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## SCHOOL OF <br> RADUATE



# 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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# CENTRAL CONNECTICUT STATE UNIVERSITY 

New Britain, Connecticut

## Graduate Catalog 2006-2008

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, religious creed, 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 Office of Multicultural Affairs is located in Davidson Hall, Room 102 (832-1653).

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1615 Stanley Street, P. O. Box 4010, New Britain, CT 06050-9958
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Home page: http://www.ccsu.edu/grad
GRADUATE STUDIES FORMS - DISTRIBUTION AND DUE DATES

| TITLE OF FORM | RETURN TO | DATES DUE $\quad \cdots{ }_{\sim}$ |
| :---: | :---: | :---: |
| Application for Admission, File Reactivation, Re-enrollment Forms | Graduate Admissions Office <br> Also as on-line application (www.ccsu.edu/grad) | July 1 for fall semester, Dec. 1 for spring semester (some programs have earlier submission dates) |
| Graduate Capstone Course Registration Form (for Plans A or C-thesis or special project) | Graduate Office | During CCSU registration periods |
| Submission of all requirements for the completed thesis and dissertation | Graduate Office | April 15 for inclusion in the May commencement booklet; November 15 for inclusion in the December commencement booklet |
| Submission of all requirements for the completed special project | Graduate Office | During the exam period of fall, spring, summer semesters |
| Application for Degree Candidacy | Graduate Office (for approval) |  |
| Graduate Assistantship Application | Return to the department or office where applying |  |
| Graduate Assistantship Request Forms | Graduate Office | July 31 for fall semester, Dec. 15 for spring semester |
| Withdrawal Request | Registrar |  |
| Change of Status (full-time, part-time) | Graduate Office or Registrar |  |
| Application for Graduation | Graduate Office | Sept. 15 for fall semester (scheduled to participate in Dec. commencement); March 1 for spring semester (May comm.); April 1 for summer session (Dec. comm.) |
| Comprehensive Examination Application Form | Graduate Office | Oct. 3 for fall 2006; Feb. 15 for spring 2007; Oct. 1 for fall 2007; Feb. 15 for spring 2008 |
| Completed Planned Program of Study | Graduate Office | Must be filed before completion of 16 credits |
| Course Substitution Forms | Graduate Office |  |
| Transfer of Credits Form | Graduate ()ffice |  |
| Note: Forms are available in Graduate Studies, Registrar and Enrollment Center. Application for Admission and Re-enrollment and Reactivation Forms Admissions and the School of Graduate Studies. All forms are also available on the graduate website at www.ccsu.edu/grad. <br> Materials related to graduate study also are available for faculty and staff as Microsoft Word documents that can be sent to students as attached files withir tion about accessing these materials can be found on the Graduate School's website. Use the "Graduate Studies Committee" link and select "Electronic Grad |  |  |

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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 capitol 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 9,678 undergraduate and 2,637 graduate students. The School of Graduate Studies at CCSU offers 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 some 400 members.

CCSU continues to grow, adding facilities and resources that place it among the finest state educational institutions in Connecticut. A growing network of overseas study opportunities, educational initiatives and exchange programs have helped CCSU become an internationally oriented public university.

## OUR MISSION

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

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

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

As a public university, we receive support from the State of Connecticut. We have three 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, religious creed, 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 Office of Multicultural Affairs, located in Davidson Hall 102 (832-1653).

## ACCREDITATION AND

 MEMBERSHIPSThe University is accredited by the New England Association of Schools and Colleges, the Connecticut Department of Higher Education, and the Connecticut Department of Education (for its certification programs in education) and the National Council for the Accreditation of Teacher Education. Programs in chemistry are accredited by the American Chemical Society. The honors track of the computer science program is accredited by the Computing Sciences Accreditation Board. The three majors in engineering technology (ET)civil ET, manufacturing ET, and mechanical ET-are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET). The industrial technology major and all specializations are accredited by the National Association of Industrial Technology (NAIT). The construction management major is accredited by the American Council for Construction Education (ACCE), and the technology and engineering education ( $\mathrm{K}-12$ ) program is accredited by the Council on Technology Teacher Education of the National Council for Accreditation of Teacher Education (CTTE/NCATE). The Bachelor of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education. The marriage and family therapy program is accredited by the Commission on Accreditation for Marriage and Family Therapy Education of the American Association for Marriage and Family Therapy. The athletic training program and the exercise science program are accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), and the professional and rehabilitation counseling
program is accredited by the Council on Rehabilitation Education (CORE). The Council on Social Work Education has accredited the baccalaureate social work program, and the Council on Accreditation of Nurse Anesthesia Programs has accredited the master's degree in biological sciences, anesthesia.

The University is a member of the American Association of Colleges for Teacher Education, the American Association of State Colleges and Universities, the American Council on Education, the Association of American Colleges and Universities, the College Board, the Council for Advancement and Support of Education, the Council of Graduate Schools, the National Commission for Cooperative Education, the American Society for Engineering Education (ASEE), and many other professional organizations related to the activities of individual departments at Central Connecticut State University.

## THE SCHOOL OF GRADUATE STUDIES

The School of Graduate Studies at Central Connecticut State University was established in 1955. Graduate enrollment is approximately 2,700 .

The School 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 School of Graduate Studies 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, as well as certificate programs. Subjectmatter 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 and computer science are accredited by their respective professional organizations.

School of Business. The School of Business prepares undergraduates for entry-level positions in business organizations through programs in accounting, international business, finance, management, management information systems and marketing. At the graduate level, students are prepared for leadership positions in international business through the Master of Business Administration (available with a track 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 an accredited 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, industrial technology, engineering, engineering technology, and biomolecular sciences, in addition to graduate programs in engineering technology, technology management, biomolecular sciences, 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, Suite1050, Baltimore, MD 21202; (401) 347-
7700 . The industrial technology program is accredited by the National Association of Industrial Technology (NAIT); and the construction management program is accredited by the American Council for Construction Education (ACCE).

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 Technology and Business Development, supported in part by the business community, facilitates outreach and research.

## THE GRADUATE PROGRAMS

Central Connecticut State University offers graduate degree programs in approximately 40 fields of study, with many of the degrees offering specializations that provide additional focuses.

The Master of Arts (M.A.) degree signifies completion of at least 30 credits of advanced study, including research and a capstone experience, which includes a thesis, special project, and/or comprehensive examination. Students in an M.A. 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 M.A. degree program when planning to continue their studies at the doctoral level.

The Master of Science (M.S.) degree is primarily a professional degree. Some M.S. programs are designed for certified teachers and some are designed for students in other professions. Degree programs include at least 30 credits of course work and capstone experiences in the form of theses, special projects, and/or comprehensive examinations.

The Master of Business Administration (M.B.A.) is a 33 credit plan, which includes an international core, a specific track of study, and an integrative experience as the capstone. The program prepares graduates for leadership positions in the business environment. (Note: The University is currently not accepting applications to the Master of Business Administration [M.B.A.] degree.)

The Sixth-Year Certificate (SYC) 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 specialization and a dissertation. Students complete a minimum of 6.3 credits.

Graduate post-baccalaureate programs are available for initial teacher certification in elementary, secondary, TESOL, and prekindergarten through grade 12 fields, such as art, music, physical, special and technology education. In addition, course work taken within related degree programs (M.S. and 6th year) may lead to certification as school counselor, 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 Cell and Molecular Biology, Construction Management, Environmental Health \& Safety, Lean Manufacturing \& Six Sigma, Pre-Health, Public Relations/Promotions, and Supply Chain \& Logistics. Advanced OCP (master's degrees are required) are also available in Professional Counseling, Reading \& Language Arts, and the Superintendent of Schools. Also available are postmaster's planned programs of study for school personnel and students interested in other areas and disciplines.

## GRADUATE PROGRAMS IN THE SCHOOL OF ARTS AND SCIENCES

Anesthesia
M.S.

## Art Education

M.S., Teacher Certification, Post-Master's Biological Sciences
M.A., M.S., Teacher Certification Chemistry

Teacher Certification
Communication
M.S., OCP

Criminal Justice M.S.

Data Mining M.S.

Earth Sciences Teacher Certification
English M.A., Teacher Certification, Post-Master's

General Science
Teacher Certification
Geography M.S.

History M.A., Teacher Certification, Post-Master's

Information Design M.A.

International Studies M.S.

Mathematics M.A., M.S., Teacher Certification

Modern Languages M.A., Teacher Certification

Music Education M.S., Teacher Certification, Post-Master's

Natural Sciences M.S., Post-Master's

Physics
Teacher Certification
Psychology
M.A.

Public History
M.A.

Social Studies Teacher Certification
Spanish M.S., Teacher Certification

TESOL
M.S., Teacher Certification

## GRADUATE PROGRAMS IN THE SCHOOL OF BUSINESS

Business Education M.S., Teacher Certification

Business Administration M.B.A. (The University is currently not accepting applications to the Master of Business Administration [M.B.A.] degree.)

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

Counselor Education
M.S., Post-Master's, Advanced OCP

Early Childhood Education
M.S.

Educational Foundations M.S.

Educational Leadership M.S., SYC, Ed.D., Advanced OCP

Educational Technology
M.S.

Elementary Education
M.S., Teacher Certification

Marriage and Family Therapy
M.S.

Physical Education
M.S., Post-Master's, Teacher Certification

Reading
M.S., SYC, Advanced OCP

Special Education
M.S., Teacher Certification

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

## GRADUATE PROGRAMS IN THE <br> SCHOOL OF TECHNOLOGY

Biomolecular Sciences
M.A.

Engineering Technology
M.S.

Technology Management M.S.

Technology Education M.S., Teacher Certification

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

Pre-Health Studies OCP

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

Computer Information Technology M.S.

Many of the above programs have specializations that students may elect as specific areas 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 with 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. (Some programs have summer matriculation.)

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 $\$ 50$. Students may apply online at www.ccsu.edu/grad. The Application for Admission is also available upon request or may be obtained in a number of campus offices. As part of the application and admission process, an applicant must request that official undergraduate and graduate transcripts be submitted directly to the Graduate Admission Office, located in Davidson Hall, Room 115, from every institution at which courses were taken, 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 an applicant become part of the student's permanent file at the University and cannot be returned.

Many graduate programs have established additional admission requirements beyond the minimum requirements of the School of Graduate Studies. Prospective applicants should consult the program description section of this catalog, or the graduate website at www.ccsu.edu/grad, 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, statements of goals and objectives, personal interviews. If so required by the program of application, applicants must provide the additional evidence of admissibility directly 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 School of Graduate Studies, the graduate website, 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, unless other programmatic deadlines have been set, all applications must be received no later than July 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 for the fall semester and by November 1 for the spring semester. (A March 1 deadline exists for the programs that allow summer matriculation.)

Please note that some programs 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 by 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 on the paper-based test, 213 on the computer-based test, or 79 on the Internet-based test (iBT), unless waived by the University.

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

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 as a fulltime student from a graduate program must be reactivated by completing a Request for Reactivation form. After two years of not being registered for classes, graduate students will be notified that they are in danger of becoming inactive and being dropped from their program, unless they register for courses in the next semester. Once students are made inactive, they must reapply and pay a re-enrollment fee of $\$ 50$ to continue in the program. Any semesters in which the student has not taken course work still fall within the six-year time limit for completing the graduate degree program. Only students in good standing (3.00 graduate GPA or higher) are considered for reenrollment. Students may request file reactivation or reenrollment when their program has not been completed.

If a former student wishes to enter a program other than the one to which she or he was originally accepted and 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. (Some programs require a cumulative GPA above the 2.70 , as well as other additional materials. Students are advised to check additional materials required by departments.)

For those students who apply to the School of Graduate Studies and do not meet the minimum undergraduate GPA of 2.70 on a fourpoint scale (where $A=4.00$ ), the quality points of credits for courses taken at the graduate level will be added to the quality points of the undergraduate GPA to compute the total GPA to determine if the required 2.70 has been met. Along with the overall 2.70 , it is expected
that students meet the requirement of a 3.00 GPA for their graduate or post-baccalaureate course work.

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 School of Graduate Studies, and the undergraduate GPA will not be counted.

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 or the graduate website 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, if applicable, the appropriate Connecticut teaching certificate or who 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 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. Con-
sistent with state requirements for the undergraduate academic preparation of teachers, only those applicants who present at least a 2.70 (B-) undergraduate cumulative average may be considered for admission to a certification program at the graduate level.

After admission to the graduate program, a student seeking acceptance to the Professional Program in the School of Education and Professional Studies is required to submit a 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 post-baccalaureate 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, describing in written narrative the reasons for wanting to enroll in the Professional Program and emphasizing 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 two years or more of full-time study in order to complete undergraduate coursework and pro-
fessional education, including student teaching, in areas of study required for certification.

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.

Additional 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 an 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.

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.

Students admitted conditionally, where appropriate, are notified of pre-admission requirements. When any course requirements set forth are completed with grades of $B$ or better and conditions are met with a GPA of at least 3.00 , the academic advisor must then recommend full acceptance to the dean of the School of Graduate Studies.

