
Prereq.: MATH 221, and MATH 471 or CS 151. Selected topics including difference operators, iterative methods of finding zeros of functions, interpolation and polynomial approximation, numerical integration and differentiation, matrices, and systems of linear equations. Fall. (E) [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. Spring. (E) [c]

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. Fall. (E)

MATH 504 Topics in Mathematics 1 to 3 Previously MATH 404. Prereq.: Permission of instructor. Topics in mathematics appropriate for in-service and pre-service graduate certification students which are not covered in regular course offerings. May be repeated for under different topics for a maximum of 6 credits. Irregular.

MATH 506 Teaching Number Concepts in the Elementary Grades 3 Prereq.: Admission to M.S. in mathematics for certified elementary teachers. NCTM Standards-based instructional practices that promote the development of number sense; operations with whole numbers, decimal numbers and common fractions; problem solving; and graphical representations in the elementary grades. Fall (O).

## MATH 507 Teaching Geometry and Measurement in the

 Elementary GradesPrereq.: Admission to M.S. in Mathematics for certified elementary teachers. NCTM Standards-based instructional practices that promote understanding of key concepts in geometry and measurement in the elementary grades. Fall (E).

MATH 508 Teaching Probability and Statistics in the Elementary Grades
Prereq.: Admission to M.S. in Mathematics for certified elementary teachers. NCTM Standards-based instructional practices that promote understanding of key concepts in probability and statistics in the elementary grades. Spring (O).

MATH 509 Teaching Algebraic Thinking in the Elementary Grades 3 Prereq.: Admission to M.S. in Mathematics for certified elementary teachers. NCTM Standards-based instructional practices that promote algebraic thinking in the elementary grades. Spring (E).

## 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. Fall. (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. Spring. (E)

MATH 519 Principles of Real Analysis I
Prereq.: MATH 221 and 366. Previously MATH 495. Introduction to functions of a real variable and their properties. Rigorous study of the real number system, topological properties of the real line, Cauchy sequences, limit and continuity properties of a real variable, metric spaces. Fall. (O).

MATH 520 Principles of Real Analysis II
Prereq.: MATH 519. Topics include Riemann-Stieltjes integrals, functions of bounded variation, sequences and series of real numbers, power series. Spring. (O)

MATH 523 General Topology
Prereq.: MATH 221 and 366. Previously MATH 483. Rigorous study of pointset topology. Topics include set theory, definition and basic properties of topological spaces, continuous functions, and homeomorphisms. Fall. (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. Fall. (E)

MATH 526 Complex Variables
Prereq.: MATH 221. Previously MATH 486. An introduction to the theory of functions of a complex variable. Topics include the field of complex numbers, complex analytic functions, elementary functions and their mapping properties, integration theory, and power series expansion of analytic functions. Spring. (E).

MATH 531 Basic Concepts of Elementary School Mathematics 3 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. Open only to postbaccalaureate certification students. Fall.

## MATH 534 Techniques in Diagnosis and Remediation for the Teaching of Mathematics - K-12

Prereq.: MATH 412, 414 or MATH 327 and student teaching. Previously MATH 431. 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 under-achiever, and case studies.

MATH 536 Teaching Number Concepts in the Middle Grades
Prereq.: Admission to M.S. in Mathematics for certified elementary teachers. NCTM Standards-based instructional practices that promote the development of number sense; operations with whole numbers, rational numbers and integers; problem solving; and graphical representations in the middle grades. Fall (O).

## MATH 537 Teaching Geometry and Measurement in the Middle Grades

Prereq.: Admission to M.S. in Mathematics for certified elementary teachers. NCTM Standards-based instructional practices that promote understanding of key concepts in geometry and measurement in the middle grades. Fall. (E)

MATH 538 Teaching Probability and Statistics in the Middle Grades 3 Prereq.: Admission to M.S. in mathematics for certified elementary school teachers. NCTM Standards-based instructional practices that promote understanding of key concepts in probability and statistics in the middle grades. Spring (O).

MATH 539 Teaching Algebraic Thinking in the Middle Grades Prereq.: Admission to M.S. in mathematics for elementary school teachers. NCTM Standards-based instructional practices that promote algebraic thinking in the middle grades. Spring (E).

MATH 540 Curriculum Problems in School Mathematics 3
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. Spring. (E)

MATH 543 Secondary School Algebra with Technology from Advanced Viewpoint
Intended for in-service secondary school teachers and pre-service graduate certification students. Major objective is to broaden and deepen teacher's knowledge of the algebra topics encountered in secondary schools with particular emphasis on topics new to the curriculum and the uses of technology in teaching them. Opportunities will be provided to discuss the NCTM standards and their implications for teachers. Summer.

## MATH 544 Secondary School Geometry with Technology

 from an Advanced ViewpointPrereq.: Admission to graduate certification or Master of Science Program. For inservice mathematics teachers and graduate certification students in mathematics. Major objective is to expand teachers' knowledge of new topics and technology for teaching geometry. NCTM standards for geometry will be included. Summer.

MATH 547 Reflective Practice in Teaching Mathematics 3 Designed to help in-service teachers develop as reflective practitioners through the use of lesson logs, narrative commentary, analysis of videotaped lessons, and examination of student work. Emphasis on relating instruction to the big ideas of mathematics, designing appropriate assessments, and determining meaningful feedback for students. Particularly helpful to beginning teachers who will be compiling their BEST portfolios. Open only to certified in-service teachers of mathematics, grades 7-12. Fall.

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 topics to a maximum of 6 credits. Irregular.

## 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 advisor and supervised by a faculty member. Requirements include preparation and oral presentation of a paper on the topic. Irregular.

MATH 598 Research in Mathematics Education
Prereq.: STAT 453 and permission of advisor. 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. Spring.

MATH 599 Thesis
3 or 6
Prereq.: Permission of the advisor. Preparation of thesis under guidance of thesis advisor for students completing master's requirements under M.S. and M.A. Plan A.

## MODERN LANGUAGES

Note: Additional work will be required for graduate credit in 400 -level courses.
ML 400 Topics in Modern Languages
3
Prereq.: Permission of instructor. Literary and language topics taught in the target language. May be repeated with different topics for maximum of 6 credits. On demand.

ML 420 Internship in Foreign Languages
1 to 3
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 Methods and Materials for Teaching World Languages
Prereq.: B.S. Major in target language or State language teacher certification. Participants will link the rationale, history, and theoretical foundations of elementary world language instruction to teaching and learning, and construct and adapt models for curriculum planning, program implementation articulation, and assessment. Participants will explore contemporary methodologies, lessons, activities resources, and address issues and concerns that apply to the elementary school level. Fall. Summer.

ML 429 Seminar in Modern Language Teaching Methods
Prereq.: Matriculation in graduate certification program, admission to the Professional Program in teacher education, permission of department, and permission of the Director of the Office of Field Experiences. Discussion and practice of the historical, theoretical and contemporary issues, and selected topics related to the teaching of modern languages at the secondary level. Fall.

ML $440 \quad$ Student Teaching Seminar in Modern Languages 1
Prereq.: Admission to the Professional Program in teacher education. Discussion, critical thinking and problem solving techniques with applications in the foreign language classroom. Taken concurrently with EDSC 435. Spring.

ML 490 Teaching World Languages II: Acquisition in Young Children for Teachers of World Languages
Prereq.: BS degree in targer language or State language teacher certification.
Participants will learn about research in the first and second language acquisition of world languages and discuss and apply implications of research findings (including brain research theory) for teaching and learning of world languages. Not open to TESOL students. Summer.

ML 492 Topics in Language Teaching
1 to 3
Prereq.: ML 429. Special aspects of language teaching, such as creative uses of the language laboratory and other special aids, individualizing language instruction, teaching of literature and culture in the schools, will be emphasized. Topics may vary from section to section. Course may be repeated, with different topics, for up to 6 credits. Irregular.

ML 496 Independent Study in Modern Languages
3
Prereq.: Permission of instructor. Independent work in language, culture, and literature, to meet individual interest in topics not covered in the regular curriculum. Work done under the supervision of a faculty member. On demand.

ML $550 \quad$ Intensive Studies in Modern Languages 3 Special Conditions: Admission to the Summer Institute of the target language. Intensive study of the language, culture, and society of specific areas where the target language is spoken. Designated for teachers of the target language, it
includes a technology component. May be repeated with different topics for up to 9 credits. Summer.

## ML 598 Research in Modern Languages

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. Fall. (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 $400 \quad$ Project in Music 1 to 4
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 advisor.

## MUS 401 Topics in Music <br> 1 to 3

Prereq.: Permission of instructor. This course can be taken for the American Studies program. Selected topics in music to include specialized areas not covered in regular course offerings. May be repeated with different topics for up to 6 credits. Irregular.

MUS 403 Topics in History of Music Genres
Prereq.: Permission of instructor. Study of a particular music genre through selected stylistic periods. On demand.

## MUS 404 Topics in Performance

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 <br> 3

Prereq.: Permission of instructor. Historical and analytical study of selected composers and their works. On demand.

MUS $470 \quad$ Musical Structure and Style
3
Prereq.: Four semesters of undergraduate music theory or demonstrated proficiency on the Music Theory Placement Examination. Survey of the principles of music theory through analysis of representative forms from various style periods. Emphasis on aural awareness through melodic and harmonic dictation. Irregular.

MUS $500 \quad$ Project in Music 3
Prereq.: Permission of the instructor. Individual study in an area of the student's choice with the consultation of an advisor; may include written project, performance, or composition. Irregular.

## MUS 501 Topics in Music 1 to 3

 Prereq.: Permission of the instructor. Selected topics in music covering specialized areas not covered in regular course offerings. Open only to students with an undergraduate degree in music or with special permission of the department chair. May be repeated with different topics up to 6 credits. Irregular.MUS 502 Topics in Music Education
1 to 3
In-service experience designed to meet specific needs of public school music teachers. May be repeated with different topics for a maximum of 6 credits. Summer.

MUS 503 Topics in Instrumental Music Education 2 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. Summer.