## 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 the School 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. The dean will first consult the department offering the program for reconsideration of the applicant. Depending on the nature of the appeal, further consultation may be made with an appropriate designee of the academic school or the department chair of the relevant program before making a decision. The dean, School of Graduate Studies, will notify the student of her decision in writing. If an unfavorable decision is rendered, the applicant may request that the appeal be sent to the Graduate Standing Appeals Subcommittee of Graduate Studies.

## 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 the School 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 proposes policies affecting graduate students and programs that then need approval by the Faculty Senate. The Graduate Studies Committee also hears appeals related to student academic matters.The sections that follow summarize graduate 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. The School of Graduate Studies Handbook, available in the Office of the School of Graduate Studies (Barnard Hall), details all policies related to graduate students and programs. Advisors are assigned 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 or other nondegree programs.

After a student has been admitted to study for a graduate degree, certification, or program of any kind, the student must consult with the faculty advisor to develop the planned program of graduate study. An approved planned program is required for all graduate programs.

After the advisor has signed the planned program form, it must be submitted by the advisor to the School of Graduate Studies for approval. Once approved by the dean, School of Graduate Studies, or designee it then becomes a formal plan for graduate study and represents a formal agreement between the University and the student. Any changes in the planned program must be approved by the advisor and the Graduate Dean.
"Planned Programs 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 Office of the School of Graduate Studies or the Enrollment Center/Office of Continuing Education. Forms are also found at www.ccsu.edu/grad.

The planned program should be developed with the advisor early in the student's graduate studies but must be approved prior to the completion of 16 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. However, graduate policy stipulates that no more than nine credits taken at the 500 level as a nonmatriculated graduate student will be approved for programs requiring 30-35 credits (or $25 \%$ of the total credits for programs over 36 credits).

Six-Year Time Limit. All course work and 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 within the six-year time limit, the student may request an extension by writing to the graduate advisor who will forward it with recommendations to the Dean, School of Graduate Studies. When making the request; the student should include the semester and year in which he or she expects to complete the degree and the reason for not meeting the six-year time limit. If the Dean, School of Graduate Studies, deems the request justified, an extension will be granted. However, for programs of 30-35 credits, a maximum of eight years will be allowed in total to complete the degree; for programs of 36 credits or more, a maximum of nine years will be allowed.

## 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 the School of Graduate Studies.Changes of Program. To change a graduate program after admission, the student must complete a change of major/advisor form and submit it to the School of Graduate Studies Office. Students must be matriculated and must meet any special requirements of the program to which they are seeking approval for a change. The form will be forwarded to the department that offers the requested program for a decision. The department may also assign conditions for admission.

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 the 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.

## Non-Capstone Qualifying Exam. Some

 graduate programs require qualifying examinations. To be eligible to take the examination, students must complete an application form, which is available in department offices or the School of Graduate Studies, or on the graduate website. Students should submit this form to the Office of the School of Graduate Studies. The academic department will review the application and notify eligible students concerning the time and place of the examination. The department will inform students of the results and forward paperwork to the School of Graduate Studies for inclusion in the student academic record.Conditional Acceptance Policy. A student who has been conditionally accepted into a graduate program will be given only one opportunity to fulfill all conditions. A second attempt may be granted by the department and the Dean of the School of Graduate Studies in exceptional circumstances; however no student will be granted more than two opportunities to fulfill any conditions.

## 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, per-
formance, or applied research project (Plan C or E), 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 $3.00(\mathrm{~B})$ 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 or additional course work be taken and included on the planned program of study. 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. Students will be required to retake required courses in which grades of C - or lower are earned. Both grades will remain on the student's transcript.

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 curriculum 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 the submission of each item to the dean of the School of Graduate Studies. Some departments require their students to give an oral defense of their thesis before it is submitted to the graduate dean, 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 and also on the graduate website.

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 student must register for the thesis using the Graduate Capstone Course Registration Form, available at the School of Graduate Studies or at the website. Students must obtain all signatures as required on the form and should register during the regular registration period. To register, students must have a minimum grade point average of 3.00 and at least 18 credits completed in programs of $30-35$ credits or 24 credits completed in programs with greater than 35 credits.
3. Students intending to complete a thesis should consult The Master's Thesis Guide, available in the School of Graduate Studies Office and also at the graduate website.
4. The thesis must be prepared in a style and format appropriate to the discipline and approved by the dean of the School of Graduate Studies. Among the currently approved styles are APA, MLA, Campbell, and Turabian.
5. A copy of the approved thesis proposal must be submitted to the dean of the School of Graduate Studies by the thesis advisor.
6. Two copies of the approved thesis, one original for binding by the library and one copy, plus three additional copies of the thesis abstract (not to exceed 200-300 words and one to two pages) must be submitted to the dean of the School of Graduate Studies. A digitized copy of the thesis is also required.
7. If a student planning to graduate in May wishes the thesis to be included in the May Commencement Program, the thesis must be submitted by April 15 of the year in which the student plans to graduate. If a student planning to graduate in December wishes the thesis to be included in the December Commencement Program, the thesis must be submitted by November 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 $75 \%$ of planned program requirements. Exceptions may be granted with the recommendation of the advisor and permission of the dean, School of Graduate Studies. Students are required to have a minimum 3.00 grade point average at the time of application. 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 a summer session comprehensive examination.

To be eligible to take the examination, students must complete an application form, which is available in department offices or the Graduate Office, or on the graduate website. Students should submit this form to the Office of the School of Graduate Studies 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 the School of Graduate Studies for permission to retake the examination.

Students who elect the Plan C or E option must complete a special project. In general, the special project involves completion of a body of applied work appropriate to the degree specialty. The availability of this option and the requirements for the special project vary according to the degree program. However, all special projects, both Plan C and E , must include as a minimum an abstract, a definition of the project, project objective (purpose, rationale for conducting the project), a review of literature, research methods or a plan for the project, results or findings, summary or conclusions, and bibliography or references, as well as appendixes, if appropriate. The department must specify the style and format to be used and whether an oral defense is required.

For Plan C, the faculty advisor or another faculty member in the department will super-
vise the project. The student's work will be evaluated by the advisor and by at least one other faculty member as determined by departmental requirements.

Students in a Plan C special project must register using the Graduate Capstone Course Registration Form, available at the School of Graduate Studies or at the website. Students must obtain all signatures as required on the form and should register during the regular registration period. To register, students must have a minimum grade point average of 3.00 and at least 18 credits completed in programs of $30-35$ credits or 24 credits completed in programs with greater than 35 credits. The special project proposal will not be approved until the student has registered for the course.

A copy of the approved special project proposal must be submitted to the dean of the School of Graduate Studies by the advisor. When the special project is completed, two copies of the approved special project must be submitted to the dean of the School of Graduate Studies.

Students in a Plan E special project will register for the designated special project departmental course. To register, students must have a minimum grade point average of 3.00 and at least 18 credits completed in programs of $30-35$ credits or 24 credits completed in programs with greater than 35 credits. The student's work will be evaluated by the course instructor 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 or E 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 in alternate years. They 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 one-year period of time, the program can be completed in three and one-half 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 Assessment and 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

After the student has been admitted, requirements for teacher certification at the graduate level will be individually prescribed through a transcript evaluation by an advisor in the School of Education and Professional Studies and departmental subject advisor when applicable. Certification requirements include not only course work (such as completion of undergraduate 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. For current information concerning Connecticut and University requirements for certification, they may consult the Office of the Dean, School of Education and Professional Studies. Students completing planned programs of teacher certification programs do not participate in graduation ceremonies.

## OFFICIAL CERTIFICATE PROGRAMS

Official Certificate Programs (OCP) 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- or part-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. When requirements have been completed, students are issued a certificate from the dean, School of Graduate Studies. Students completing planned programs of certificate programs do not participate in graduation ceremonies.

## 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 which are developed with an advisor. 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 the School 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.

## GRADUATE STUDENT RESEARCH

In compliance with federal regulations, CCSU has a policy in effect which states that all research (including research conducted by graduate students) using human subjects
must be reviewed and approved by CCSU Human Studies Council (HSC). Proposals must be submitted for review prior to data collection, as there is a strict policy that no research will be reviewed retroactively. Information regarding the HSC and the proposal submission process can be found at www.ccsu.edu/humanstudies.

If research involves the use of animals, CCSU policy mandates that approval must be sought from the CCSU Institutional Animal Care and Use Committee (IACUC). Application materials may be obtained by contacting the IACUC chair.

Students may also refer to the Master's Thesis Handbook or contact the School of Graduate Studies or the Office of Sponsored Programs for more detailed information regarding conducting research.

## 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

200-299

300-399

400-499

500-599

Courses open to first-year students, and in general to all undergraduate students Courses open to sophomores, and in general to all undergraduate students Courses open to juniors, and in general to sophomores, juniors, and seniors Courses open to seniors, and in general to juniors, seniors, and graduate students. Additional work is required for graduate students to earn graduate credit.
Graduate courses; undergraduates, who meet requirements of a minimum 3.00 GPA and 90 credits of study, may request registrations by obtaining approval of undergraduate advisor, instructor, chair of the department offering the
course, and and dean of the School of Graduate Studies, who will give preferential admission to graduate students.
600-699

700-799
Graduate courses open only to master's, sixth-year, and doctoral students.
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, School 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. Graduate students enrolled in 400-level classes are required to do additional work as compared to their undergraduate classmates.

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, and up to a maximum of 15 credits.

Adding a Course. Students may add courses on a space-available basis (that is, enroll in courses in addition to those for which they have previously registered) prior to the scheduled beginning and through the first eight days of each semester. All students add courses in the Enrollment Center/ Office of Continuing Education. Capstone and independent study courses also may be added within this same period; however specific forms are used that require signatures including that of the dean, School of Graduate Studies. Registration after a semester's scheduled beginning is dependent on course enrollment and/or the willingness of the instructor, department chair, and dean(s) to approve an additional student.

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 student drops below nine
credits, the student must change status from full-time to part-time. Requests for dropping a course must be in writing; 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, and in the Registrar's Office, Davidson Hall. The deadline for dropping all fullsemester courses is included in the Enrollment Center/Office of Continuing Education bulletin and in the schedule of classes provided by the Registrar's Office.

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. In addition, fulltime graduate assistants must carry a minimum of nine credits.

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 that is integral to each program (undergraduate and graduate). Each of these courses will have different numbers, titles, syllabi, and requirements. Undergraduate bridge courses must not have graduate credit."Link" Course. A "link" course is a graduate course which may share lectures with a specific advanced undergraduate (400-level)
course on the same topic. These courses may be electives. Each of these courses will have different numbers, titles, syllabi, and requirements. Undergraduate link courses must not have graduate credit.

## Withdrawing from the Graduate

Program. A full-time student who wishes to withdraw in good standing from all course work in progress during the current semester at the University must consult with the Registrar or designee and file all appropriate forms.

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

Any student who no longer wishes to pursue a graduate degree program must provide written notification to the School of 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 reenrollment 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 School of Graduate Studies. The following grade point equivalents will be used to compute cumulative grade averages: A (4.0); A- (3.7); B+ (3.3); B (3.0); B- (2.7); $\mathrm{C}+(2.3) ; \mathrm{C}(2.0) ; \mathrm{C}-(1.7) ; \mathrm{D}+(1.3) ; \mathrm{D}$ (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 remain on the graduate transcript and 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

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 capstone theses or special projects.)

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 on page 38 of the 2005-07 Undergraduate Catalog.

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 grade 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 the Dean of the School of 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, performance-based 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 its decision in writing by notifying the graduate student and copying the graduate dean.

## 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.

## DISMISSAL, PROBATION POLICIES

Students who drop below a 3.00 average will receive a letter from the Dean of the School 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 Graduate 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 the School of Graduate Studies as recommended in the letter, the student's schedule will be dropped and he/she will be withdrawn from his/her program. A student who is dropped from the program and who wishes to reapply must do so through the School of Graduate Studies. The Graduate Dean, in consultation with the department offering the program, 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, as well as other materials as required.

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 the School 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 first to the dean, School of Graduate Studies. If an unfavorable decision is rendered, they may then appeal to the Graduate Studies Committee.

Students who are dismissed from graduate study may request reenrollment upon attainment of a 3.00 (B) cumulative grade point average on the Central Connecticut State University graduate record. Forms for requesting file reenrollment are available in the Graduate Admissions Office and the Office of the School of Graduate Studies
and at www.ccsu.edu/grad. Along with submitting the reenrollment form to Graduate Admissions, the student must submit to the department offering the program any additional materials that are required by the department for the its review of the file. A department may also consider prior performance in the program when reviewing a student's file who has been formally dismissed by the School of Graduate Studies.

Students who are dismissed from a graduate program will not be allowed to take courses for graduate credit unless they have the permission of the instructor, the chair of the department offering the course, and the dean, School of Graduate Studies.

## 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. (Some programs may have more stringent policies.) 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 the School 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 Office of the School of Graduate Studies 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 School of Graduate Studies 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.

## DEGREE RECEIPT AND <br> GRADUATION

Upon completion of all applicable course and capstone requirements for the doctoral degree, master's degree, or sixth-year certificate, students are eligible to receive their degree and to graduate. However, degree award and graduation are not automatic. While a student may have completed all applicable course and capstone requirements for their program, every degree candidate is required to notify the University about program conclusion by filing a graduate-level Application for Graduation form with the School of Graduate Studies. Not submitting an Application for Graduation in a timely manner may result in failure to receive the appropriate degree for the requested semester. Further, if a degree-seeking student fails to finish all requirements by the completion date indicated on the submitted Application for Graduation, a new application must be filed.

Central Connecticut State University confers degrees three times during the academic year: May, August, and December. Students expecting to receive degrees during any of these periods must complete all applicable program requirements by the last official day of the semester or session in which the degree is to be awarded.

Students who anticipate finishing degree requirements during the spring semester (May completion) should submit the Application for Graduation no later than March 1. Students who anticipate finishing degree require-
ments during the summer sessions (August completion) should submit the Application for Graduation no later than April 1. Students who plan to finish degree requirements during the fall semester (December completion) should submit the Application for Graduation no later than September 15. Graduate-level Application for Graduation forms are available in the office of the School of Graduate Studies and on the website, as well as in other areas on campus.

All students who submit an Application for Graduation and expect to receive the doctoral degree, master's degree, or sixth-year certificate are eligible to participate in formal University-wide commencement ceremonies. Students who complete degree requirements in the spring semester are scheduled to participate in the May commencement ceremony. Students who complete degree requirements in summer sessions or the fall semester are scheduled to participate in the December commencement ceremony. Information about commencement ceremonies will be mailed to all eligible students who then inform the University whether they plan to participate.

## STUDENT REGULATIONS AND CONDUCT

Graduate students at Central Connecticut State University are expected to follow University regulations outlined in the Survival Guide: Student Handbook 2006 (available online at www.ccsu.edu/Students/Survival) and the School of Graduate Studies Handbook (available from the Office of the School of Graduate Studies, Barnard Hall). 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 from another, in a manner not authorized by the instructor, in the creation of work to be submitted for academic evaluation (including papers, projects, and examinations). Plagiarism is defined as presenting, as one's own, the ideas or words of another person, for academic evaluation, without proper acknowledgement."

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 Rights and Responsibilities, "Prohibited Conduct," Survival Guide: Student Handbook 2006.)


## 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, §53-392a.)


## 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 School of Graduate Studies, and the University Judicial Officer.

- Upon receipt of the University Academic Misconduct Report, the University judicial officer with the dean, School of Graduate Studies, 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 Survival Guide: Student Handbook 2006.
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 dean,

School of Graduate Studies, and judicial
officer, 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 consultation 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 Directory Information Policy," the Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records, including "the right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is defined as a person employed by the University in an administrative, supervisory, academic, or support staff position (including law enforcement unit and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility." (Survival Guide: Student Handbook 2006).
Subsequent Violations of the Academic Misconduct Policy:
When the University Judicial Officer or the Graduate Dean has multiple University Aca-
demic 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."
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.
3. All end of the semester appeals must be made in accordance with the "Appeals for Grade Change Policy."
4. In addition to academic sanctions provided by the faculty member, if disciplinary proceedings have been initiated by the University's judicial officer or the dean, School of Graduate Studies, a student has the right to have such proceedings resolved in accordance with the "Rights and Responsibilities" (Survival Guide: Student Handbook 2006).

## Professor's Responsibilities When

 Academic 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 "Rights and Responsibilities" (Survival Guide: Student Handbook 2006).

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 Survival Guide: Student Handbook 2006.

## 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 or the Registrar's 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 Theses (Plan A), Comprehensive Examinations (Plan B), or Special Projects (Plan C or E) 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, B, C, or E will be withdrawn and lose his/her matriculation status. Matriculated graduate students withdrawn for this reason will have to re-apply 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 graduate students who receive appointments as graduate assistants pay tuition 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 classified as an out-of-state resident. 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 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 or online through CentralPipeline. 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, must change their status to part-time. Part-time charges will replace full-time charges and any money that has been paid will be transferred to the new charges. Any excess payment will be refunded according to University refund policies. Please note that those enrolling as full-time students may not withdraw from the University as part-time students during the first week of University-wide classes, without incurring the $40 \%$ penalty.

Part-Time Student Status. A student who enrolls in eight 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 $\$ 62$ Registration Fee which gives them access to various University services and facilities, including the Student Center, the University library and student parking.

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

## FULL-TIME TUITION AND FEES

Tuition and fees are subject to change at any time without notice by action of the Connecticut State University Board of Trustees. The per semester costs for 2006-07 of tuition and fees charged to full-
time graduate students (nine or more credits of courses) are as follows.

|  | Non- <br> Resident | Nesident <br> ren |
| :--- | ---: | ---: |
| Tuition | $\$ 1,985.00 \$ 5,530.50$ |  |
| State University Fee | $\$ 10.00$ | $\$ 1,007.00$ |
| General Fee | $\$ 1,036.00$ | $\$ 1,036.00$ |
| Student Activity Fee | $\$ 37.00$ | $\$ 37.00$ |
| Information |  |  |
| Technology Fee | $\$ 111.50$ | $\$ 111.50$ |

Sickness Insurance. A sickness insurance fee of $\$ 312.00$ for the fall 2006 semester and $\$ 313.00$ for the spring 2007 semester is required of all students who do not submit an on-line waiver form through CentralPipeline.

## Total Tuition and other required fees <br> Fall <br> \$3,270.00 \$7,011.00 <br> Spring <br> \$3,270.00 \$7,011.00

## PART-TIME COURSE AND REGISTRATION FEES

The 2006-07 fees charged to part-time graduate students are as follows. These fees are subject to change without notice.
Registration Fee
$\$ 62.00$
Courses numbered 099-699 \$380.00 (per credit)
Doctoral students-courses
$\$ 525.00$ numbered 099-799 (per credit)
M.S. Data Mining courses $\quad \$ 450.00$ (per credit)

## OTHER FEES

Depending on student status and/or course selections, other fees will be charged to students as follows:
Applied Music Fee (1/2 hour) $\$ 200.00$ Applied Music Fee (1 hour) $\quad \$ 400.00$
Audit Fees (same as for creditbearing courses)
Coop Fee
\$200.00
Design Lab Fee $\quad \$ 65.00$
Excess Credit Fee (over 18) (per credit)
\$380.00
Online Course Fee
$\$ 50.00$
Re-Registration Fee $\quad \$ 100.00$
On-Campus Room and Meals. Very limited on-campus graduate student housing is available for international graduate students. Off-campus residents may participate in the meal plan which is required for all students living in the campus residence halls.

Room Deposit (applied to
room rates)
$\$ 250.00$
Residence Hall Room
Balance Per Semester
Standard
\$2,246.00
James Hall
2,689.00
Meal Plan (required of on-campus residence hall students):
A. $19 \mathrm{Meals} /$ week/semester $\&$

10 Guest Meals $\quad \$ 1,699.00$
B. $220 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals
\$1,623.00
C. $180 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals plus $\$ 100$ Blue Chip $\quad \$ 1,657.00$
D. $150 \mathrm{Meals} /$ semester $\&$ 10 Guest Meals plus \$200 Blue Chip
$\$ 1,735.00$
E. $120 \mathrm{Meals} /$ semester plus $\$ 250$ Blue Chip $\quad \$ 1,780.00$

Commuter Meal Plan Fees (optional):
$\begin{array}{ll}100 \mathrm{meals} / \text { semester } & \$ 530.00 \\ 75 \mathrm{meals} / \text { semester } & \$ 424.00\end{array}$
75 meals/semester
$\$ 424.00$

## PAYMENT OF FEES

All graduate students accepted for full-time study must pay a non-refundable $\mathbf{\$ 2 0 0}$
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.

Central Connecticut State University settles all accounts in United States dollars, and does not assume any liability for losses that may result from foreign exchange rate differences under any circumstances. Central Connecticut State University's liability in the event of an error to a student's account is limited to the correction of the error in United States dollars.

Penalties. The University will assess a Late Charge of \$50 if payment is received after the due date. A Service Charge of $\$ 50$ 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 115). Refunds to eligible full-time students are processed by the cashier (Davidson Hall, second floor).

Full-time graduate students who have not registered for classes at the University and have not paid tuition or fees, but who have been accepted for a graduate program should notify the Registrar's Office (Davidson Hall 115) 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 who remain 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 course fees 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 on a space-available basis for persons age 62 or older who have been formally admitted to a graduate program and register.

Veterans. Veterans and certain others may qualify for veterans assistance programs, including waivers. Eligible students should consult the Office of Veterans Affairs (Willard Hall 133). 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 four installments per semester. Fall semester installment payments are made in four installments, beginning July 15 and ending on October 15. Spring semester installment
payments begin December 15 and end on March 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 third page of the electronic billing statement.

All questions concerning the CPP should be directed to the CCSU Bursar's Office, located in Memorial Hall 104, at 832-2010. Office hours are Monday-Thursday, 8 a.m. to 5 p.m.; Friday, 8 a.m. to $4: 30$ p.m.

## 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 (CCSU Blue Chip Card). Photo identification cards are mandatory for all full- and part-time students, faculty, and staff. The CCSU Card Office manages the photo ID system and Blue Chip accounts and is located in the Student Center, Room 106 (inside the Bookstore).

The Blue Chip Card also is used as a campus debit card. A student may use funds on deposit to make purchases with the Blue Chip Card at Memorial Hall cafeterias, Student Center dining areas, campus Barnes and Noble Bookstore, all campus vending machines, public-access copiers, MicroLab printers, and residence hall laundry machines, as well as at many off-campus vendor and food locations. Students may deposit money to their Blue Chip account over the Internet with a credit card or in person at the Card Office or at any one of five Card Value Centers located throughout the campus (Burritt Library, Marcus White MicroLab, Student Center, Sheridan Residence dorm, and Campus Police Station, which is open 24 hours a day). The Card Office and Bursar's Office accept cash and checks.

The University has an agreement with Achieve Financial (formerly CenConn) Credit Union to provide bank accounts that allow the Blue Chip Card to be utilized as an ATM card. Students opening an account with Achieve Financial have regular banking privileges at the credit union. Once their credit union account is activated, students may use the Blue Chip Card as an ATM card in on- or off-campus ATM machines. Students receiving financial aid may choose to have excess financial aid electronically deposited to their bank account. In addition, students working on campus may have their
paychecks electronically deposited to their bank accounts. Achieve Financial's CCSU office is located in the Student Center, Room 106 (832-0139).

Questions concerning Blue Chip Cards and accounts, or the credit union's banking program, may be directed to the Card Office. Card Office hours during the fall and spring semesters are Monday through Wednesday from 9 a.m. to 5 p.m., 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 website at www.cardoffice.ccsu.edu.

Lost or stolen cards should be reported to the Card Office, or to the Police Department (832-2375) after Card Office hours. A temporary ID will be issued and the Blue Chip account will be placed on hold until a new Blue Chip Card is 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 104, Memorial Hall, phone 832-2010.

## FINANCIAL AID

Applying for Financial Aid. To apply for financial aid, all students need to access www.fafsa.ed.gov and complete or renew the Free Application for Federal Student Aid (FAFSA). CCSU's Federal ID number is 013078. The FAFSA may be completed beginning January 1 for the next academic year starting in the fall. Students should access the Financial Aid website at www.ccsu.edu/finaid to learn about any posted priority processing
deadlines and to better understand the financial aid process at CCSU.

Financial aid for graduate students at CCSU is awarded on the basis of demonstrated financial need as determined by the data provided from the FAFSA. Graduate students enrolled in the nurse anesthesia and teacher certification programs have special circumstances which may affect how much aid they may receive; therefore, it is incumbent upon them to contact the Financial Aid Office for further information.

Eligibility Criteria. To be eligible to receive federal aid assistance, a student must be: (1) a U.S. citizen or an eligible non-citizen; (2) matriculated; i.e., admitted to a graduate program and enrolled in courses applicable to the program; (3) attending classes for at least six semester credit hours; (4) making satisfactory academic progress (SAP) toward the degree as defined by the University and in the Graduate Catalog; and (5) have demonstrable financial need.

Eligibility for financial aid can be determined only after the FAFSA has been filed and all other requested documentation has been submitted to the Financial Aid Office. Students will be notified if they qualify for any financial aid by an award letter and in the student's CCSU Central Pipeline Account.

Sources of Financial Assistance. The Federal Stafford Loan Program of subsidized and unsubsidized loans is the primary source of financial assistance for graduate students. Congress authorized a graduate Plus loan which may also be awarded upon request.