## MUS 504 Principles and Foundations of Music Education

Prereq.: Admission to the Masters of Science in Music Education. The study of the school music program from a historical, philosophical, and psychological basis. Special emphasis on current research in pedagogy and trends in aesthetic education. Fall.

MUS 505 Topics in Pedagogy and Curriculum 1 to 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. Summer.

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. Summer.

## MUS 507 Topics in Conducting

2
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. Summer.

## MUS 508 Topics in Choral Literature <br> 2

Selected choral literature and rehearsal techniques for specific choral ensembles, including elementary, middle, high school, and community choirs. May be repeated with different topics for a maximum of 6 credits. Summer.

MUS 509 Comparative Music Studies 3
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. Irregular.

MUS 510 Current Issues in Music Education
Prereq.: Admission to M.S. in Music Education; MUS 504 or permission of chair. 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. Spring. [c]

MUS 511 Topics in String Literature 2
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. Summer.

MUS 512 Topics in String Pedagogy 2
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. Summer.

MUS 515 Topics in Digital Synthesizer Techniques
2
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. Summer.

## 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. Summer.

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. Summer. [c]

MUS 540 Ensemble
1
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 3

 Foundations and principles of the Orff Schulwerk process for teaching music to children; includes training in recorder pedagogy, ostination, bordun and canon. Summer.MUS 552 Folk Dance and Movement Across the Curriculum 2 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. Summer.

MUS 556 Orff Schulwerk Teacher Training Course Level II 3 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. Summer.

MUS 557 Topics in General Music Education 2
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. Summer.

MUS 559 Topics in High School Music Curriculum 2
Prereq.: MUS 315 or 316 or equivalent. Study of selected non-performance curricula for the secondary music teacher. May be repeated with different topics for a maximum of 6 credits. Summer.

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. Summer.

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. Summer.

MUS 570 Topics in Vocal Techniques
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. Summer.

MUS 572 Topics in Literature for Bands
Prereq.: MUS 316. Study of selected instrumental literature for specific instrumental ensembles, including elementary, middle, and high school bands, and wind and jazz ensembles. May be repeated with different topics for a maximum of 6 credits. Summer.

MUS 574 Topics in Assessment and Evaluation
Study of various methods and evaluation as related to student, teacher, and program assessment. May be repeated with different topics for a maximum of 6 credits. Summer.

MUS 575 Topics in Band
Prereq.: Graduate standing. Study of selected aspects of the public school band program. May be repeated for a maximum of 6 credits with different content. Summer.

MUS 577 Secondary Applied Music 1
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 than once for credit. Fee: $\$ 400$ (subject to change).

MUS 579 Topics in Improvisation
Study of function and usage in specialized areas of improvisation. Development of basic skills in such realms as jazz, classical, and world music. May be repeated with different topics for a maximum of 6 credits. Summer.

## MUS 590 Symphony Orchestra

1
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. Fall.

MUS $591 \quad$ Chorus 1
Prereq.: Permission of instructor. Representative chorus works from the great composers will be rehearsed and performed. No more than a total of 3 credits from MUS 590, 591, and 592 may be taken for credit towards the degree.

MUS 592 Marching Band-Wind Ensemble 1 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

Permission of advisor 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 M.S. in Music Education; MUS 504 or permission of chair. Study of research methods used in music education and the primary sources needed to conduct these types of research. Irregular.

## MUS 599 Thesis

Prereq.: Permission of graduate advisor. Preparation of the thesis under the supervision of the thesis advisor.

## NURSING

Note: Additional work will be required for graduate credit in 400 -level courses.
NRSE 498 Special Studies in Nursing
Prereq.: Permission of instructor. Individualized plan to aid the learner in attainment of professional goals. Plan may consist of directed study of reading, clinical experience, individual instruction, research, or other appropriate activities.

## PHILOSOPHY

Note: Additional work will be required for graduate credit in 400 -level courses.
$\begin{array}{llll}\text { PHIL } 440 \quad \text { Project in Applied Ethics } \\ \text { Prereq. PHIL } & 20,346 \text { and } 6 \text { credits from PHIL 144, 222, 240, 241, 242, 349, }\end{array}$
Prereq.: PHIL 220, 346 and 6 credits from PHIL 144, 222, 240, 241, 242, 349,
HHSP 246, 341, 342. Research in applied echics. May include a practicum. Spring.
PHIL 492 Independent Study
1 to 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 Physical Education 3 Prereq.: Admission into the Professional Program in Teacher Education. Administrative procedures involved in conducting physical education activities, arranging programs, providing facilities and handling staff-class details, finance, publicity, interscholastic, and intramural activities. Fall.

## PE 405 Elementary Methods in Physical Education

Prereq.: PE 272, and PE 300 and admission to the Professional 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 offcampus practicum is included. Open only to physical education majors.

PE 406 Adapted Physical Education 3 Prereq.: PE 214 (C- or higher), 272, 305. Pedagogical skills and knowledge pertaining to physical education for individuals with disabilities and gifted and talented individuals. Emphasis on program planning and teaching effectiveness in the psychomotor domain. Fall.

PE 410 Exercise Physiology
Prereq.: PE 214 (C- or higher) or permission of chair. Physiological factors which affect human performance in physical education and athletics. Acute and chronic effects of exercise on the respiratory, circulatory, and muscular systems. Required laboratory class taken in conjunction with lecture to give students the opportunity to gain knowledge of basic scientific and field tests in exercise physiology. Open to physical education, exercise science, and athletic training students only.

PE $411 \quad$ Organization and Management of Health Promotion Programs
Prereq.: Admission to the Professional Program in Exercise Science or graduate status. Management procedures involved in conducting health fitness activities and program implementation. Emphasis on facilities, budgeting, legal liability, and risk management. Spring.

PE 415 Fitness Assessment and Exercise Prescription 3 Prereq.: PE 307, 410, STAT 104 and admission to the Professional Program in Exercise Science 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. Open to exercise science and athletic training students only.

PE $420 \quad$ Perceptual and Motor Development
Prereq.: PE 300, and admission to the Professional Program in Teacher Education or graduate status. Surveys the information concerning motor learning for the young learner. Emphasis upon perceptual-motor learning and development of task analysis. Fall.

PE 422 Motor Learning
Prereq.: PE 420, and admission to the Professional Program in Teacher Education or graduate status. Examines the principles of motor learning which affect skill acquisition of secondary and post-secondary school learners. Spring. (O)

PE 425 Implementation and Evaluation of Health Promotion Programs

3
Prereq.: PE 307, 410, STAT 104 and admission to the Professional Program in Exercise Science or graduate status. The development and implementation of health/fitness programs in schools, business, and community agencies. Organization and administration of health/fitness programs including the key components of exercise, weight control, nutrition, stress management, and lowback pain. Open to exercise science and athletic training students only. Fall.

PE 445 Internship in Athletic Training 6
Prereq.: PE 319, 440 and admission to the Professional Program in Athletic Training. Students also must have State of Connecticut EMT-B Certification. Internship under the direct supervision of a certified athletic trainer. May occur in a sports medicine, public or preparatory school, or college/university setting. May require weekends, unusual hours, and holidays.

PE $450 \quad$ Practicum in Exercise Science
Prereq.: PE 375 (C- or higher), 415, 425, CS 115 and admission to the Professional Program in Exercise Science 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 and Health Promotion
Prereq.: PE 450 and admission to the degree program in Physical Education or graduate status. Full semester off-campus practical experience in a health and fitness program. Topics include wellness/health promotion, corporate fitness, YMCA, strength and conditioning, sports medicine, and cardiac rehabilitation. Enhances professional preparation by offering opportunities to apply fundamental concepts in a work setting.

PE 490 Independent Study in Physical Education
1 to 3
Prereq.: Senior or graduate standing and permission of department chair. Reading and research in approved topics under the guidance of a member of the department. May be repeated for a total of 3 credits.

PE 500 Improving Student Learning in Physical Education 3 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. Spring. (E)

PE 507 Human Perspective in Sport
Prereq.: Admission to MS in Physical Education. Inquiry into the nature and expression of humans in sport. Topics include: The issues of competition and winning, amateurism vs. professionalism, values of sport, causes and results of spectator behaviors. Spring (O).

PE 515 Sport, Physical Activity, and Exercise Psychology 3
Identifies principles and guidelines that professionals use to help adults and children participate in and benefit from sport and exercise activities. Spring (E).

PE 519 Sport Biomechanics
3
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. Fall. (O)

PE $520 \quad$ 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. Spring. (O)

PE $522 \quad$ 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. Spring (O).

PE 523 Theories of High Level Performance in Sport 3 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. Summer. (E)

PE 524 Sport, Physical Education, Athletics, and the Law 3 The varied aspects and impact of law in professional sport, physical education, and athletics. Emphasis on negligence, product liability, and risk management. Fall (E).

PE 525 The Regulation of Intercollegiate and Interscholastic Athletics
Prereq.: Admission to MS in Physical Education. Examination of the control of both intercollegiate and interscholastic athletics, with specific reference to institutional governance, ethical conduct, amateurism, recruitment, and eligibility. Consideration of policies and procedures of National Collegiate Athletic Association, the National Association of Intercollegiate Athletics, the National Federation of State High School Athletic Associations and state affiliates. Fall (O).

PE 530 Nutrition for Health, Fitness, and Sport Performance
3
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. Summer. (O)

PE 592 Advanced Physiology of Sport and Exercise 3
Prereq.: Permission of instructor. Using exercise physiology as a basis, examination of acute and chronic adaptations of the body to high physiological demands of physical activity and sport. Topics covered include the physiology of the skeletal, muscle, cardiorespiratory, endocrine and renal systems. Fall. (E)

PE 598 Research in Physical Education 3
Prereq.: Permission of the advisor. Designed to familiarize students with techniques and resources associated with research in their specialization. Opportunity for practical application will be provided. Fall.

PE 599
Thesis
3
Prereq.: 15 credits of approved graduate study including PE 598. Preparation of the thesis under the supervision of the thesis advisor.

## 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. Irregular.

PHYS 425 Modern Physics
3
Prereq.: PHYS 305. Special theory of relativity; quantum aspects of matter and of electromagnetic radiation, Bohr model, nuclear structure, radioactivity. Irregular.