- Federal Subsidized Stafford Loan-

Subsidized loans are based on need. Loan repayment begins after a sixmonth grace period following the date that studies terminated or dropped below the six semester credit hour minimum. The interest rate is fixed at 6.8 percent. The graduate student annual limit is $\$ 8,500$, and the aggregate loan limit is $\$ 65,500$.

- Federal Unsubsidized Stafford Loan-Unsubsidized loans are awarded to students without demonstrated financial need. The student is responsible for the accruing interest while in school, with an option to capitalize the interest payment. Loan repayment begins after a six-month grace period following the date that studies terminated or dropped below the six semester credit hour minimum. The
interest rate is fixed at 6.8 percent. The graduate student annual limit is $\$ 10,000$, and the aggregate loan limit is $\$ 73,000$.
- Other Sources-In addition to the federal Stafford loans, students are encouraged to personally explore other sources of financial aid assistance, including graduate assistantships, private scholarships, Veteran/GI Bill benefits, and the National Guard and Army Reserve. A variety of part-time job referrals, on and off campus, are available at the Financial Aid and Human Resources offices. Contact the Financial Aid office about personal, low interest alternative signature loans which may be available.

Award Notification. When financial aid eligibility has been determined after receipt of the FAFSA, an award letter outlining the types and amounts of aid offered will be sent by mail and posted in the student's CCSU Central Pipeline account. It is important that the student respond electronically, to accept and/or decline, and sign the aid offered.

Failure to respond may delay the posting of aid awarded and accepted to the student's Bursar's Office billing or result in cancellation of the aid. The award letter may require the completion of a Master Promissory Note and Entrance Counseling Interview upon acceptance of the federal Stafford loan.

Satisfactory Academic Progress (SAP). To remain eligible for financial aid, a student must earn a minimum of semester credit hours during a given academic year and remain in good academic standing. In addition, a student must be making satisfactory progress toward degree completion. Failed and audited courses will not be counted toward the minimum number of semester credit hours required for financial aid SAP.

- Full-time Graduate Students-SAP is defined as the successful completion of at least 18 semester credit hours of academic work toward the graduate degree or approved program each academic year for students who initially enroll for the fall semester. Full-time students initially enrolling for the spring semester, or for the fall semester or summer session only, must complete nine semester credit hours during the academic year. They must maintain a 3.00 GPA to remain in good academic standing. Full-time students are eligible
for financial assistance for up to four semesters of full-time attendance, or until certified for graduation, whichever comes first.
- Part-time Graduate Students—SAP is defined as the successful completion of at least 12 semester credit hours of academic work toward the graduate degree or approved program each academic year for students who initially enroll for the fall semester. Part-time students initially enrolling for spring semester, or for the fall semester or summer session only, must complete six semester credit hours during the academic year. They must maintain a 3.00 GPA to remain in good academic standing. Part-time students are eligible for up to eight semesters of part-time attendance, or until certified for graduation, whichever comes first.
Students who do not successfully complete the required number of semester credit hours during the fall and spring semesters may complete the needed credits during the summer session. Any student who does not complete the needed credits will be ineligible for financial aid assistance the following academic year.

However, upon presentation of evidence of medical or other legitimate personal or family emergency, a student denied financial assistance under this policy may appeal to the campus officer designated by the University President.

The Financial Aid Office is located in Memorial Hall, Room 103. For more information, call (860) 832-2200 or e-mail financial aid @ccsu.edu.

## 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 assist in teaching, 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 School of Graduate Studies or on the web: www.ccsu.edu/grad.

Students are encouraged to contact their academic department chair or administrative offices concerning the availability of assistantships. The Career Services Office also assists students in finding graduate assistantships and has a telephone job line (832-1647).

Graduate assistants are appointed by the Dean of the School of Graduate Studies, upon the recommendation of a department chair or director, 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 GAs provide approximately 20 hours of service per week during the semester or 300 hours per semester; students appointed as half-time GAs provide 10 hours of service per week or 150 hours per semester. Graduate Assistants may not be employed under any other employment category by the University. They also are expected to make a full-time commitment to graduate study.

Course Loads for Graduate Assistants. To be awarded a full-time assistantship, a gradu-
ate student must be classified as a full-time student. Nine credits comprise the required course load minimum for full-time graduate students. Half-time appointed GAs 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 (depending on the number of years in service as a GA), in addition to a waiver of the State University Fee and most of the General Fee. They pay resident or non-resident tuition as appropriate, a portion of the General Fee attributable to student accident insurance, and other insurance coverage costs as needed. Some insurance charges may be waived on the basis of alternate coverage.

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

## SCHOLARSHIPS AND FELLOWSHIPS

Graduate Academic Scholarships are annual awards provided each fall semester to highly qualified students as recommended by their departments. Each graduate program may nominate one student who has completed, among other requirements, a minimum of 15 credits of academic credit toward a graduate degree program and who has a grade point average of 3.50 or higher. The award recipients are selected in the fall, and the awards are distributed the following spring semester. Students should contact the academic departments or the School of Graduate Studies for information about the Academic Awards and Outstanding Scholars 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 com-
munity serviçe 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. The scholarship recipient is selected in the spring; the award is distributed the following summer or fall semester. Application forms are available in the School of 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. Students must consult with their advisors before registration for course work prior to the submission of an official planned program of study. The official planned program of graduate study, designed by the student and his or her advisor, must be submitted and approved prior to completion of 16 credits of course work.

A student may request a faculty advisor other than the one assigned by his or her department. To request a new advisor, a student must complete a "Request for Change of Major, Degree and/or Advisor" form available in the offices of the School of Graduate Studies, Registrar, or Enrollment Center/ Continuing Education or on the web at www.ccsu.edu/grad. The student should submit the request to change the advisor to the Office of the School of Graduate Studies. Changes of advisor 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 part-time and matriculated full-time graduate 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 in attending conferences and workshops and/or in completing research associated with the preparation of the capstone experiences (theses 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 also includes the University's administrative officers and the president of the Faculty Senate. In addition, full- and part-time graduate students are represented on the University Budget and Planning Committee and the Graduate Studies Committee.

For further information, contact the Graduate Student Association through the School of Graduate Studies, Barnard Hall, Room 102 (860-832-2364) or through the graduate website.

## 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 workshops, Center study hall hours, 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 that 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 Ramon Hernandez, Assistant Dean for Student Affairs; Davidson Hall, Room 106, 832-1601.

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

Job Line (860-832-1647). Career fairs offer opportunities to meet with employers regarding all types of employment opportunities, Co-ops, and internships. The following career fairs take place during the academic year: September-"On-Campus Employment Fair," October-"Accounting Career Fair," November-_"Fall Career Fair," and April-"Spring Career Fair" and "Education Career Fair."

Experiential education is a major focus for both undergraduate and graduate students. Career Services coordinates the University's sizeable Cooperative Education Program which is described in detail on page 79 of this catalog. Through this program, students work at six-month, paid positions which are related to their major field of study and provide them with real world experience.

Career Services also helps students to access paid and unpaid internship opportunities through which students develop professional skills and test out their career goals.

Counseling and Wellness Center. The mission of the Counseling and Wellness Center (Marcus White Hall, Room 205) is to support the health and well being of all members of the CCSU community. The Center offers free and confidential services, including individual, group, and relationship counseling, to full- and part-time students. The services include clinical assessment, short-term counseling, and referral assistance when appropriate. The Center also provides consultation services to all members of the campus community. The Center is committed to providing students with a welcoming and comfortable environment to discuss their concerns with seasoned professionals. Some of the programs sponsored by this department include the Natural Helpers Program, AlcoholEDU (online), prevention education programs on a range of behavioral health issues, and training for student leaders, staff, and faculty. Student internships and Graduate Assistant positions may be possible.

## Enrollment Center/Office of Continuing

 Education. The Enrollment Center (Willard Hall Lobby) is a centralized service center for all students (full time 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 a.m. to 6 p.m.; Friday, 8 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 experience for assistance with collegiate study skills, time management and exam preparation. TLC provides study skills tutorials, individual and small group study sessions, a study skills course called The Master Student (ID 102), The Mathematics Tutoring 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).Student Disability Services. Student Disability Services (SDS) provides students, faculty, and staff with assistance and information on issues of access and fostering opportunities for students to participate in a barrier-free learning environment at the University. SDS's principal duty is to provide services and supports that promote educational equity for students with disabilities. Assistance includes arranging reasonable accommodations and auxiliary aids that are necessary for students with disabilities to pursue their academic studies, both in and out of the classroom.

Students with verifiable disabilities, visible or hidden, qualify for services. Students should disclose their disability to SDS as soon as they are notified of acceptance to
the University to ensure timely services. All students must provide current documentation of disabilities that limit one or more major life activities. Disability categories include, but are not limited to, the following: mobility/orthopedic disabilities, specific learning disabilities, attention deficit disorders, vision and hearing disabilities, acquired head injuries, psychiatric/psychological disabilities, epilepsy, and chronic health-related disabilities.

Course accommodations may include arranging for sign language interpreters, CART, readers, note takers, extended time for exams, on-campus housing, and classroom relocation if inaccessibility exists. In addition, students are assisted in developing strategies to negotiate campus life independently, learning advocacy skills, understanding legal rights and protections, developing compensatory skills, and becoming knowledgeable about adaptive technology and other on- and offcampus resources.

For more information, visit www.ccsu.edu/LearnCtr/disability/default. html; contact Natalie Stimpson-Byers, coordinator of Student Disability Services, at 832-1957 [TDD: (860) 832-1954] or visit The Learning Center in Copernicus Hall, Room 241.

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 109 (832-1667).

University Health Service. Under the direction of a Medical Director, University Health

Service offers medical services to all students for maintenance of health and the evaluation and treatment of acute illnesses and injuries. In addition, the staff provides contraceptive counseling, evaluation of sexually transmitted infections, travel health information, mental health screening (working closely with our Counseling Office), and a flu clinic in late fall. Patients are seen by appointment only, except in the event of an emergency. Appointments are free. Many services are provided at no cost; however, some services, such as inhouse prescriptions, certain lab tests, and immunization updates, require a minimal fee. Certain laboratory tests, X-ray costs and prescriptions filled at an outside pharmacy are covered through the student's particular health insurance plan. Referrals to appropriate specialty consultants are made as needed.

All full-time students are required to submit a completed medical form that includes a medical history, immunization data, and a physical examination by a health care provider prior to registration at the University. All matriculated part-time students are required by the University to have up-to-date immunization records for measles and rubella consistent with State of Connecticut Department of Health Service guidelines (part-time form available on our website). Failure to submit the required medical information may result in the withholding of registration schedules and/or housing assignments.

General information (832-1925); medical appointments (832-1926). Hours: Monday through Thursday, 8:30 a.m.-4 p.m.; Friday, 9:30 a.m. -4 p.m. University Health Service is located in the Marcus White Annex, next to the computer lab.

University Ombudsman. The University Ombudsman serves as a prompt, impartial, and confidential resource designated by the President of CCSU to assist members of the campus community to resolve a problem or complaint quickly and properly. The Ombudsman also helps the University to develop, implement, and maintain policies and procedures which equitably address the rights and responsibilities of everyone on campus. The University Ombudsman can be a last resort, offering help when regular channels have failed, as well as an information resource, offering guidance for those who don't know where to begin. The Ombudsman is not intended to replace existing University governance or appeal procedures but rather to improve communications regarding University operations
and to enable members of the University community to protect their rights and have their concerns responded to in an efficient and effective manner. The office of the University Ombudsman is located in Davidson Hall, Room 221 (832-2216).

Veterans Affairs. The Office of Veterans Affairs (Willard 133) 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 (860-832-2838).

## Women's Center. The Ruthe Boyea

 Women's Center, named for its founding director, is a multi-purpose program and service center for students, staff and faculty. The center offers a variety of services for and about women, including peer education, reentry counseling, support groups, crisis intervention, a luncheon series and programming and research on women's issues. The staff of the center also sponsors educational and cultural programs in response to the needs and interests of campus women. The Ruthe Boyea Women's Center is located in 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, group rate insurance programs, and student educational loan consolidation. The Association also sponsors major events, such as Homecoming, Alumni Day, class reunions, networking socials throughout the state, and regional events around the country. Career and library services are provided to alumni. The Association offers scholarship opportunities to undergraduate junior- and senior-level students who are children or grandchildren of alumni. An elected 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 or visit www. ccsu.edu/alumni.

## BOOKSTORE

The University Bookstore, operated by Barnes and Noble, Inc., is located in the Student Center. In addition to carrying course textbooks, the University Bookstore maintains an inventory of office and school supplies, CCSU gifts items, health and beauty aids, reference materials, greeting cards, soda, and snacks. A photo service and video game/movie rental service is also available. Students can arrange to have packages sent by UPS through the Bookstore.

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

When classes are 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: $6 \mathrm{a} . \mathrm{m}$. 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. WTICAM 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 Snow Phone or web 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 communication.

## CHILDCARE

The Early Learning Program, Inc., a statelicensed childcare 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, 7:30 a.m. to 5 p.m., with an option to stay until 6 p.m. Attendance options include nursery school and part- and full-time care. Priority enrollment goes to the CCSU students, faculty, staff, and alumni. If room allows, enrollment is open to the greater New Britain community and others. For information, contact Program Director Kathy Hucks at 827-7018.

## 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 nationally known art museums, the New Britain Museum of American Art and the Wadsworth Atheneum in Hartford. Area theatres, including Hartford Stage, the Repertory Theatre of New Britain, the Goodspeed Opera House in East Haddam and The Bushnell 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 extensive print and digital resources of the Elihu Burritt Library support the scholarly information needs of the CCSU community. The library provides digital access to an ever-expanding full-text journal collection and specialized abstracting and indexing services. In addition to its extensive book and journal collections, the library houses a Curriculum Laboratory, a partial federal documents repository, and a

16,000-volume rare book collection, as well as the renowned Polish American Archives and Gender Equity Collections.

CONSULS (www.consuls.org), the shared catalog of the CSU libraries and the State Library, is the digital gateway to over 1.4 million books, journals, audio-visual materials, government documents and Internet resources. All members of the CCSU community may take advantage of the many remote access features, such as viewing library account information, renewing and requesting library materials, digital course reserves, off-campus database access, and reference assistance.

## FOOD SERVICE

On-campus meals, for students on a meal plan, are served in Memorial Hall. Meal plans are optional of graduate students, although they are required for any student who is living in on-campus housing. Meal Plan information is listed on page 21. Additional retail food services are available in the Student Center's Devil's Den Food Court, as well as at the Jazzman's Café located on the second floor of the Elihu Burritt Library. All-you-can-eat meals can also be purchased on a cash basis in the Memorial Hall Cafeteria.

## GRADE REPORTS

Students may retrieve their grades on the web via CentralPipeline, following the posting of grades at the conclusion of each academic semester and, for all summer courses, at the end of the third Summer Session.

## HEALTH INSURANCE

All full-time students, as part of the General Fee, are covered under the accident insurance plan. Students are covered 24 hours a day on and off campus. Full-time students will also be automatically enrolled in the sickness plan, unless proof of comparable insurance coverage is provided to the University. The complete text of the insurance policy is available at www.chickering.com.

Part-time students are not required to have accident/sickness insurance but may elect to purchase an accident/sickness insurance policy through an independent contractor selected to service students by the University. Additional information on this insurance can also be found at www.chickering.com.

## IDENTIFICATION CARDS

All students are required to obtain a photo identification card; students must be regis-
tered for at least one class before a card can be issued to them. The Blue Chip Card is required for access to the library and Microcomputer Lab, as well as to the Welte and Vance parking garages and Barrows Hall, James Hall, and Sheridan Hall dormitories.

In addition to serving as a student's photo identification, The Blue Chip Card may be used as a debit card. There is a charge for laser printing at the Microcomputer Lab that 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. Students also use the Blue Chip Card in conjunction with any meal plans for which they participate in at Memorial Hall.

Up-to-date information about the Card Office or the Blue Chip program (including participating off-campus vendors) can be found online at www.cardoffice.ccsu.edu, as well as on page 22 of this catalog.

## INFORMATION TECHNOLOGY SERVICES

Information Technology Services is responsible for academic, administrative, and student computing services at CCSU. As part of its mission, our Academic/Instructional Computing unit is responsible for the support of student computing, including the Microcomputer Lab in Marcus White Annex. This facility is the primary location for general student computing use on-campus, with 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. A valid CCSU ID is required for access to the Microcomputer Lab.

## 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.

## 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 cquipment for class use.

## MEDICAL EXCUSE POLICY

The University Health Service will forward a medical excuse to the Office of Student Affairs only in those cases in which a student was seen in our office and the medical recovery or contagiousness of the patient/ student warrants an absence from classes.

A student who is out of class for more than five days, and has not been seen as a patient in the University Health Service for the evaluation of the illness, should submit verification of the absence from his/her physician to the Office of Student Affairs. Notification of a student's absence will be relayed to the appropriate professor only if a physician's verification is submitted at the time of the request for notification. A student absent from class for five consecutive days or less should, upon return, explain the absence to the instructor. Please call 860-832-1605 for additional information.

## OnlineCSU

Online CSU is the virtual classroom of the Connecticut State University System (CSU) - ( entral, 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 Online $C S U$ to ensure that the cducation 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 scparated by distance, i.e., not in the same room. Within semester limits, Online ( $S U$ 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 arc available via OnlineCSU, including (`CSU'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 Online $(\bar{S} S U$ 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 (SU university) who already have a faculty ad visor 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 online courses may be restricted to matriculated graduate students.

OnlineCSU uscs W'cbCT's e-l carning platform. For more information about online courses, visit the Online( SU Web site at www. OnlineCSU.net.

## PARKING

All full- and part-time students must obtain decals for student parking from the University Polici. 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 cien 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 webpage, ac cessible through the University website (www.ccsu.edu), or in the Parking Guide available at the (C.SU Police Department, 170 Manafort Drive.

## PERMISSION FOR PHOTOS OF STUDENTS

Several offices of the University, principally those of Institutional Advancement, provide information to news organizations about (.) 'SU's students' accomplishments and activities while they are at the University and at the time of graduation. Additionally, (CCSU supplies photographs and other visual images of students and corollary text in response to requests from news organizations. As a regular practicc, photographs of students, faculty, staff, and visitors to campus are used in publications produced by the University for recruitmont and general information. Any student who docs not wish to appear in any photos used fer these purposes must notify the Office of Institutional Advancement immediatcly upon matriculation. It is, however, not possible to practice these restraints with respect to the use of photography (where
groups of students appear) of scenco, cremts, or classes in session.

## PET POLICY

With the exception of animals usced to aid persons with disabilities, animals used in University laboratorics 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 protict that privacy, such information may be discloscd. The following is directory information: student's name, address, phone number, dates of attendance, class standing, academic major and degrec(s) earned. Additional information is .lso decmed dircctory information, including participation in officiallyrecognized activitics and sports, weight and height of members of athletic teams, and awards received.
Currently-enrolled students have the right to request that the University not relcase 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 shouild contact the Office of Registrar. Such protection is provided for currently conrolled students only.

The University assumes that failure on the part of any student to specifically request withholding of certain directory information indicatcs 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 profersional police officers of the department coordinate an escort servicic for students and are available to educute students in protecting themselves and their property. Through an on-campus dispatch center, linked w other regional emergency scrvices, officers are able to respond rapidly to any emergency. State-of-the-art emergency telcphones, conncied to the dispatch conter, 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.

## 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 Human Performance, 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.

Arute Field, with new grandstands and a synthetic turf field, is where the football team plays its home games. The women's lacrosse program plays its home games on Arute Field.

Other sports facilities include Kaiser Annex, a 37,000-sq.ft. recreational/athletic, air-supported structure which features five tennis courts, a four-lane track, 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 84,000 square feet of new and renovated space provides the University community with quality meeting and programming space. The Student Center is also the home of Student Activities/Leadership Development and the Women's Center, as well as several offices of student clubs and organizations.

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

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

## 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 website 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 16 for information on official sealing of transcripts.

## VOTER REGISTRATION

Regardless of which town in Connecticut a student has as a place of residence, voter registration can be done on campus. Students can register to vote at either the Student Center Information Desk or at the checkout counter in the Burritt Library. All students are urged to take advantage of this convenient service, if they are not currently registered to vote, and to then exercise their rights and duties as citizens by becoming 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. The University offers other centers with curricular, co-curricular, and extra-curricular resources and activities.

## BIOTECHNOLOGY INSTITUTE

The Biotechnology Institute at CCSU is an interdisciplinary organization dedicated to developing graduates with excellent research skills to join the growing workforce in the field of biotechnology. The Institute is housed in the Department of Biomolecular Sciences and serves as a link between the academic community at CCSU and Connecticut's biotechnology industries.

The Institute provides unique research opportunities for undergraduates in the area of biotechnology, fosters the pursuit of research, promotes academic programs and student-centered research, develops strong contacts with Connecticut's biotechnology community in order to create opportunities for CCSU graduates to enter the biotechnology workforce through internships, cooperative education, and full-time employment, and conducts outreach programs that foster interest in biotechnology and science among pre-college students.

## 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; provides mentoring and tutoring
programs for students on campus and in the community; 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 AND LATIN AMERICAN STUDIES

The Center for Caribbean and Latin American Studies is one of five regional studies centers at CCSU. The Center is dedicated to promoting a better understanding of the peoples and cultures of the Caribbean and Latin America through sponsorship of academic lectures, cultural performances, conferences, and exchange visits. The Center is housed within the George R. Muirhead Center for International Education and is located off the main floor lobby of the Elihu Burritt Library. The Center for Caribbean and Latin American Studies initiates and supports student exchanges with Caribbean and Latin American universities maintaining a formal and active relationship with CCSU; sponsors academic research and academic activities that focus on the Caribbean and Latin America; engages in a wide variety of community outreach activities, focusing on links that connect elementary and high school students to CCSU; seeks external funding to support programs sponsored by the Center; and initiates and sponsors a variety of student and faculty Winter and Summer Session courses abroad to the Caribbean and Latin America.

## CENTER FOR EAST ASIAN STUDIES

The Center for East Asian Studies at Central Connecticut State University provides opportunities for students and faculty, as well as the Connecticut business community, to keep abreast of changes in economics and politics and of comparative advantages in China, Japan, and Korea.

The Center seeks to develop and enhance global awareness, cultural diversity, and civic responsibility by fostering support for seminars, lectures, workshops, and exhibitions for faculty, students, and businesses in the U.S. and abroad; reciprocal visits of music, artistic, and sports groups; research and conferences; programs to promote international and intercultural understanding; and contacts and connections between Connecticut and the East Asian community, as well as student and
faculty exchanges at CCSU's sister universities in China, Japan, and Korea.

In addition, the Dr. Mong Koo Chung/ Hyundai Endowment Fund, Ki Hoon Kim Scholarship Fund, Koh Scholarship Fund, Yoko Niibo Scholarship Fund, and C. J. Huang Endowment, among others, award scholarships to those who are eligible and meet all requirements. These are administered by the CCSU Foundation, Inc.

## CENTER FOR PUBLIC POLICY AND SOCIAL RESEARCH

The Center for Public Policy and Social Research, designated as a Connecticut Higher Education Center of Excellence, is dedicated to enriching the quality of public policy, public service, and applied research in Connecticut.

The Center, which houses the William A. O'Neill Endowed Chair in Public Policy and Practical Politics, has established archival and oral history programs focused on Connecticut's leading political and public policy figures and serves as a facilitator for addressing contemporary public policy issues.

The Center's Social Research unit is an affordable resource for state and municipal government, non-profit organizations, and communities throughout the state. A team, comprised of an executive director, an assistant director, faculty members, and students from all CCSU schools, is available to provide research, training, planning, and consulting services.

## CENTER FOR TEACHING EXCELLENCE AND LEADERSHIP DEVELOPMENT

The Center for Teaching Excellence and
Leadership Development, located in
Barnard Hall, coordinates professional development activities and resources related to teaching, the assessment of student learning outcomes, and faculty leadership. The goals of the Center are to promote a learning community focused on studying and improving teaching to enhance students' learning and to enhance the growth of academic leaders in the CCSU community.

The Center sponsors various programs aimed at building and sustaining a learning community on the CCSU campus. Among the many programs offered by the Center are Teaching Excellence Forums; resources for new and non-tenured faculty for their continued instructional development in the teaching and learning process; and leadership development for current departmental
chairs and others. Other activities included in the Center's mission are Scholarship of Teaching and Learning opportunities and assessment of learning and teaching efforts.

## GEORGE R. MUIRHEAD CENTER FOR INTERNATIONAL EDUCATION

The George R. Muirhead Center for International Education (CIE) at Central Connecticut State University is the State of Connecticut's Center for Excellence in International Education. Drawing on the intellectual resources of an expert and experienced faculty and a highly skilled staff of professional international education administrators, the Center champions the University's vision to be "global in its perspective and outreach."

Through its centers, which exist to serve the needs and interests of Connecticut's ethnic groups and promote globalization among faculty and students, the CIE provides academic and cultural programs that promote a better understanding of the peoples and cultures of Africa, the Caribbean, Latin America, Poland, and East Asia. Working with the International \& Area Studies Committee, the CIE develops and supports programs beyond its primary staff areas which include study abroad, international student advising, courses abroad, international development, and teaching English as a second language.

All programs sponsored by the Center for International Education strengthen the University's commitment to diversity. They promote academic freedom by providing forums for international scholars, activists, and political and civic leaders to share their ideas and open dialogue and lively debate on campus about sensitive and difficult world issues. Through externally-funded technical assistance projects, the CIE provides opportunities for faculty to inform their teaching. Through study abroad and course abroad programs, the Center provides opportunities for students and faculty to engage the world and its diverse cultures as their classroom. Most importantly, through the presence of over 400 international students on our campus each year, the Center promotes diversity as a critical component of the development of our students, our community, and our thinking.