## PHYS 450 Advanced Laboratory

1
Prereq.: PHYS 331, 425. A study of the 400 kv Van de Graaf accelerator, particle detection electronics, and a study of induced nuclear reactions. One three-hour laboratory per week. Irregular.

## PHYS 452 Independent Study in Physics

Prereq.: Approved plan of study by arrangement with supervising instructor and approval of department chair. Special work in laboratory or theory to meet individual requirements in areas not covered by regular curriculum. May be taken more than one semester up to a limit of 4 credits.

## PHYS 460 Seminar in Physics

1
Prereq.: Senior standing. Through individual readings, discussions, and presentations, students will study contemporary topics in various fields of physics. Capstone requirement for all physics majors in the B.A. and B.S. non-teaching programs. Hours by arrangement. Spring.

PHYS 470 Quantum Mechanics
Prereq.: PHYS 425. Limits of classical physics, wave packets and uncertainty, Schrodinger wave equation, eigafunctions and eigervalues, one-dimensional potentials, wave mechanics, operator methods. Irregular.

PHYS $471 \quad$ Quantum Mechanics II
Prereq.: PHYS 470. Three-dimensional Schrodinger equation, angular momentum, radial equation, hydrogen atom, operator matrices and spin, addition of angular momentum, plus additional topics to be chosen by instructor. Irregular.

PHYS 490 Topics in Physics
3
Selected studies in physics which are not offered presently in the curriculum of the department. Course may be repeated for different topics. No topic may be taken for credit more than once. Irregular.

## PHYS 505 Mathematical Physics

Prereq.: Undergraduate physics minor; MATH 222. Introduction to basic mathematical methods of theoretical physics, such as linear algebra (matrices), vector analysis, partial differential equations, orthogonal functions, and complex variables presented with physical illustrations. Fall.

PHYS 519 Advanced Topics in Physics
Prereq.: Permission of instructor and student's advisor. Combination of lecture, discussion, and laboratory work. May be repeated with different topics for a maximum of six credits. Irregular.

PHYS 598 Research in Physics
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 3
Prereq.: PHYS 598 and permission of the advisor. Preparation of the thesis under the supervision of the thesis advisor.

## POLITICAL SCIENCE

Note: Additional work will be required for graduate credit in 400 -level courses.
PS $420 \quad$ Government and Politics of Latin America
Historical, social, economic, and ideological factors impacting contemporary government and politics in Latin America. Spring. (O)

PS 421 Government and Politics of Africa 3
Historical, social, economic, and ideological factors impacting contemporary government and politics in Africa. Spring. (O)

## PS 425 Asian Politics

3
Prereq.: PS 104. Examination of the government and politics of East and South Asia with major focus on Japan, China, and India. Emphasis on historical and cultural forces shaping politics, Western impact on Asia, and cross-national comparisons. Spring.

## PS 430 The American Presidency 3

Prereq.: PS 104, 110 or permission of instructor. This course can be taken for the American Studies program. 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. Spring.

## PS 431 The Legislative Process

3
Prereq.: PS 104, 110 or permission of instructor. This course can be taken for the American Studies program. Structure, behavior, and operation of U.S. Congress. Comparison with state legislatures. Interrelationships with executive and judicial branches. Problems of popular representation. Attention to the budgetary process, lobbying, and campaign financing. Irregular. Spring. (O)

PS 432 Urban Politics and Government
This course can be taken for the Urban Studies program. Prereq.: PS 104 or 110 or permission of instructor (non-Political Science introductory courses may be substituted with permission of instructor). Selected urban conditions and problems such as housing, racial relations, power structure, intergovernmental relations, partisan politics, group behavior, forms of government, politics of planning, regionalism, economic development, transportation, and communication. Field research projects. Fall. (O)

PS 433 20th-Century Political Thought
Contemporary approaches to political theory, such as socialism, conservatism,
Contemporary approaches to political theory, such as socialism, conservatism, liberalism, and group theory. Fall.

PS 434 Government and Politics of the Middle East and North Africa
Historical background, contemporary setting, political processes, and major problems of some of the countries of Middle East and North Africa. Spring.

PS 435 Russian and Eastern Europe 3
Government and politics of Russia and of selected Eastern European countries such as Poland, Hungary, Ukraine, and Yugoslavia. Irregular.

PS 439 U.S. Middle East Policy
3
Examination of the evolution of United States foreign policy towards the Middle East since W.W. II. Emphasis placed on the sources, determinants, and goals of United States policy and the challenges facing the United States in the region. Irregular.

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 260. Examination and analysis of budgeting as an administrative and political process, with attention to techniques and reform efforts.

PS 447 Administrative Law
Prereq.: PS 110. PS 331 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 490 Directed Readings in Political Science 3
Prereq.: Permission of instructor. Individual programs of study for students with special abilities or interests in political science. On demand.

PS 491
Advanced Studies in Political Science
1 to 6
Prereq.: Permission of instructor. Extensive study of selected problems in political science. On demand.

PS $492 \quad$ Policy Studies
Analysis and evaluation of specific policy issues at the state and national levels of government. Topics will vary from year to year. If topics differ, may be taken more than once. Irregular.

## PSYCHOLOGY

Note: Additional work will be required for graduate credit in $400-$ level courses.
PSY $430 \quad$ Psychology of Diversity 3
Prereq.: PSY 112 or permission of instructor. Review of psychological research and theories pertaining to the study of diversity. Implications for clinical work and community education will be discussed. Spring.

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. An introduction to the basic assumptions and theoretical approaches in the counseling process. Students wishing to become trained as counselors are advised to contact the Department of Health and Human Service Professions. Irregular.

PSY $450 \quad$ Biopsychology
3
Prereq.: Six credits in psychology or permission of instructor. Analysis of relationships between bodily processes and behavior.

PSY 451 Psychological Evaluation 3
Prereq.: Three courses in psychology. Principles and problems basic to construction, choice and use of psychological measuring instruments, and study of application to diagnosis. Special Condition: completion of additional project by graduate students. Fall.

PSY 454 Drugs and Behavior 3
Prereq.: PSY 112. Overview of the major classes of psychoactive drugs and their effect on the brain and behavior. Legal drugs, such as alcohol and caffeine, and illegal drugs are considered.

PSY 458 Human Neuropsychology
Prereq.: PSY 330 and 450, or permission of instructor. Relationship berween the brain and behavior is examined. Topics include disorders of speech and memory, common neurological disorders such as dementia and stroke, and alcohol-related disorders. Spring.

PSY 460
Behavior Modification: Theory and Practice
3
Prereq.: PSY 200 or permission of instructor. Application of learning principles to the modification of both normal and abnormal behavior. The settings for application include areas such as personal, social, and marriage counseling; individual and group psychotherapy; formal and informal education and re-education; personal, vocational, and correctional rehabilitation.

PSY $470 \quad$ Theories of Personality
3
Prereq.: Three courses in psychology. Nature of personality theory and critical analysis of major contemporary theories of personality, including empirical evidence relevant to these theories.

PSY 498 Topics in Psychology
3
Study of selected topics in psychology. Topics announced each semester. May be repeated with different topics for a total of 6 credits.

PSY 512 Seminar in Developmental Psychology
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

3
Prereq.: PSY 512 or equivalent or permission of instructor. Introduction to research and theories of learning with emphasis on implications for classroom procedures.

PSY $530 \quad$ Psychopathology
3
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. Spring.

PSY 541 Health Psychology
3
Prereq.: PSY 330 and 450, or permission of instructor. Examination of healthrelated behaviors, stress, risk factors and methods to improve well-being. Mindbody aspects of pain, addiction, and immune system disorders are discussed. Fall.

PSY 542 Psychology of Stress
Prereq.: PSY 541 or permission of instructor. Seminar on the biological, emotional, behavioral and cognitive effects of stress. Critical examination of stress theories and research methodology. Focus on factors that modify the relationship between stress and health outcomes (e.g., social support, optimism). Spring. (O)

PSY 543
Stress Management: Theory and Research
3
Prereq.: PSY 541 or permission of instructor. Introduction to the field of stress management and biofeedback. A general overview of current theory, research, and practice as well as ethics and the controversies in biofeedback, and other areas of health psychology. Spring (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. Fall.

PSY 546 Short-Term Psychotherapy and Health Care
3
Prereq.: PSY 330 or permission of instructor. Examination of American health care system and psychotherapy practice. Topics include description of short-term therapy models, ethics, diversity, and controversies. Fall.

PSY 550 Introduction to Community Psychology 3
Introduction to the history, central assumptions and methodologies of community psychology. Fall.

PSY 551 Primary Prevention
3
Prereq.: PSY 550. Intensive examination of the theoretical and empirical underpinnings of primary prevention programs in mental health. Spring.

PSY 553 Developing Prevention Programs 3
Prereq.: PSY 551 or permission of instructor. Development and operation of prevention/ empowerment strategies in institutional and/or community settings. Fall.

PSY 571 Psychology of Women's Health 3
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. Spring (E)

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. Irregular.

PSY 591 Advanced Independent Reading and Research in Psychology 3 Prereq.: Permission of instructor. Directed advanced independent studies in psychology. On demand.

PSY 595 Graduate Internship in Psychological Applications . 3 Prereq.: Permission of instructor. Supervised internship at an agency or institution that provides psychological services. Minimum of 120 hours per semester required. Evaluations will be conducted by faculty and field supervisors. 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. Fall. [c]

PSY 597 Psychological Research: Design and Analysis II 3 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. Spring. [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 advisor and Psychology Department chairperson. Spring. (O)

PSY 599 Thesis
Prereq.: 21 credits of graduate work. Students must consult with their advisor before registering for thesis credits. Preparation of the thesis under the supervision of the thesis advisor.

## READING

RDG 569 Folktelling Art and Technique
Prereq.: RDG 588 and admission to a master's program or sixth-year program. 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. Irregular.

RDG 578 Teaching Writing in the Elementary School
Prereq.: Admission to a master's program or sixth-year program. An integration of theories, practices, and techniques as related to teaching writing in the elementary schools. Students, in conjunction with the instructor, design lessons construct models, and collect children's writing efforts for their level.