The Center is proud of the role it serves in providing Connecticut citizens with opportunities to learn more about the complex, rapidly changing, and yet "smaller" and better-connected world in which we work, live, and learn. The Center strives to foster a greater sense of ethnic heritage
among our State's citizens, but at the same time, it brings people from different backgrounds closer to becoming world citizens.

## INSTITUTE FOR MUNICIPAL AND REGIONAL POLICY

The Institute for Municipal and Regional Policy (IMRP) at CCSU facilitates regional solutions to common problems facing municipalities. The IMRP brings together CCSU faculty, staff, and students with state and national experts to provide immediate and long-range options for concerns such as taxes, housing, transportation, workforce development, and education. Community, municipal, and state leaders routinely attend IMRP conferences, forums, and symposia where research and ideas are presented that help shape policy decisions at the local, regional, and state level.

## INSTITUTE FOR THE STUDY OF CRIME AND JUSTICE

The Institute for the Study of Crime and Justice serves the interests of the criminal justice community in Connecticut as a centralized clearing-house for the exchange and dissemination of information related to, but not limited to, prisoner re-entry, criminal justice policy, the training of criminal justice personnel, applied research, and evaluation of criminal justice initiatives.

The Institute provides opportunities for students, faculty, and practitioners to collaborate in a variety of professional settings.

## INSTITUTE OF TECHNOLOGY AND BUSINESS DEVELOPMENT

The Institute of Technology and Business Development (ITBD), located in downtown New Britain, is CCSU's comprehensive business outreach facility. With a mission "to promote the economic development of the state and to help business and industry sustain economic growth," the ITBD serves a statewide clientele ranging from manufacturers, entrepreneurs, inventors, healthcare providers, and real estate firms to state agencies, Chambers of Commerce, professional organizations, school districts, and media groups.

ITBD functions through four business centers. The Training and Manufacturing Applications Center delivers non-credit training programs, off-site and on-site, and helps area companies bring out their products more quickly and cost-effectively. The Conference Center offers high-tech, conve-
niently located and competitively priced meeting space to large and small groups. The federally funded Procurement Technical Assistance Center (PTAC) assists Connecticut businesses in securing work contracts. ITBD's Business Incubator Program is on the cutting edge of new business growth, currently hosting 21 start-up businesses in varied markets from high to low tech.

## U.S./CHINA BUSINESS CENTER

The mission of the U.S./China Business Center is to foster mutually beneficial trade relationships between the United States (with emphasis on Connecticut and the Northeast) and the People's Republic of China.

The Center develops programs to promote an understanding of doing business in China and the potential of exporting to the China market; assists US companies and/or individuals in conducting business with China; and promotes Central Connecticut State University as a leading, innovative institution facilitating United States/China business relationships through its training resources.

Susan E. Pease, Dean<br>Richard L. Roth, Associate Dean<br>Stephen Adair, Assistant to the Dean<br>Paul Altieri, Assistant to the Dean<br>Mary Horan, Staff Counselor<br>Phone: (860) 832-2600<br>Fax: (860) 832-2601<br>Web address: bttp://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, communication, computer information technology: computer science, criminal justice, data mining, geography, international studies, and natural sciences.

Many academic departments within the School of Arts and Sciences provide the major for the post-baccalaureate certification program for secondary school teachers.

Currently, a graduate-level Official Certificate Program is offered through the School of Arts and Sciences: the PostBaccalaureate Certificate in Public Relations/Promotions. The School also contributes to the interdisciplinary PostBaccalaureate Certificate in Pre-Health Studies.

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 School of Graduate Studies Office (832-2363), located in Barnard Hall.

## ART

## Faculty

Cora Marshall (Chair, Maloney 151), Meyer Alewitz, Cassandra Broadus-Garcia, James Buxton, Sherinatu Fafunwa, Sean Patrick Gallagher, Vicente Garcia, Faith Hentschel, Elizabeth Langhorne, 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.

The M.S. in Art Education program is designed primarily to meet the needs of experienced art educators who have completed an undergraduate program in the field. The program may be available for already-certified elementary and secondary education teachers who demonstrate artistic proficiency through a portfolio review and who wish to seek additional state certification. These students may work towards the M.S. degree while they prepare to meet certification requirements in Art Education.

## Admissions

In addition to fulfilling the admission requirements of the School of Graduate Studies, applicants must successfully pass a portfolio review and essay evaluation to be fully admitted into graduate programs in the Department of Art. For complete information regarding the format and content of the portfolio and essay requirements, interested applicants should visit the School of Graduate Studies' website at www.ccsu.edu/grad and click on "Additional Application Materials." Interested applicants can contact the Department of Art directly at 860-832-2620.

## General Portfolio Requirements for All

 ApplicantsThe portfolio must consist of $15-20$ slides or digital images of the applicant's artwork in a variety of media that demonstrate the applicant's best studio practice. It is important that no work submitted be copied from photographs or other works of art. Multiple views are recommended for original work in sculpture, ceramics, 3D design and/or crafts.

## Post-Baccalaureate Certification Portfolio Requirements

Applicants to the Post-Baccalaureate Teacher Certification program must submit a portfolio that contains examples of all of the following:

1. Still-life drawings and/or paintings that illustrate accurate depictions of form and space.
2. Landscape and/or architecture (indoor or outdoor) showing successful descriptions of form and space. These must be drawing and/or painting.
3. Images (any 2 D and/or 3D) that illustrate convincing knowledge and translation of the elements and principles of design.
4. Tonal drawings in pencil, charcoal, or ink, that were executed from life and that depict figure, landscape, or still life, as well as successfully describe the illusion of light defining 3D volume.

## Master of Science in Art Education Portfolio Requirements

1. Applicants for Master of Science in Art Education must submit a variety of media that demonstrate their best studio practice.
2. Applicants who intend to focus on a particular studio area, such as drawing, ceramics, or painting, should also include a series of at least five pieces that show a consistent direction, for example, invented figure compositions, portraits, landscapes and/or abstractions.

## Graduate Admission Essay

Applicants must submit a completed essay describing their background and interest in the program. On the initial page, an applicant should include his or her name and the program to which he or she is applying (Master of Science in Art Education or Post-
Baccalaureate). The essay should be two pages, double-spaced. In the essay, applicants should:

1. give a brief account of their background in relation to education, occupation, and activities relevant to the field of art and art education;
2. discuss the reasons for choosing an advanced degree in art, some of the ideas in which they are currently interested, and future areas they would like to explore; and
3. include a brief discussion of the work that was submitted for the portfolio review.

## Where to Submit Additional Application Materials

The portfolio and essay should be sent as a package directly to the Department of Art at the same time that materials are submitted to the Graduate Admissions Office. Send the portfolio and essay package to:

Central Connecticut State University Department of Art, Maloney Hall RE: Graduate Admission Materials 1615 Stanley Street
New Britain, CT 06050

## 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.

## 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.

## DEGREE CANDIDACY

After completing 15 credits of coursework, the student must apply for Degree Candidacy. The student must present a resume, statement of purpose, and a portfolio of at least five pieces 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 12 concerning the planned program.

## ART EDUCATION CERTIFICATION

Persons holding a bachelor's degree from an accredited institution with an art-related major or concentration must follow a planned program of graduate study leading to certification in Art Education NK-12. These candidates are required to have the equivalent of 45 credits in art-related courses and fulfill departmental admissions requirements which include a portfolio review.

## POST MASTER'S STUDY

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

## BIOLOGY

## Faculty

Jeremiah Jarrett (Chair, Copernicus 332), Douglas Carter, Tiffany Doan, Sylvia Halkin, Thomas Mione, Barbara Nicholson, Peter Osei, Clayton Penniman, Ruth Rollin, David Spector, Jack Tessier (Dept. phone: 832-2645)

## Department Overview

The Department of Biology 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, photosynthesis research laboratory, molecular genetics research laboratory, experimental gardens, controlled environment room, and growth chambers. Other shared facilities available are mouse and rat colonies, refrigerator/ freezer room, 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 School of Graduate Studies 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 <br> 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 programs are 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, 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 nine 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 3 credits in BIO 590 and/or BIO 591, and BIO 598 (3 credits) and a comprehensive exam.

## Biological Sciences: Ecology and Environmental Science <br> 30 credits

Biology Course Component ( 24 credits): (1) BIO 500 Seminar in Biology ( 1 credit), 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 Bio. 3-4
BIO 590 Focused Study in Advanced Biology
BIO 598 Research in Biology
BIO 405 Ecology
BIO 410 Ecological Physiology
BIO 420 Ornithology
BIO 425 Aquatic Plant Biology
BIO 434 Ecology of Inland Waters
BIO 436 Environmental Resources and Management

3
BIO 438 Aquatic Pollution
BIO 440 Evolution
BIO 444 Plant Taxonomy
BIO 480 Animal Behavior 3
4

BIO 488 Animal Behavior Laboratory 2
Capstone Component ( 6 credits, students 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). Plan B: Three credits in BIO 590 and/or BIO 591, and BIO 598 (3 credits) and a comprehensive exam.

## MASTER OF SCIENCE IN BIOLOGICAL SCIENCES

The M.S. Anesthesia and the Health Sciences Specialization are for students enrolled in the anesthesia program 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 a student and his or her 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 nine credits of 400 -level courses.

## Biological Sciences: General Program

## 30 credits

This program is for teachers and others interested in a master's degree with a professional education component. Other courses may be substituted for the professional education component with the 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 <br> 31-33 credits <br> Coordinator: Ruth Rollin

Professional Education (6 credits):
ED 511 Principles of Curriculum Dev.
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 Focused Study in Advanced Biology
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
BMS 506 Biosynthesis, Bioenergetics and Metabolic Regulation
or
CHEM 550 Basic Organic and Biological Chemistry
Biology Elective (choose from BIO 416, 540, 590, 591; BMS 497, 505, 506, or 562)

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 Biology 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 biology 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 Biology in addition to completion of other requirements.

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

The Department of Biology contributes to the interdisciplinary Post-baccalaureate Certificate in Pre-Health Studies, a nondegree program designed for college graduates whose undergraduate background does not yet meet the requirements for admission to professional schools of medicine, dentistry, veterinary medicine, or other related fields. The CCSU PreHealth Professions Advisory Committee (Pre-PAC) is responsible for admitting students to this program and for individually advising them upon entry. Both the Pre-PAC and this Official Certificate

Program are described in more detail on page 77.

## COMMUNICATION

## Faculty

Serafin Mendez-Mendez (Chair, Robert C. Vance Academic Center 317), Jose Carlos Del Ama, Robert Fischbach, Glynis Fitzgerald, Yanan Ju, Andrew Moemeka, Christopher Pudlinski, Karen Ritzenhoff, Benjamin Sevitch, Jeffrey B. Teitler, 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 betwcen organizations and their target audiences, including those resulting from intercultural differences; apply problem-solving, decision-making 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.

## Programs

## THE MASTER OF SCIENCE IN COMMUNICATION 33 credits

The Master of Science program comprises two sections, a 15 -credit core of foundational courses and 18 credits of advisor-approved directed electives. A capstone experience consisting of Plan A (6-credit Thesis) or Plan B
(Comprehensive Examination) or Plan C (Special Project) is required for gradua-
tion. Program requirements and electives are provided below.

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

Directed Electives (12-18 credits): Students will select from the following courses approved by the faculty advisor. A planned program of study should be completed no later than 6 credits into the student's program. The student may specialize in either track or may select courses from both tracks. To specialize in a particular track, at least 3 courses must be selected from that particular track.

Organizational Communication Track COMM 450 Communication Skills for Training and Development
COMM 504 Organizational Communication Audits
COMM 522 Corporate Communication
COMM 551 Policy Issues in Organizational Communication
COMM 562 Communication and HighSpeed Management

Public Relations Track
COMM 451 Environmental Communication
COMM 454 Communication and Social Change
COMM 506 Principles and Processes of Communication Campaigns
COMM 507 Campaign Planning and Evaluation
COMM 508 Public Relations Writing Strategies

## General Electives

COMM 543 Intercultural Communicatior
COMM 544 Strategies in Negotiation and Conflict Resolution
COMM 585 Special Topics
COMM 590 Independent Study

## Outside Courses

| AC 510 | Accounting and Control |
| :--- | :--- |
| IT 464 | Six Sigma Quality |
| IT 500 | Industrial Applications of <br> Computers |
| IT 502 | Human Relations and <br> Behavior in Complex <br> Organizations |
| IT 564 | Quality Systems Management <br> 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 or
Plan C: COMM 597 Special Project (3 credits)

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 or a Special Project (Plan C). Programs will be designed jointly by the departmental advisors and the students to provide the greatest educational and career opportunities.

## OFFICIAL CERTIFICATE PROGRAM: POST-BACCALAUREATE CERTIFICATE IN PUBLIC RELATIONS/PROMOTIONS

This non-degree certificate program, offered by the Department of Communication, is designed for college graduates wishing to expand or update their knowledge of public relations/promotions, but who are not ready to commit to a graduate program leading to a master's degree. The program provides students with a formal option for post-baccalaureate studies. Courses completed as part of this certificate program may later be applied to the department's master program if admission requirements for that program are successfully met.

## Program Requirements

The Post-Baccalaureate Certificate Program in Public Relations/Promotions will require the student to complete a four-course, 12credit sequence consisting of COMM 505 Persuasive Communication, COMM 506 Principles and Processes of Communication Campaigns, COMM 507 Campaign Planning and Evaluation, and COMM 508 Public Relations Writing Strategies. One other course from the department's master's degree program in communication can be
substituted for one of the four courses listed above with permission of the student's academic advisor. More information about these courses can be found at www.communication.ccsu.edu/grad.htm. The student must achieve a 3.00 (B) GPA in order to receive the post-baccalaureate certificate. Up to 12 credits may be applied to the M.S. in Communication degree; admissions to the M.S. is required.

## Admission

Students seeking admission to the M.S. in 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 conditional 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 School of Graduate Studies 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 names and contact information (including e-mail addresses) of three references 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 (phone: 832-2710)

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

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

## Overview

The Master of Science Computer Information Technology program is offered by the Department of Computer Science, in conjunction with the Computer Electronics
and Graphics Technology Department, School of Technology, and the Management Information Systems Department, School of Business. For details of the program, see page 75 of this catalog.

# CRIMINOLOGY AND CRIMINAL JUSTICE 

## Faculty

Stephen Cox (Chair, Vance 410), Matthew Atherton, Kathleen Bantley, Alison Cares, Julie Kiernan Coon, Ronald Fernandez, Jennifer Hedlund, Damon Mitchell, Shamir Ratansi, Raymond Chip 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 and continued study at the doctoral level. The Criminal Justice Graduate Program strongly emphasizes the application of theory and research in executive decisionmaking, policy development and analysis, and the treatment of offenders. While all graduate students are required to complete core courses, students are allowed to select elective courses that match their individual academic and career interests.

Admission to the Master of Science degree program in Criminal Justice is made on a competitive basis two times per year. Applications for the fall semester must be completed and received by May 1.
Applications for the spring semester must be completed and received by December 1. The number of students accepted in any semester is dependent on available openings in the program, which may fluctuate from semester to semester.

Applicants will be notified by May 30 (for fall admission) and December 30 (for spring admission) regarding acceptance decisions. Some applicants who are not accepted into the program may be put on a waiting list. Applicants on the waiting list may be admitted as additional openings in the program become available. Applicants accepted into the program will be contacted and asked to confirm their intentions to enter the program. Newly admitted applicants who do not register for courses by

June 20 (for fall admission) and January 10 (for spring admission) risk losing a spot in courses because enrollment may be made available to students on the waiting list.

In addition to standard University graduate admission requirements, the department requires:

1. A minimum grade point average (GPA) of 3.00 on a 4.00 scale
2. One undergraduate social science research methods course with a grade of "C" or better
3. One undergraduate elementary statistics course with a grade of "C" or better
4. A formal application essay that focuses on (a) academic and work history, (b) reasons for pursuing graduate studies in criminal justice, and (c) future career goals
5. Resume

Consideration in the admissions process is given to selecting applicants from diverse areas of the criminal justice field (e.g., law enforcement, corrections, alternative sanctions, treatment and rehabilitation, and analysis). Students who do not meet these requirements may request consideration for admission with special requirements. No students may register for graduate-level criminal justice courses without first being admitted to the program.

## Program <br> MASTER OF SCIENCE IN CRIMINAL JUSTICE

The Criminal Justice graduate program requires 30 credits of course work, including five core courses, three elective courses, and a capstone project.

Core Courses:
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

The core courses are designed to help students 1 ) understand the purpose and function of criminal justice agencies organized under the rubrics of police, courts, and corrections; 2) critically analyze the organizational effectiveness of criminal justice agen-
cies; 3) understand how society comes to define certain behaviors as criminal and how these definitions can be effected by the race, gender, and socio-economic status of the lawmaker, as well as the lawbreaker; 4) assess the effectiveness of criminal justice policies and programs through the application of research methods, statistics, and criminological theory; and 5) understand the root causes of crime and the effects of social, economic, political, psychological, and biological factors on crime.

Elective Courses (choose three):
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 539 Delinquency and Control
CJ 540 Assessing and Developing Performance in Criminal Justice Organizations
CJ 560 Sexual Offending
CJ 575 Organizational Development and Evaluation of Criminal Justice Organizations
CJ 580 Public Policy in the Criminal Justice System

Elective courses are designed to allow students to develop knowledge and skills in areas that specifically match their individual academic and career interests. Students desiring a concentration in behavioral sciences and the offender are encouraged to consider courses such as CRM 450, CRM 475, CJ 530, CJ 535, CJ 539, and CJ 560. Students desiring a concentration in organizational functioning are encouraged to consider courses such as CJ 525, CJ 540, CJ 575, and CJ 580.

Capstone Project (choose one):
CJ 597 Agency Collaborative Project
CJ 599 Thesis
The capstone project is an original piece of research conducted by the student and completed under the supervision of a 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.

## DESIGN (GRAPHIC/ INFORMATION)

## Faculty

Susan Vial (Chair, Vance 324), Joan Calvert (Computer Science), Eleanor Thornton
(Design), C. Benjamin Tyson
(Communication) (Dept. phone: 832-2557)

## Department Overview

The Department of Design (Graphic/ Information) provides an academic structure for the advancement of graphic and information design studies and degrees at the University. The department was established to promote professional studies in the expanding areas of graphic design, website design, multimedia design and digital imaging. Faculty members have backgrounds in graphic design, fine art, advertising, illustration, communication, marketing, computer science, management information systems, website design, multimedia design and CDROM presentation.

## Program Overview

The study of information design at CCSU includes the design of traditional graphic (print) material as well as other forms of digital information, including website 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 3.00 on a 4.00 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 ( 10 examples of applicant's design work). The portfolio must meet department admissions committee approval for design quality. Collaborative projects must be clearly identified as such and include a detailed description of each student's contribution.

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

## Program <br> MASTER OF ARTS IN INFORMATION DESIGN <br> 36 credits

Core Courses ( 21 credits):
MKT 470 Marketing Communications Campaigns
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: Students are limited to six credits of DES designated course work per semester without permission of advisor and department chair.

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

Gilbert Gigliotti (Chair, Willard 304), Stuart Barnett, Burlin Barr, Candace Barrington, Anthony Cannella, David Cappella, Matthew (iiscel, Stephen Cohen, Robert Dowling, Christine Doyle, Robert Dunne, Brian Folker, Jaclyn Geller, Susan Gilmore, Heidi A. Hartwig, Thomas Hazuka, John A. Heitner, Beverly A. Johnson, Jason Jones, Paul Karpuk, Eric Leonidas, Vivian Martin, Melissa A. Mentzer, Mary Anne Nunn, Steven D. Ostrowski, Laurence Petit, Aimee Pozorski, Rae C. Schipke, Ravi Shankar, Katherine Sugg, 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 <br> English

To qualify for the Master of Arts degree program in English, an applicant must have a baccalaureate degree in English or American literature or a closely related field from an accredited college or university, or 30 hours of appropriate undergraduate course work in the discipline (as approved by departmental review). Additional undergraduate credits will be required of students who lack sufficient preparation in literature. Applicants must have a GPA of at least 3.00 on a fourpoint scale both in overall undergraduate and (if applicable) graduate course work and in English courses. Conditional admission may be offered to students who do not meet all of these requirements. Applicants must also submit the following:

To the Graduate Admissions Office:

- Graduate Application Form
- Official undergraduate and (if applicable) graduate transcripts from every institution attended except CCSU
- Application fee

To the English Department (Attn. Chair, English Graduate Committee), at the same time that application materials are submitted to the Graduate Admissions Office:

- Letter of application detailing reasons for wishing to pursue graduate study in English
- Two letters of recommendation from individuals familiar with the applicant's academic or professional work
- A writing sample of $10-15$ pages showcasing the applicant's strongest analytical or critical writing about literature. Work written for previous courses is acceptable (indeed encouraged), but "creative" pieces (poetry, fiction, or memoir) are not appropriate.
No applications will be considered until all materials have been received. Applications will be evaluated by the department on an ongoing basis.


## TESOL

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 conditionally 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 16 credits of graduate course work. M.A. in 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

3
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
3 400-level English electives as approved by the faculty advisor
*To be completed during the first year of graduate study.

## GEOGRAPHY

## Faculty

Brian Sommers (Chair, DiLoreto 208), Richard Benfield, Charles Button, D'Arcy Dornan, John Harmon, Peter Kwaku Kyem, Cindy Pope, Timothy Rickard, Xiaoping Shen, David Truly (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. Geological Survey, with close to 30,000 sheets in our collection. The department also receives planning reports, maps and documents from cities, towns and regions throughout the Northeast.

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

## Programs

## GOALS AND OBJECTIVES

The M.S. in Geography has been used as a springboard by those interested in further graduate study. Several graduates have gone on to $\mathrm{Ph} . \mathrm{D}$. programs at major universities. However, most graduate students are interested in using the M.S. in Geography as a terminal degree 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 studies
- travel and tourism
- cultural and world regional geography
- 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

Glenn Sunshine (Chair, DiLoreto 206), Jay
Bergman, M. B. B. Biskupski, Gloria
Emeagwali, Leah Glaser, Briann Greenfield, Katherine Hermes, Mark Jones, Elias Kapetanopoulos, Mary Ann Mahony, Norton Mezvinsky, Heather Munro Prescott, John Tully, 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 a concentration 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.

## Admission Requirements

To be considered for admission to the M.A. in history or the M.A. in public history, applicants must have an undergraduate or cumulative GPA of 3.00 or higher, as well as a degree in history or related field. Applicants who do not meet these admissions standards, but who have an undergraduate or cumulative GPA between 2.70 and 2.99, may be considered for conditional admission. In order to be recommended for full acceptance, conditionally admitted students must complete HIST 501 with a B or better.

Students who do not meet the undergraduate GPA requirements for admittance or conditional admittance to the graduate program in history may take up to three courses (nine credits) in graduate-level history courses as a non-matriculated student. Those earning a minimum 3.30 GPA for these courses may apply for conditional admittance to the graduate program. Those students must also provide two letters of recommendation from CCSU History Department faculty. Once conditionally admitted, those students who achieve a B+ or above in HIST 501 will be fully admitted into the program.

Prospective graduate students without an undergraduate degree in history, but who meet the GPA requirements for full admission to the graduate program, should meet with the History Department chair or a History Department graduate advisor to determine the requisite courses needed for
admission. At minimum, those students will receive a conditional admittance and must complete HIST 501 with a B or better.

For consideration, all application materials must be received by the Department of History no later than December 1 for spring admissions and May 1 for fall admissions. Applicants who do not meet the fall admissions deadline may enroll in courses on a non-matriculated basis, subject to course availability.

Applicants should submit the following materials to the Graduate Admissions Office:

- the application for Graduate Admission
- official copies of transcripts
- application fee

In addition, applicants must submit the following materials to the History Department:

- two letters of recommendation (recommendation forms are available at www.ccsu.edu/grad/Additional_Material/ Hist_rec.html)
- a statement of purpose describing the applicant's academic interests in history, not to exceed 350 words. Applicants for the M.A. in public history should also address their professional goals and career aspirations.


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

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

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 of concentration available in the M.A. program are U.S. history, European history, and comparative world history. No more than nine credits can be taken at the 400 level.

## MASTER OF ARTS IN PUBLIC HISTORY

Public history is the practice of history outside academia and the classroom setting. Career opportunities for public historians are diverse and include positions in museums, film and television, the tourism industry, and the government, as well as at historic sites. Public historians make the messages or lessons of the past accessible to a broad general audience and relevant to a wide range of people. By applying their skills in the non-academic world they provide a service to the community as a whole.

CCSU Master of Arts program in public history provides students with the academic background, job specific skills, and handson experience necessary to work in a variety of public history jobs or to bring the benefits of public history into their classroom teaching on the K-12 level.

For more information, visit the public history website at: www.history.ccsu.edu/ ma_pubhist.html.

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

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

Public history courses required (graduate courses specific to public history) ( 18 credits):
HIST 501 Historiography
HIST 510 Seminar in Public History 3
HIST 511 Topics in Public History 6 (taken twice with different topics)
HIST 521 Public History Internship
HIST 595 Public History Research Project (Plan C)

Three general history courses to be taken from the following list (9 credits): HIST 560 Seminar in American History HIST 565 Seminar in 17th- and 18thCentury America
HIST 566 Civil War and Reconstruction in the U.S.
HIST 570 Immigration in American History
HIST 540 Seminar in European History
Two electives ( 6 credits), chosen in consultation with an advisor. At least three of these credits must be taken in a discipline other than history.