RDG 579 Technology in Reading and Language Arts Instruction 3 Prereq.: Admission to a master's program or sixth-year program. Intersection of literacy learning and instruction with technology. Assists teachers in transforming technology to meet support and enhance literacy development of their students. Competencies in web-based, computer and multimedia-based reading and language arts instruction will be developed. Fall. (O) On demand.

RDG 585 Reading in Content Area
3
Prereq.: RDG 412 or 427 or 440 ; and admission to a master's program or sixth-year program. 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 3
Prereq.: RDG 315; and admission to a master's program or sixth-year program. 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. Fall.

RDG 587 Bibliotherapy
Prereq.: Admission to a master's program or sixth-year program. 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. Spring.

RDG 588 Teaching Children's Literature
Prereq.: Admission to a master's program or sixth-year program. 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 $589 \quad$ Creative Language Arts

Prereq.: RDG 412 and admission to a master's program or sixth-year program. 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 $590 \quad$ Current Trends in Developmental Reading K-12 3
Prereq.: RDG 412 or 414 or 427 or 440 ; and admission to a master's program or sixth-year program. Survey of current reading practices and materials in the schools. Emphasis on developmental reading from pre-school through high school and into the adult years.

RDG 591 Developmental Reading in Primary Grades
Prereq.: RDG 412 or 414 or 427 or 440 ; and admission to a master's program or sixth-year program. 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; and admission to a master's program or sixth-year program. 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. Spring.

RDG 593 Developmental Reading in Secondary Schools
Prereq.: Admission to a master's program, sixth-year program, or postbaccalaureate certification program. 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. Fall.

RDG 594 Diagnosis of Reading and Language Arts Difficulties 3 Prereq.: RDG 590 or 591 or 592; admission to master's program or sixth-year program or Advanced Certificate Program in Reading and Language Arts. 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 and Language Arts

Prereq.: RDG 594; admission to master's program or sixth-year program. 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 and Language Arts
Prereq.: RDG 595; admission to master's program or sixth-year program.
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 and Language Arts Research
Prereq.: 15 credits in graduate reading and language arts courses and admission to a master's program or sixth-year program in reading and language arts. Advanced studies in reading research as well as basic reading reading and language arts research studies are reviewed. Emphasis will be on the articulation between research findings and reading and language arts practices in schools. The significance of the findings of research will be studied through prescribed readings, written and oral reports, and seminar discussion. Spring.

RDG 667 Multicultural Literature in the Classroom
Prereq.: RDG 588 or ENG 491 or 492; and admission to a master's program, sixth-year program, or Ed.D. 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. Spring. (E)

## RDG 675 Reading and Writing as Integrated Process

Prereq.: RDG 412 or 589 ; and admission to a master's program, sixth-year program, or Ed.D. 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. Fall. (O)

RDG $680 \quad$ Current Trends and Issues in Reading and Language Arts 3 Prereq.: RDG 590 or 591 or 592; and admission to a master's program, sixthyear program, or Ed.D. 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. Fall.

RDG 686 Literacy Instruction for Diverse Populations II
Prereq.: RDG 586; RDG 667 and permission of instructor; and admission to a master's program, sixth-year program, or Ed.D. 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. Spring. (E)

RDG 692 Specialized Diagnosis and Remedial Techniques 3
Prereq.: RDG 594 and 595; and admission to a master's program, sixth-year program, or Ed.D. 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. Spring. (E)

## RDG 694 Organization, Administration, and Supervision

 of Reading Programs3
Prereq.: 15 credits of graduate study in Reading; and admission to a master's program, sixth-year program, or Ed.D. Study of patterns of organization, administration, evaluation, and supervision of various types of reading programs in schools. Fall. (E)

RDG 696 Practicum for Reading and Language Arts Consultants 6 Prereq.: RDG 596 and 694; and admission to a master's program or sixth-year program. 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

3
Prereq.: 24 credits of graduate study in Reading; and admission to a master's program, sixth-year program, or Ed.D. In-depth individual study of research pertaining to reading materials, programs, and methods. Research reports required.

## RDG 700 Seminar in Literacy

Prereq.: Admission to the Ed.D. program. Studies in literacy research are reviewed. Emphasis on the articulation between research findings and literacy curriculum and practices in schools. Significance of research findings is studied
through prescribed reading, written and oral reports and seminar discussions, culminating with an open hearing on a major research presented by the student. On demand. [c]

## RUSSIAN

Note: Additional work will be required for graduate credit in 400-level courses.
RUS 441 Advanced Oral Practice I
3
Prereq.: Permission of instructor. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. Fall. (O)

RUS 442 Advanced Oral Practice II 3
Prereq.: RUS 441 or permission of instructor. Further practice in oral selfexpression. Spring. (E)

## SCIENCE EDUCATION

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

SCI 420
History of Science
3
Prereq.: Three courses in science or mathematics, or permission of instructor. Historical development of biological and physical science, interdependence of various areas of science, and relations of scientific progress to society.

SCI 424
Teaching Middle Level Science
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 to 4
Prereq.: Approved plan of study by arrangement with the supervising instructor and approval of the 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 1 credit up to a limit of 4 credits. On demand.

SCI 453 Environmental Interpretation Internship
Prereq.: Prior completion of two field trips to environmental education facilities approved by advisory committee and senior standing. Responsible experiences in an environmental education facility. Before commencing the internship, a plan of the internship must be approved by the Advisory Committee on Environmental Interpretation.

## SCI 456 Teaching Science to Young Children

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. Irregular.

SCI $485 \quad$ Studies in Science
Prereq.: Permission of instructor. Selected studies in the sciences which are not offered presently in the curriculum of the science departments. Course may be repeated for different topics, but the student may not take this course for credit under the same topic more than once.

## SCI $500 \quad$ Science, Technology, and Society

Prereq.: Three courses in the natural sciences. Discussion of the nature and values of science and technology and their implications for society. Irregular.

## SCI 518 Teaching Science in the Out-of-Doors 3

Prereq.: Two science courses. Development of leadership skills and instructional techniques necessary for teaching science in the outdoor classroom. The methods and materials for developing and conducting an outdoor education program in science are discussed. Three hours a week; field studies are required. Fall. (O)
background of elementary school teacher of science; opportunity is provided through demonstrations and laboratory work to gain functional understanding of physical science concepts. Spring. (E)

SCI 530 The Earth Sciences 3

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. Spring. (O)

SCI 540 Teaching Biological Sciences in the Elementary School 3 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. Fall. (E)

SCI 555 Teaching of Science in the Elementary School
Prereq.: Permission of instructor or chair. Examination of science instruction and assessment strategies in line with the National Science Standards and the State of Connecticut Frameworks. Fall, Summer.

SCI 557 Elementary Science Instruction and Curriculum Development

3
Prereq.: 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. Summer.

SCI $570 \quad$ 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 $580 \quad$ 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. Irregular.

SCI 581 Independent Study
1 to 3
Prereq.: Acceptance into the Master of Natural Science: Science Education
Program. Work in laboratory, theory, or research to meet individual requirements in areas not covered by regular curriculum. One to three credits. May be taken more than once for a limit of 6 total credits. Requires approved plan of study by arrangement with the supervising instructor.

SCI $595 \quad$ Special Projects in Science Education
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. Spring. (E)

SCI $598 \quad$ Research in Science Education
Prereq.: 15 credits in the planned program of study for MS in Natural Sciences: Science Education, 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 preparation of a research paper. Spring (O).

SCI 599 Thesis (Science Education)
Prereq.: 21 credits of approved graduate study, and permission of advisor. Preparation of the thesis under the supervision of the thesis advisor.

SCI 520
The Physical Sciences
3
Study of basic physical and chemical phenomena with emphasis on materials suitable for use in the elementary grades. Course aims to broaden and deepen

## SIGN LANGUAGE

Note: Additional work will be required for graduate credit in 400 -level courses.
SL 420 Basic Manual Communication I 3
Previously SPED 420. An introduction to the Manual Alphabet and American Sign Language for the Deaf, designed to provide basic skill in non-verbal communication. Fall.

SL 421 Basic Manual Communication II
3
Prereq.: SL 420 or permission of instructor. Previously SPED 421. A continuation of the Manual Alphabet and American Sign Language for the Deaf, designed to provide further skill in non-verbal communication. Spring.

## SOCIAL SCIENCE

Note: Additional work will be required for graduate credit in 400 -level courses.
SSCI 421 Social Studies Student Teaching Seminar 1
Seminar during student teaching semester enabling students to share resources and ideas for upcoming lessons, difficulties, and successes, and discover how various schools and teachers approach the same issues. Must be taken concurrently with EDSC 435.

## SOCIAL WORK

Note: Additional work will be required for graduate credit in 400-level courses.
SW 433 Independent Studies in Social Work 3 Prereq.: Senior standing in the Social Work major and permission of the program director. Student must have a written study proposal approved by the program director prior to registering for this course. Readings and research in selected areas of social work. On demand.

SW 436 Health and Social Work
Prereq.: SW 226 and 227; or permission of the instructor. Examination of health issues such as cancer, AIDS, Alzheimer's, and other disabilities; prevention, treatment, and attitudes; policies and programs in both public and private sectors which impinge upon the lives of clients with health problems. Irregular.

## SW 437 <br> Child Welfare I <br> 3

Prereq.: SW 226 and 227; or permission of the instructor. Examination of the role of the social worker in meeting the needs and protecting the rights of children. Irregular.

SW 438 Child Welfare II 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. Irregular.

SW 441 Puerto Ricans in Transition: A Social Work Perspective 3 Prereq.: Permission of instructor. Overview of critical areas in understanding the Puerto Rican population on the island and in the U.S. Puerto Rican history, migration, demographic trends, culture, socio-political issues, family, and gender roles will be explored, in addition to health, education, employment and poverty. Micro/macro approaches to providing culturally relevant intervention. Irregular.

SW 442 The Social Consequences of Immigration 3
Prereq.: Permission of instructor. Explores the development of immigration policies, social service delivery structures, and practices that help social workers provide services to immigrants and refugees. Irregular.

SW $478 \quad$ Current Topics in Social Work 3
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. Irregular.

## SOCIOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
SOC 433 Independent Studies in Sociology 1 to 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 452 Organizations, Occupations, and Work
Prereq.: SOC 110 and 3 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. Spring.

## SPANISH

Note: Additional work will be required for graduate credit in 400-level courses.
SPAN 441 Cross-Cultural Communication 3
Prereq.: Permission of instructor. Open only to non-native speakers of Spanish. Development of fluency in oral expression. Speech analysis and phonetic theory to improve pronunciation and intonation. Introduction to problems of translation, enhancement of oral competence, and development of cross-cultural understanding. Fall. (E)

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. Irregular.

SPAN 520 Modernismo 3
Prereq.: Permission of instructor. Taught in Spanish. Study of the most significant authors of the Modernista period. Irregular.

SPAN 525 Contemporary Spanish-American Poetry
Prereq.: Permission of instructor. Taught in Spanish. Study of major SpanishAmerican poets and poetic themes from the period following Modernismo to the present. Spring. (E)

SPAN 526 The Spanish-American Short Story
Prereq.: Permission of instructor. Survey of representative authors and selected works with emphasis on the twentieth century. Course to be taught in Spanish. Irregular.

SPAN 530 Contemporary Spanish Novel 3
Prereq.: Permission of instructor. Taught in Spanish. Study of significant novels from the 1940 s to the present. Spring.

SPAN 534 Women Writers of the Spanish-Speaking World
3
Prereq.: Permission of instructor. Taught in Spanish. Discussion of representative works will center around cultural and gender issues. On demand.

SPAN 535 Contemporary Spanish-American Novel 3
Prereq.: Permission of instructor. Taught in Spanish. Study of representative Spanish-American novels from the 1950 s to the present. Spring.

SPAN 545 The Spanish-American Essay 3
Prereq.: Permission of instructor. Taught in Spanish. Analysis of major works by authors such as Sarmiento, Marti, Rodo, Reyes, Paz and others. Irregular.

SPAN 551 Drama of the Golden Age
3
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 Calderon. Spring. (O)

SPAN 553 19th-Century Spanish Literature
Prereq.: Permission of instructor. Taught in Spanish. Study of Spanish romanticism and realism with a consideration of their historical background. Irregular.

SPAN 560 The Structure of Spanish Language

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. Irregular.

SPAN 571 Generation of '98
3
Prereq.: Permission of instructor. Detailed study of some major works of authors such as Unamundo, Baroja, Valle Inclan, and Antonio Machado of the
Generation of ' 98 in the context of historical, ideological, and aesthetic trends of their time. Fall. (O)

SPAN 572 20th-Century Spanish Literature 3
Prereq.: Permission of instructor. Taught in Spanish. Representative authors and literary movements of the period following the Generation of '98. Spring (E)

SPAN 576 Cervantes
Prereq.: Permission of instructor. Taught in Spanish. Works of Cervantes with particular emphasis on Don Quixote. On demand.

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 advisor. Preparation of thesis under the supervision of thesis advisor. 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.: 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 or permission of instructor. Taken concurrently with SPED 431. Overview of the education of behavioral/emotional disorders, autism and attention deficit hyperactivity disorders. Topics include characteristics, identification, etiology, theoretical, and educational approaches. Involves field experience component.

SPED 431 Behavior Management and Social Skills Development 3 Prereq.: SPED 315 or permission of instructor. Taken concurrently with SPED 430. Examination of methodologies for evaluation, assessment, management of student behavior, and program planning/instruction utilized in special education settings. Involves field experience component.

SPED 432 Characteristics and Education of Individuals with Learning Disabilities
Prereq.: SPED 315 or permission of instructor. Overview of the education of students with learning disabilities and traumatic brain injury. Topics include characteristics, identification, etiology, theoretical and educational approaches. Involves field experience component.

SPED 433 Educational Assessment for Exceptional Learners
Prereq.: Admission to the Professional Program and SPED 432. Examines formal and informal assessment materials and techniques used in evaluating adaptive skills, processing abilities, and academic achievement in individuals with learning and/or behavior problems. Topics include procedures for test selection/administration, methods for scoring and interpreting test results. Involves field experience component.

SPED 434 Characteristics and Education of Individuals with Developmental Disabilities

Prereq.: Admission to the Professional Program. Taken concurrently with SPED 435. Overview of mental retardation, developmental disabilities, autism and
physical disabilities. Topics include characteristics, identification, etiology, theoretical, and educational approaches. Involves field experience component.

## SPED 435 Curriculum Adaptations and Teaching Strategies for Learners with Exceptionalities

Prereq.: SPED 433. Taken concurrently with SPED 434. Techniques for assessing social studies, science, and prevocational skills, as well as for selecting, developing, and adapting curricula and methods for students with exceptionalities. Involves field experience component.

SPED 436 Language Arts for Learners with Exceptionalities 3 Prereq.: SPED 432, 433. Taken concurrently with SPED 438. Techniques for planning and delivering instruction in the areas of reading, writing, and oral language specific to students with special needs.

SPED 437 Integrative Seminar for Beginning Special Educators 3 Prereq.: SPED 436. Taken concurrently with SPED 439. Examines collaborative strategies for assessment and program planning. Communication skills, professional ethics and codes of conduct will be examined.

SPED 438 Student Teaching with Exceptional Learners I 6 Prereq.: Taken concurrently with SPED 436. Supervised teaching in special education classrooms, agencies, or institutions. Attendance at on-campus seminars is required. Students must make application to the Director of Field Experiences before September 15 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 different exceptionality. Attendance at on-campus seminars is required. Students must make application to the Director of Field Experiences before September 15 for spring and before March 1 for fall.

SPED 498 Independent Study in Special Education 1 to 3
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 3
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 the chair. 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 or SPED 501, admission to the Graduate School and admission to the Special Education program; or permission of the chair. 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 or SPED 501, admission to the Graduate School and admission to the Special Education program; or permission of the chair. 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 Social Skill Strategies 3 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
3
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 non-academic areas to meet the needs of exceptional students.

SPED 517 Instructional Methods for Students with Special Needs - Elementary
Prereq.: 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 instruction in grades 7 through 12. Issues related to academic content, advocacy/selfdetermination, vocational transitioning, and functional living are also discussed.

SPED 519 Action Research in Special Education (Plan C) 3 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
3
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 6 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 - Secondary 6 Prereq.: 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. Summer.

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. Summer.

SPED 530 The Family, the School, and the Handicapped Child 3 Examination of issues that arise within families with handicapped children and between these families and school personnel. Irregular.

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. Irregular.

SPED 533 Advanced Topics in Learning Disabilities
Prereq.: Certification in Special Education. Overview of current theory and practice in various aspects of learning disabilities including advanced topics in etiology, identification, classification, assessment, and programming. Irregular.

SPED 536 Introduction to the Autistic Child
Historical and current views regarding the characteristics, etiology, and prognosis of autism will be examined. Current educational and treatment programs will be reviewed, as well as practical management strategies that can be employed within the classroom, home or institution. Irregular.

## SPED 560 Crisis Intervention in the Schools

3
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. Irregular.

SPED 566 Pupil Personnel Services in Special Education 3
Prereq.: Certification in special education. Federal and state laws and regulations for the handicapped are studied. Emphasis is placed on the theories and processes in pupil personnel services and pupil planning and placement teams.

## SPED 577 Integrative Seminar

Prereq.: Certification in special education. Integration of theories, practices, and issues as related to provision and delivery of services to exceptional learners. Students in conjunction with the instructor, will evaluate their current professional skills and develop and carry out an independent study to increase their professional competence.

SPED 578 The Juvenile Offender as an Exceptional Learner 3 Study of the educational characteristics of the juvenile offender. A review of current educational interventions. Fall.

SPED 580 The Special Education Teacher as Consultant
Prereq.: Certification in teacher education or special education. Examination of the support services provided to the regular classroom teacher, including programming, management, and monitoring, for the purpose of educating the mildly handicapped child in the "mainstream."

SPED 590 Early Intervention for Infants, Toddlers, and Pre-Schoolers with Special Needs
Prereq.: Matriculation in M.S. program or permission of instructor. Study of children, ages birth to six, with handicaps or at-risk for developmental delays. Identification and development of intervention plans for these children and their families. Irregular.

SPED 595 Topics in Special Education
3
Prereq.: Graduate matriculation and permission of instructor. Seminar addressing a specific area of special education with emphasis on current trends in the field. May be repeated with different topics for a maximum of 6 credits. Irregular

## STATISTICS

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

## STAT 416 Mathematical Statistics II

Prereq.: STAT 315. Continuation of theory and applications of statistical inference. Elements of sampling, point and interval estimation of population parameters, tests of hypotheses, and the study of multivariate distributions. Spring.

STAT 425 Loss and Frequency Distributions and Credibility Theory 3 Prereq.: STAT 416 (may be taken concurrently). Topics chosen from credibility theory, loss distributions, simulation, and time series. Spring. (E)

## STAT $440 \quad$ Biostatistical Methods

Prereq.: STAT 216 or 201, or 453 with permission of instructor or STAT 416. Statistical methods applied to the analysis of health and biological data with emphasis on multivariate methods. Computer packages assist in the design and interpretation of models fitted to health data. Spring. (O) [c]

## STAT 453 Applied Statistical Inference

Prereq.: STAT 104. Statistical techniques used to make inferences in experiments in social, physical, and biological sciences, and in education and psychology. Topics included are populations and samples, tests of significance concerning means, variances and proportions, and analysis of variance. No credit given to students with credit for STAT 201 or 216 . Fall.

## STAT 455 Experimental Design

3
Prereq.: STAT 201 or 216 or 416. Introduction to experimental designs in statistics. Topics include complete randomized blocks, Latin square, and factorial experiments. Fall. (O)

## STAT 456 Statistics Laboratory

Prereq.: CS 151 and STAT 201 or 216 or equivalent. Study of SAS, one of the major statistical procedures and analysis. Spring. (E) [c]

STAT 465 Nonparametric Statistics
Prereq.: STAT 201 or 216 or 416 . General survey of nonparametric or distribu-tion-free test procedures and estimation techniques. Topics include one-sample, paired-sample, two-sample, and k -sample problems as well as regression, correlation, and contingency tables. Comparisons with the standard parametric procedures will be made, and efficiency and applicability discussed. Fall. (E)

STAT 476 Topics in Statistics
3
Prereq.: Permission of instructor. Topics depending on interest and qualifications of the students will be chosen from sampling theory, decision theory, probability theory, Bayesian statistics, hypothesis testing, time series or advanced topics in other areas. May be repeated under different topics to a maximum of 6 credits. Spring. (O)

## STAT 521 Introduction to Data Mining

Prereq.: STAT 104 or STAT 200 or STAT 215 or STAT 315 or permission of department chair. Fundamental concepts of data mining. Motivation for and applications of data mining. Survey of techniques and models. Potential pitfalls of machine learning. Introduction to data mining software suite. Fall.

STAT 522 Data Mining Methods
3
Prereq.: STAT 521; STAT 315; STAT 201 or STAT 216 or STAT 416 or STAT 453 or permission of department chair. Intensive investigation of data mining methodologies, including decision trees, classification, association, clustering, attributes, statistical modeling, Bayesian classification, $k$-nearest neighbors, CART. Extensive use of data mining software. Spring.

STAT $523 \quad$ Applied Data Mining 3
Prereq.: STAT 522; STAT 416. Applications of data mining using case studies involving large data sets taken from real-life applications. Topics may include statistical model building and deployment, report writing and graphical presentation. Extensive us of data mining software. Fall

## STAT 524 Advanced Methods in Data Mining

Prereq.: STAT 523. Advanced techniques in data mining. Topics may include text mining, text classification, naive Bayes, EM algorithm, optimization, visualization, genetic algorithms, data augmentation, Markov-chain Monte Carlo. Extensive use of data mining software. Spring.

STAT 525 Web Mining
3
Prereq.: STAT 521 ; STAT 201 , or STAT 216 or STAT 416 or STAT 453 or permission of department chair. Techniques of mining information from the web. Topics may include web basics, HTTP, data sources on the web, personalization, user identification, path analysis, and working with logs forms and cookies. Use of data mining software. Spring.

STAT 551 Applied Stochastic Processes
Prereq.: STAT 315 and MATH 228. Previously STAT 451. An introduction to stochastic processes. Topics include Markov, Poisson, birth and death, renewal, and stationary processes. Statistical inferences of Markov processes are discussed. Fall. (O)

STAT 567 Linear Models
Previously STAT 467. 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. Spring. (E).

STAT 570 Applied Multivariate Analysis
Previously STAT 470. Prereq.: MATH 228; STAT 416 or, with permission of instructor, STAT 201, 216, or 453. Introduction to analysis of multivariate data with examples from economics, education, psychology, and health care. Topics include multivariate normal distribution, Hotelling's T2, multivariate regression, analysis of variance, discriminant analysis, factor analysis and cluster analysis.
Computer packages assist in the design and interpretation of multivariate data. Spring. (O). (c).

STAT 575 Mathematical Statistics III 3 Prereq.: STAT 416 or equivalent. Previously STAT 475. Continuation of theory and applications of statistical inference. Advanced topics in the estimation of population parameters and the testing of hypotheses. Introduction to Bayesian methods, regression, correlation and the analysis of variance. Fall. (E).

STAT 576 Advanced Topics in Statistics
3
Prereq.: Permission of instructor. Seminar in probability theory, sampling theory, decision theory, Bayesian statistics, hypothesis testing, or other advanced area. Topic depending on needs and qualifications of students. May be repeated under different topic to a maximum of 6 credits. Spring. (O).

## TECHNICAL COURSES

Note: These are laboratory courses designed to develop technical competence; for majors in Technology Education, Industrial Technology, and the Industrial Technical Management program.
Note: Additional work will be required for graduate credit in 400 -level courses.
TC 405 Applied Technical Topics
A laboratory-oriented course providing comprehensive study of a selected technological topic. Course may be repeated for maximum of 6 credits for different topics, but students may not take the course under the same topic more than once. Irregular.

TC 591 Independent Study in Industrial/Engineering Technology
Purpose 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. Irregular.

TC 599 Technological Issues and Problems 3 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. Irregular.

## 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 3 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. Fall.

## TE 410 Communication Systems 3

Prereq.: CET 113, MFG 121, and GRT 212; for graduate students, admission to M.S. program in technology education. Laboratory application of graphic and electronic communication systems which extend human capability with focus on how the individualized components function together as a given system. Research and lab activities will include computer graphics, desktop publishing, photography, and telecommunications. Lecture/lab. Spring.

## TE $411 \quad$ Animation Graphics

Prereq.: GRT 112 or MFG 121 or MFG 122; for graduate students, admission to M.S. program in technology education. Using animation software, digitizing equipment, and paint/draw programs to produce two- and three- dimensional presentations, slide shows, and videotapes. Irregular. [c]

TE 412 Computer-Aided Publishing
Prereq.: CET 113; for graduate students, admission to M.S. program in technology education. Presentation and application of the basic concepts of electronic publishing. Instruction and laboratory activities will focus on software usage, applying accepted design techniques, and producing appropriate materials for classroom implementation. Irregular. [c]

## TE 420 Manufacturing Systems

Prereq.: MFG 118 and TE 215; for graduate students, admission to M.S. program in technology education. Laboratory application of the systems and technical means used to manufacture and construct products. Students will create designs, prototypes, tooling, transport devices, advertising strategies, line production techniques, and quality control mechanisms. Lecture/lab. Fall.

## TE 428

Research and Experimentation
Prereq.: Completion of 18 credits of CET, EMEC, MFG, GRT, or TE courses; for graduate students, permission of department chair. Planning, directing, and evaluating effective research procedures with emphasis on the application of research and experimentation to the teaching of technology education and its relationship to mathematics, science, and social studies.

## TE 430 Transportation Systems

Prereq.: EMEC 114, TE 213, and TE 214; for graduate students, admission to M.S. program in technology education. Laboratory application of the systems which extend the means of transportation beyond the physical capability of the human body. Includes terrestrial, atmospheric, marine, and space transportation technologies and their social, environmental, and economic impact. Lecture/lab. Spring.

## TE 445 Construction Systems

Previously TC 445. Prereq.: TE 215 (formerly TC 215); for graduate students, admission to M.S. program in technology education. Comprehensive study of carpentry and related construction industries. Emphasis toward gaining modern concept of wood technology. Fall.

TE 450 Technological Enterprise
Prereq.: Junior standing and TE 420; for graduate students, admission to M.S. program in technology education. Synthesis of the production, transportation, and communication systems used to organize and operate an entrepreneurial business endeavor through laboratory application. Lecture/lab. Spring.

TE 459 Elementary School Technology Education
Technology education activities suitable for elementary school. Integrating such activities with elementary curricula. Irregular.

TE 488 Independent Study in Technology Education 1 to 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 3
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. Irregular. [c]

TE 512 Program and Course Development: Theories and Practices
Study of course/program development founded on current understandings of cognition and application of knowledge and skill with emphasis on adult technical programs. Also suitable for K-12 teachers/administrators. Irregular.

## TE 513 Professional Strategies for Teaching Technical Subjects

 to Adults3
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. Irregular.

TE 520 Readings in Technology 3
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.

TE 540 Curriculum Materials in Technology Education 3 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. Irregular.

TE 560 Technological Developments 3 Study of major technological developments in communication, transportation, and production from a historical perspective. Emphasis on how humans moved from the stone age and the major developments along the way. Irregular.

TE 590 Technology Education Facility Planning 3
Emphasis will be given to a systems approach to facility and environmental planning for industrial education, including philosophical commitment, effective laboratory design and plant layout, equipment, selection, and requisition procedure. Irregular.

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. Irregular.

TE 596 Special Projects in Technology Education 3
Prereq.: 21 credits in planned program and TE 598. Study of an advanced topic in technology education approved by advisor and a special project co-advisor. Requirements include a paper on the topic. At the option of the advisors, an oral presentation may also be required. Irregular.

TE 598 Research in Technology Education
Familiarization with techniques and resources associated with research in the student's specialization. Opportunity for practical application will be provided. (To be taken during the first 12 credits of the graduate program.) Spring.

TE 599 Topics in Technology Education
Prereq.: Completion of 21 credits 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. Irregular.

## THEATRE

Note: Additional work will be required for graduate credit in 400 -level courses.
TH 447 Acting IV 3
Prereq.: TH 347 and departmental permission. Performance considerations in scene study and role development, with emphasis on plays of varying styles and different periods. Fall. (O)

TH 456 Shakespearean Production 3
Prereq.: TH 253 and 246, or permission of instructor. Analysis of selected plays from perspective of actor and director. Students act in and stage scenes as major requirements. Irregular.

TH 465 Creative Dramatics for Children 3
Trains teachers to develop the imagination, creativity, and communication skills of children ages 5 through 12. Includes pantomime, theatre games, improvisation, and formal theatre experience. Spring.

TH $480 \quad$ Projects: Dance
Prereq.: Permission of instructor. Individual projects in choreography, research, or production under the guidance of Dance/Theatre staff. Irregular.

TH 481 Projects: Scenery 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 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 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 . 3
Prereq.: TH 483 and departmental permission. Individual projects in reading, research, or production under guidance of member of Theatre staff.

TH 486 Project: Lighting/Sound/Stage Management 3
Prereq.: TH 318 and departmental permission. Individual projects in reading, research, or production under guidance of member of Theatre staff.

TH 487 Projects: Research 1 to 3
Prereq.: TH 374 or departmental permission. Individual projects in reading, research, or production under guidance of member of Theatre staff.

TH 488 Projects: Directing 3
Prereq.: TH 352 and departmental permission. Individual direction of student production under faculty supervision.

TH $489 \quad$ Studies in Theatre/Drama
3
Prereq.: Permission of instructor. Selected area of theatre and/or drama not covered in other courses. Topic varies. May be repeated for credit. Irregular.

TH 490 Summer Theatre Workshop
3
Prereq.: Permission of instructor. Students work with experienced directors in a summer theatre production workshop learning the craft of acting and performing, culminating in a public performance. May be repeated for a maximum of 6 credits. Summer.

TH 495 Theatre Internship
3 to 6
Prereq.: Permission of department. Substantial work in approved area/regional theatre(s) offering experience or research opportunities unavailable on campus. May be repeated for a total of 12 credits. On demand.

## 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 student achievement of instructional objectives with application in vocational subjects that is reflective of BEST Portfolios. Spring.

VTE $415 \quad$ Principles of Vocational Education 3 An 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 fields, delivery systems, and current issues and problems.

## VTE 440 Human Relations in the Workplace

A study of human relations with emphasis on self- awareness, role multiplicity, and the effect of life stresses on the adult in the workplace. Attitudes, values, problem-solving, and communication techniques are explored in the context of effective interpersonal relationships. Concepts of group dynamics and adult learning are addressed with emphasis on recognition and skill development. Fall.

## VTE 450 Principles and Organizations of Cooperative

 Work EducationThe 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. Fall.

## VTE $455 \quad$ Labor Market Trends and Student Job Readiness 3 <br> Analysis of factors influencing the work placement of cooperative work educa-

 tion students. Special attention given to the study of present needs as well as anticipated trends in Connecticut's labor market, and the development of a curriculum to establish job readiness skills. Spring.VTE 490 Topics in Vocational Technical Education 3 Special purpose programs designed to meet the needs of selected groups of vocational teachers or directed independent studies for individual students. Provides a mechanism that encourages the vocational instructor to elect, with the guidance of University faculty, job-specific and short-term selective experiences to insure the instructor's technical expertise. May be repeated on different topics to a maximum of 6 credits. On demand. (Contact the Coordinator/Advisor, School of Technology, 832-1807, prior to registration.) On demand.

VTE 520 Supervision of Vocational and Technical Education 3
Prereq.: Professional Teaching Certificate. Roles and functions of supervisors of vocational and technical education on the local and state level. Fall.

VTE 521 Organization and Administration of Vocational and Technical Education

3
Prereq.: 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. Spring.

## WOMEN'S STUDIES

Note: Additional work will be required for graduate credit in 400 -level courses.
WS $400 \quad$ Feminist Theory
3
Prereq.: WS 200 or permission of instructor. Examination of central theoretical and critical concepts, ideas and traditions in the development of feminist theory. Spring.

Note: Date of appointment to Central Connecticut State University in parenthesis.

RICHARD L. JUDD, Ph.D., University of Connecticut; President (1964)

## DISTINGUISHED PROFESSORS:

DAVID FREEMAN, Fellow, Institute of Chartered Accountants, Britain; Distinguished Professor of International Business (2000).
HENRY C. LEE, Ph.D., New York University; Distinguished Professor of Criminology and Criminal Justice (1995).
To be named - Robert C. Vance Distinguished Professor of Journalism and Mass Communication

## CSU PROFESSORS:

BARRY H. LEEDS, Ph.D., Ohio University; CSU Professor of English (1968).
MARTHA M. WALLACH, Ph.D., University of Washington; CSU Professor of Modern Languages (1988).

## ENDOWED CHAIR HOLDERS

WILLIAM A. O'NEILL, Honorary Professor of Political Science and holder of the William A. O'Neill Endowed Chair in Public Policy and Practical Politics (2000).

## FACULTY, ADMINISTRATIVE STAFF LIBRARIANS:

ELIZABETH N. AARONSOHN, Ed.D., University of Massachusetts; Associate Professor of Teacher Education (1991).
HELEN R. 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; Associate Professor of Anthropology (1996).
DON ADAMS, Ph.D., Cornell University; Associate 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 (1984).
PAUL L. ALTIERI, Ph.D., Boston College; Professor of Economics (1975).
GABRIEL D. ALUNGBE, Ph.D., P.E., University of Florida; Assistant Professor of Engineering Technology (1991).

MARIA ALVAREZ, B.A., Central Connecticut State University; Associate Registrar (1983).
BETH AMTER, B.A., Southern Connecticut State Univer sity; Assistant Director of Recruitment and Admissions, (1997).

PAMELA ANNESER, M.F.A., Yale University; Assistant Professor of Design (Graphic/Information) (2002).
MICHAEL ANSARRA, M.S., Southern Connecticut State University; Associate Director of Athletics for Compliance, Intercollegiate Athletics (1988).
ALI A. ANTAR, Ph.D., University of Connecticut; Professor of Physics and Earth Sciences (1980).
WAYNE ANTONINI, Director of Facilities Management (1986).

MICHAEL ARCHICK, B.S., Central Connecticut State University; Server Administrator, Information Technology Services (2001).
JAMES V. ARENA, Ph.D., University of Connecticut; Professor of Chemistry (1989).

RICHARD I. ARENDS, Ph.D., University of Oregon; Professor of Educational Leadership (1991).
CLAUDIA ARIAS-CIRINNA, M.S., Central Connecticut State University; Wellness Program Coordinator, Prevention and Counseling Services (1999).
DOMINGO ARIAS, M.A., University of Chile; Assistant Director, Career Services and Cooperative Education (1991).

AMY ARMSTRONG, B.S., Southern Connecticut State University; Assistant Director, Residence Life (2001).
EDWARD R. ASTARITA, M.S., Columbia University; Associate Professor of Marketing (1966).
KEITH AUGUST, B.S.E.T., Central Connecticut State University; Qualified Engineering Technician, IIET (2001).

LOUIS E. AULD, Ph.D., Bryn Mawr College; Professor of Modern Languages (1987).
CAROL SHAW AUSTAD, Ph.D., North Texas State University; Professor of Psychology (1987).
ARAM AYALON, Ph.D., University of Arizona; Associate Professor of Teacher Education (2001).
RICHARD BACHOO, M.P.A., University of Connecticut; Chief Administrative Officer (1998).
CATHERINE R. BARATTA, Ph.D., Syracuse University; Assistant Professor of Sociology and Social Work (1998).
LINDA A. BARILE, Ph.D., University of Connecticut; Associate Professor of Nursing (1995).
STUART BARNETT, Ph.D., State University of New York-Buffalo; Professor of English (1992).
CANDACE BARRINGTON, Ph.D., Duke University; Assistant Professor of English (2001).
PEARL A. BARTELT, Ph.D., Ohio State University; Provost and Vice President for Academic Affairs and Professor of Sociology and Social Work (1999)
CHARLES BASKERVILLE, Ph.D., New York University Professor of Physics and Earth Sciences (1990).
EUGENE BATEN, Ed.D., Harvard University: Associate Professor of Management and Organization (1988).
PETER F. BAUMANN, Ph.D., Polytechnic University; Assistant Professor of Engineering Technology (2001).
JOHN E. BEAN, P.E., M.S., University of Connecticut; Assistant Professor of Engineering Technology (1991).
MITCHELL BECK, Ed.D., Wayne State University; Pro fessor of Special Education (1997).
MARSHA BEDNARSKI, Ph.D., University of Connecticut; Associate Professor of Physics and Earth Sciences (1998).
DANIEL BEELER, B.S., Regents College; Support Assistant, Information Technology Services (1995).
ZAKRI BELLO, Ph.D., Virginia Polytechnic Institute and State University; Associate Professor of Finance (2002).
RICHARD W. BENFIELD, Ph.D., University of Oklahoma; Associate Professor of Geography (1997).
STUART R. BENNETT, Ph.D., Texas A \& M University; Professor of Manufacturing and Construction Management (1980).
DOUGLAS BENOIT, B.A., Central Connecticut State University; Assistant Director of Recruitment and Admissions (1999).
FRANK G. BENSICS, Ph.D., University of Pennsylvania; Assistant Professor of Mathematical Sciences (2001).
JAY BERGMAN, Ph.D., Yale University; Professor of History (1990).
FELTON BEST, Ph.D., Ohio State University; Professor of Philosophy (1991).
KAREN C. BEYARD, Ph.D., Arizona State University; Professor of Educational Leadership (1986).
LISA MARIE BIGELOW, M.B.A., Central Connecticut State University; Associate Director, George R. Muirhead Center for International Education (1987).
RICHARD BISHOP, M.S.A., University of Notre Dame; Director of Financial Aid (2001).
M. B. BISKUPSKI, Ph.D., Yale University; Stanislaus $A$. Blejwas Chair in Polish and Polish American Studies and Professor of History (2002).
DONALD BIXLER, Customer Support Center Assistant, Information Technology Services (1999).
IVAN R. BLANCO, Ph.D., Oklahoma State University; Professor of Management and Organization (1998).

ROBERT E. BLATZ, JR., LL.M., New York University School of Law; J.D., University of Detroit School of Law; Professor of Accounting (1999).
DAVID BLITZ, Ph.D., McGill University; Professor of Philosophy (1989).
DONALD BLUME, Ph.D., Florida State University; Assistant Professor of English (2001).
THOMAS BOHLKE, B.S., Central Connecticut State University; Computer Repair Technician, Information Technology Services (2000).
RICHARD L. BONACCORSO, Ph.D., University of Connecticut; Professor of English (1975).
LYNN BONESIO, M.S., Eastern Connecticut State University; Associate Registrar (1990).
FRED BONVICINI, M.S., Central Connecticut State University; Associate Director, Residence Life (1980).
MOLLY BORST, M.S., Central Connecticut State University; Assistant Athletics Director for Compliance, Intercollegiate Athletics (1995).
CONSTANCE C. BOSTON, M.S.W., L.C.S.W., University of Connecticut; Director of University Counseling and Health Services, Prevention and Counseling Services (1987).
LaURA BOWMAN, Ph.D., Kent State University; Professor of Psychology (1989).
RITA BRANN, B.A., Central Connecticut State University; Assistant Director of Continuing Education and the Enrollment Center (1979).
GWENDOLINE O. BRATHWAITE, M.S., Central Connecticut State University; Property and Inventory Control Coordinator (1989).
SHARON BRAVERMAN, M.S., Central Connecticut State University; Assistant Dean, School of Business (1992).
JODI BRIGGS, B.A., Keene State College; Assistant to the Director/Residence Hall Director, Residence Life (2000).
CASSANDRA BROADUS-GARCIA, Ph.D., Ohio State University; Associate Professor of Art (1994).
THOMAS BRODEUR, B.A., University of Connecticut; Purchasing Manager (1989).
S. FAE BROWN-BREWTON, J.D., Drake University Law School; Employment and Labor Specialist, Personnel (2002).

JAMES BRUNER, B.S., Daniel Webster College; Business Manager, IIET (1994).
JAMES BRYANT, Administrative Coordinator, Design (Graphic/Information) (1998).
PETER A. BUDWITZ, C.P.A., M.S., Bucknell University; Associate Professor of Accounting (1971).
PAULA W. BUNCE, B.A., Eastern Connecticut State University; Assistant Director, Planning and Institutional Research (1994).
THOMAS BURKHOLDER, Ph.D., University of Virginia; Associate Professor of Chemistry (1992).
SANDRA FLYNN BURNS, Ph.D., University of Connecticut; Professor of Physics and Earth Sciences/ Science and Science Education (1972).
WENDY WILTON BUSTAMANTE, B.S., Central Connecticut State University; Administrative Assistant to the President (1986).
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GLORIA MARIE CALIENDO-REED, Ph.D., University of Connecticut; Associate Professor of Modern Languages (1991).

THOMAS J. CALLERY, JR., M.F.A., University of Oregon; Associate Professor of Theatre (1983).
JOAN M. CALVERT, Ed.D., University of Massachusetts, Amherst; Professor of Computer Science and Director of Computer Information Technology (1982).
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BARBARA A. CANDALES, Ph.D., University of Connecticut; Associate Professor of Sociology and Social Work (1995)
ANTHONY CANNELLA, M.A., University of Pennsylvania; Associate Professor of English (1984).

ANTONE B. CAPITAO, Ph.D., University of Connecticut: Professor of Physical Education and Health Fitness Studies (1971).
A. DAVID CAPPELLA, Ed.D., Boston University; Assistant Professor of English (2001).
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KIMBERLY CHAGNON, M.S. Central Connecticut State University; Budget Director, Fiscal Affairs (1998).
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EMILY CHASSE, M.L.S., University of Rhode Island; Associate Librarian, On-line Services (1982).
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PAUL P. CHU, Docteur en Sciences Psychologiques, Universite Libre De Bruxelles; Associate Professor of Psychology (1969).
RICHARD CHURCHILL, M.L.S., University of Rhode Island; Associate Librarian, Head of Government Documents (1992).
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SALVATORE CINTORINO, M.S., Central Connecticut State University; Senior Associate Athletics Director, Intercollegiate Athletics (1992).
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GEORGE F. CLAFFEY, Ed.D., Indiana University; Associate Professor of Management Information Systems (1979).
R. THOMAS CLARK, J.D., William Mitchell College of Law; University Judicial Director, Residence Life (2001).
PETRA CLARK-DUFNER, M.A., University of Connecticut; Associate Director, Pre-Collegiate and Access Services (1996).
JACQUELINE COBBINA-BOIVIN, M.S., Central Connecticut State University; Director, Ruthe Boyea Women's Center (2000).
SARAH COBRAIN, M.A., Bowling Green State University; Assistant Director, Career Services and Cooperative Education (1985).
PENELOPE N. COE, Ph.D., Brandeis University; Associate Professor of Mathematical Sciences (1960).
BONNIE L. COFER, M.Ed., Springfield College; Immigration Specialist, George R. Muirhead Center for International Education (1997).
FAYE COHEN, M.S., Central Connecticut State University; Assistant Professor of Management Information Systems (1965).
JONAH COHEN, M.S., Central Connecticut State University; Director, Academic Center for Student Atbletes (2000).

RALPH S. COHEN, Ph.D., University of Missouri-St. Louis; Associate Professor of Counseling and Family Therapy (1993).
STEPHEN COHEN, Ph.D., University of California-Irvine; Assistant Professor of English (2002).

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GLADYS COLON, M.S., Springfield College; Assistant Director, Financial Aid (1999).
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JOHN D. CONWAY, Ph.D., University of Connecticut; Professor of English (1969).
ALICE COOPERSTEIN, M.B.A., University of Hartford; Associate Professor of Accounting (1969).
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STEPHEN COX, Ph.D., Michigan State University; Associate Professor of Criminology and Criminal Justice (1990).
TIMOTHY CRAINE, Ph.D., Wayne State University; Professor of Mathematical Sciences (1993).
ROBERT CROUSE, Ph.D., University of Rhode Island; Professor of Mathematical Sciences (1987).
GUY CRUNDWELL, Ph.D., Purdue University; Associate Professor of Chemistry (1998).
GAIL A. CUETO, Ph.D., New York University; Associate Professor of Teacher Education (1994).
MARY M. CUTLER, Ph.D., University of Connecticut; Professor of Finance (1987).
KATHY CZYRNIK, Ph.D., University of Connecticut; Assistant Professor of Finance (1998).
DANIEL D'ADDIO, D.M.A., University of Michigan; Associate Professor of Music (1996).
MICHAEL D'ARCY, B.A., Methodist College; Women's Soccer Head Coach, Intercollegiate Atbletics (2000).
WILLIAM DAHN, M.S., Central Connecticut State University; Director, Technical Training Center, IIET (2000).

RONALD R. DAIGLE, Ph.D., Clark University; Professor of Economics (1976).
REGINA KLONIS DARDZIENSKI, M.S., Central Connecticut State University; Assistant Director of Media Services, Graphic Design (1981).
TENNYSON T. DARKO, M.B.A., Old Dominion University; PC Support Manager, Information Technology Services (1988).
JoANN DARREN, M.S., L.M.FT., Central Connecticut State University; Counselor, Prevention and Counseling Services (2001).
BARRY A. DAVIES, Ed.D., University of Maine; Associate Professor of Reading and Language Arts (1976).
MICHAEL A. DAVIS, Ph.D., Harvard University; Assistant Professor of Biological Sciences (1998).
SUSAN DAVIS, Professional Development Specialist, IIET (1998).

THELMUS DAVIS, Director of Procurement Technical Assistance Program, IIET (2000).
WILLIAM W. DAVISON, Ph.D., University of Connecticut; Professor of Manufacturing and Construction Management (1969).
BRUCE P. DAY, Ph.D., University of New Hampshire; Assistant Professor of Sociology and Social Work (1998).
DENISE M. de la ROSA, Ph.D., University of North Texas; Associate Professor of Accounting (1997).
SABRINA DEAK, B.A., Roger Williams University; Assistant to Director/Residence Hall Director, Residence Life (2001).

RAY A. DeCORMIER, Ph.D., University of Bradford Management Center (UK); Professor of Marketing (1983).
JAMES A. DeLAURA, Ed.D., University of Northern Colorado; Professor of Manufacturing and Construction Management (1976).
PATRICIA DELOY, M.S., Central Connecticut State University; Director, Career Services and Cooperative Education (1984).
THOMAS DELVENTHAL, M.F.A., University of Pittsburgh; Assistant Professor of Theatre (1998).
BARBARA DeMAIO, Assistant Director, Facilities Support Services (1995).
ELENE S. DEMOS, Ph.D., University of Wisconsin-Madison; Senior Vice President (1991).
KENNETH DeSTEFANIS, B.S., Southern Connecticut State University; Assistant Director of Intercollegiate Athletics, Facilities (1985).

HOWARD DICKENMAN, M.S., Central Connecticut
State University; Professor of Intercollegiate Athletics and Men's Basketball Head Coach (1996).
CHARLES W. DIMMICK, Ph.D., Tulane University; Professor of Physics and Earth Sciences (1972).
JOANNE DiPLACIDO, Ph.D., Boston University; Associate Professor of Psychology (1997).
TUAN DANG DO, M.S., Central Connecticut State University; Programmer Specialist, Information Technology Services (1998).
FRANCISCO DONIS, Ph.D., CUNY Graduate Center; Professor of Psychology (1992).
MARIANNE J. D'ONOFRIO, Ph.D., The Ohio State University; Professor of Management Information Systems (1989).
VALERIE DOWNES, M.S., Central Connecticut State University; Network Administrator, Information Technology Services (1997).
TODD DOWNEY, B.S., Central Connecticut State University; Director of Manufacturing Applications Center, IIET (2001).
DARYLL C. DOWTY, M.S., Central Connecticut State University; Professor of Manufacturing and Construction Management (1979).
CHRISTINE DOYLE, Ph.D., University of Connecticut; Associate Professor of English (1993).
CHRISTOPHER DUKES, B.A., Central Connecticut State University; Admissions Representative, Recruitment and Admissions (1996).
KIMBERLEY A. DUMOUCHEL, B.S., University of Connecticut; Assistant Director, Career Services and Cooperative Education (1988).
ROBERT DUNNE, Ph.D., Lehigh University; Associate Professor of English (1992).
JEROLD J. DUQUETTE, Ph.D., University of Massachusettst; Assistant Professor of Political Science (2000).

THOMAS EISENLOHR, JR., M.S., Central Connecticut State University; Associate Director of Continuing Education and the Enrollment Center (1971).
GHASSAN EL-EID, Ph.D., University of Nebraska; Associate Professor of Political Science (1989).
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Doctor of Humane Letters
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Ernest L. Boyer, President of the Carnegie Foundation for the Advancement of Learning ..... October 5, 1987
Gerald R. Ford, President of the United States ..... March 23, 1988
Mary Hatwood Futrell, President of the National Education Association ..... October 4, 1988
Benjamin L. Hooks, Executive Director of the NAACP ..... May 20, 1988
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Donald W. Davis, Chairman of The Stanley Works ..... May 26, 1989
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Eric Jensen, Deputy to the Under-Secretary-General and Special Representative for Public Affairs of the United Nations ..... May 27, 1993
Lech Walesa, President of Poland ..... April 10, 1996
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The Rt. Rev. Justice O. Akrofi '71, M.S. '74, Bishop of Accra, Ghana. ..... May 18, 2000
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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.




[^0]:    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

[^1]:    * Pending approval of DHE

[^2]:    Professional Education (6-9 credits):
    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