## CERTIFICATION

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

## POST-MASTER'S STUDY

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

## MATHEMATICAL SCIENCES

## Faculty

Timothy Craine (Chair, Marcus White 108), Frank Bensics, Roger Bilisoly, Nelson Castaneda, Yuanqian Chen, Robert Crouse, Darius Dziuda, Ivan Gotchev, S. Louise Gould, Philip Halloran, Chun Jin, Robin S. Kalder, Dix Kelly, Daniel Larose, Sally Lesik, Eran Makover, Jeffrey McGowan, Adele Miller, Daniel S. Miller, Maria Mitchell, Narasimhachari Padma, Luis Recoder-Núnez, Thomas Roman, Krishna Saha, 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, or actuarial mathematics. 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 <br> MASTER OF SCIENCE IN MATHEMATICS FOR CERTIFIED ELEMENTARY TEACHERS

(Plans A 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 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 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 two plans, A or C , any change to the other plan must be made prior to the completion of 21 graduate credits and requires the approval of the student's advisor and the Dean, School of Graduate Studies.

## MASTER OF SCIENCE IN MATHEMATICS FOR CERTIFIED SECONDARY TEACHERS

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

General Education Electives (3 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, 468, 469, 470, 477, 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 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 two plans, A or C , any change to the other plan must be made prior to the completion of 21 graduate credits and requires the
approval of the student's advisor and the Dean, School 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 152, 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-General 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 credits). These may include 3 credits for the thesis for a student electing Plan A. No more than 9 credits may be earned from 400-level courses.

## Capstone Experience:

Plan A: Thesis (MATH 599, 3 credits). Students electing this option must also pass one qualifying examination* in an area not related to the thesis topic.

Plan B: Comprehensive Exam. Students selecting this option must pass two of three qualifying examinations* (in the areas of algebra, analysis, or topology) and also give oral presentations on a topic approved by their advisor.

* Students must apply for qualifying examinations after completing appropriate coursework with the approval of their advisors. Applications are available in the School of Graduate Studies or on the web at www.ccsu.edu/grad under Graduate Forms (Degree Candidacy/Non Capstone Qualifying Form).


## 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 Actuarial Science

(Plans A, B and C are offered as options.)
The student and faculty advisor will work out an appropriate plan of study within the framework of the following requirements.

## Requirements:

Actuarial Core (8 credits): ACTL 565 and 566

Additional courses as approved by the advisor, including:
a. 9 credits chosen from ACTL 480, 481, 482, 580,
b. 9 credits designated STAT or MATH at the 400 or 500 level, and
c. 1-4 additional credits in actuarial science, mathematics, or statistics.
No more than nine credits in the program may be earned in 400 -level courses.

## Capstone:

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

## M.A. Program in Mathematics with Specialization in Statistics

(Plans A, B and C are offered as options.)
The student and faculty advisor will work out an appropriate plan of study within the framework of the following requirements.

Requirements:
Statistics Core (6 credits): STAT 567 and 575

Three courses chosen from ACTL 565,
566; MATH 470, 477, 519, 520; STAT
551 (9-11 credits)
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.

## Capstone:

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, School of Graduate Studies.

## MASTER OF SCIENCE IN DATA MINING

## Admission Requirements

The minimum required undergraduate GPA for prospective candidates for the Master of Science in data mining is 3.00 . Conditional admission may be granted to candidates with undergraduate GPAs as low as 2.40 , conditioned on a student receiving no grades lower than an A- in the first three core courses in the program.

The following materials are required, in addition to the materials required by the School of Graduate Studies.

1. A formal application essay of 500-1000 words that focuses on (a) academic and work history, (b) reasons for pursuing the Master of Science in data mining, and (c) future professional aspirations. The essay will also be used to demonstrate a command of the English language.
2. A detailed, itemized letter explaining whether and how the candidate has ful filled each of the program prerequisites that 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;
- STAT 315 Mathematical Statistics I; and
- a second-semester course in undergraduate statistics.
Students may be admitted on condition that they complete these prerequisite courses with a grade of $B$ or better. 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.

In their letters, candidates are asked to show which courses on which transcripts are being used to fulfill each of these prerequisites. In particular, the candidate is asked to consider that mathematical statistics is calculus-based and represents a different approach beyond the usual undergraduate statistics course. Therefore, a course description or syllabus for the mathematical statistics course should be attached to the letter. If a candidate has not had courses that would fulfill certain program prerequisites, the candidate should so indicate. The candidate is reminded that conditional admission may be granted for students needing to complete any or all of the program prerequisites.
3. Two letters of recommendation, one each from the academic and work environment (or two from academia if the candidate has not been employed).

The application and all transcripts should be sent to the Graduate Admissions Office. The deadline for submitting applications for the fall semester is May 1. The other materials, including the formal application essay, the prerequisites letter, and the two letters of recommendation, should be sent to: Dr. Daniel T. Larose
Re: MS in Data Mining Admissions Materials Department of Mathematical Sciences Marcus White 118
Central Connecticut State University
New Britain, CT, 06050
Note: Only hard copy materials are acceptable. No attachments to e-mails or other electronically transmitted material will be considered in admissions decisions.

M.S. in Data Mining<br>36 credits

Core Courses ( 27 credits)
The following courses are required of all students. (All courses three credits unless otherwise indicated.)
STAT 416 Mathematical Statistics II
STAT 521 Introduction to Data Mining (4 credits)
STAT 522 Data Mining Methods (4 credits)
STAT 523 Applied Data Mining (4 credits)
STAT 525 Web Mining
STAT 526 Data Mining for Genomics and Proteomics
STAT 527 Text Mining
STAT 570 Applied Multivariate Analysis
Thesis Course ( 3 credits)
STAT 599 Thesis
All students must elect capstone Plan A, thesis. Students must make a presentation of their thesis on the CCSU campus. Students who cannot come to campus must make a web presentation of their thesis.

Elective Courses (6 credits)
Choose any two courses from the following list:
CS 570 Topics in Artificial Intelligence
CS 580 Topics in Database Systems and Applications
STAT 455 Experimental Design
STAT 529 Current Issues in Data Mining
STAT 551 Applied Stochastic Processes
STAT 567 Linear Models
STAT 575 Mathematical Statistics III
Other appropriate graduate course, with
permission of advisor
Note: New students may take the first course in the program while working on the prerequisites for the more advanced courses.

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.

## 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 or waiver and an interview with and a positive recommendation by the Acceptance Committee of the Department of Mathematical Sciences.

Required courses: EDF 415,* RDG 504, 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

Lilián Uribe (Chair, Davidson 212), Louis Auld, Gloria Caliendo, Edward Force, Antonio García-Lozada, Paloma Lapuerta, Cheng Sing Lien, Gustavo Mejía, Ángela Morales, Maria Passaro, Carmela Pesca, Shizuko Tomoda (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 may 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 Spanish

Students seeking certification to teach a foreign language must:

- apply to the Graduate Admission Office as a non-degree graduate student seeking certification. Once accepted to the School of Graduate Studies, 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

## MASTER OF SCIENCE IN SPANISH FOR CERTIFIED TEACHERS <br> 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
EDF 516 School and Society 3
EDF 524 Foundations of Contemporary Theories of Curriculum
EDF 525 History of American Education

EDF 538

Additional course(s) as approved by advisor

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

 LANGUAGEApplicants 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, Spanish, or Italian 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 six 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.

3 Specialization in French 30 credits (Plan A or Plan B)

Note: The University is currently not accepting applications to the Master of Arts in Modern Language, specialization in French.

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

3 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

30 credits (Plan A or Plan B)
Core ( 6 credits):
SPAN 560 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 - 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 Italian

30 credits (Plan A or Plan B)

Core (6 credits):
ML 598 Research in Modern Languages
ITAL 460 Advanced Written Italian

Directed Electives (15 credits):
Option 1
Four literature courses as approved by advisor. Select from:
ITAL 470 14th-Century Italian Literature
ITAL 476 16th-Century Italian Literature
ITAL 561 Topics in Italian Literature (may be repeated up to 3 times with different topics)
3 ITAL 571 20th-Century Italian Literature and
3 one culture and civilization course:
ITAL 588 Topics in Italian Cultural Studies (may be repeated up to 3 times with different topics)

Option 2
ML550 Intensive Studies in Modern Languages ( 6 or 9 credits) (may be repeated up to 3 times with different topics)
and
6 or 9 credits selected from Option 1

Electives (6-9 credits):
Courses as approved by advisor, including
but not restricted to: ITAL 588, ITAL 488,
ITAL 561, ITAL 588, IS 590, IS 596
Capstone ( $0-3$ credits):
Plan A (3 credits): Thesis (ITAL 599)
or
Plan B: Comprehensive Examination
Note: A maximum of nine credits at the 400
3 level is allowed.
3 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 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

Admissions criteria: B.S. degree in Spanish; minimum 2.70 GPA ; satisfactory completion of Praxis I or waiver.

Summer One ( 10 credits): EDF 415, EDT 315, ML 428, ML 490 (or, if taken in fall or spring, LING 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 504, 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. A description of ML 429 may be found in the Undergraduate Catalog.

Note: In consultation with a graduate advisor, some credits from ML 428, ML 490, RDG 504 and SPED 501 may be applied as electives toward M.S. Program. ML 428 and ML 490 are the only 400 -level courses that may be applied to the M.S. in Spanish, with approval of the advisor.

## MUSIC

## Faculty

Daniel D'Addio (Chair, Welte 212), Brian Kershner, Carl Knox, Linda Laurent, Charles Menoche, N. Carlotta Parr (Coordinator of Graduate Studies, Welte 210), Pamela Perry, Julie Ribchinsky, Thomas Seddon (Dept. phone: 832-2912)

## Department Overview

The Department of Music 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). Information about SMI can also be found on the department's website at http://www.music.ccsu.edu.

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

## Programs <br> 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 education, performance, composition, music theory, and music history. The student in the M.S. in Music Education program must complete Plan B-Comprehensive Exam and either Plan A-Thesis or Plan C-Special Project, both of which total 33 credits. Students selecting Plan C may complete either MUS 500 or MUS 597.

In addition to the requirements of the School of Graduate Studies, application to the Department of Music requires the following:

- An application to the Department of Music
- An essay*
- A portfolio*
- A theory examination**
- Evidence of proficiency in technology***
- A Personal Interview
*For essay and portfolio requirements, refer to the Department of Music's website at http://www.music.ccsu.edu or call Dr. N. Carlotta Parr, Coordinator of Graduate Studies, at (860) 832-3317.
**While this examination is primarily a placement examination, a low score could influence the decision about an applicant's acceptance.
${ }^{* * *}$ If a candidate does not provide evidence of proficiency in technology (notation and sequencing), he/she will be required to take a notation or sequencing course as one of his/her 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 3
EDF 516 School and Society 3
EDF 524 Foundations of Contemporary Theories of Curriculum 3
EDF 525 History of American Education 3
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education
and
up to 6 additional credits, to be selected
with advisor's approval.
Music (15-27 credits):
MUS 470 Musical 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 or music
Culminating Project ( $0-3$ credits):
Plan B: Comprehensive Exam*
and one of the following:
Plan A: MUS 599 Thesis
Plan C: MUS 500 Project in Music
Plan C: MUS 597 Performance Recital
Plan C: MUS 597 Conducting Recital
*All students must take the
Comprehensive Exam, as well as one of the other capstone options.

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 accuptance into the graduate certification program. Upon satisfactory completion of a musicianship exam and audition, the student will consult with the chair of the Department of Music 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 53.

In addition to the requirements of the School of Graduate Studies, application to the Department of Music requires the following:

- A completed application form to the Department of Music
- An essay*
- An audition*
- A theory examination**
- A personal interview
*For essay and audition requirements, refer to the Department of Music's website at http://www.music.ccsu.edu or call (860) 832-2912.
** While this examination is primarily a placement examination, a low score could influence the decision about an applicant's acceptance.


## POST-MASTER'S STUDY IN MUSIC EDUCATION

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

## NATURAL SCIENCES

## Faculty

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

## Overview

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

Note: The University is currently not accepting applications to the Master of Science in Natural Sciences, specialization 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 cither 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 ( $15-18$ credits):
Science courses as approved by advisor

Research (6 credits):
SCI 595 Special Projects in Science Education
SCI 598 Research in Science Education

Note:
Plan A: 30 credits, including three credits of
Thesis (SCI 599)
Plan E: 33 credits
Track III: Chemistry Specialization
Note: The University is currently not accepting
applications to the Master of Science in
Natural Sciences, specialization in Chemistry.
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 nine credits at the 400 level, as approved by the graduate advisor, may be counted toward the graduate planned program of study.

## 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 50601), Marsha Bednarski, Mark Evans, Kristine Larsen, Peter LeMaire, Deborah McGregor, Steven B. Newman, Nanjundiah Sadanand, Nimmi Parikh Sharma, Luisito Tongson, Michael Wizevich (Dept. phone: 832-2930)

## Department Overview

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

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

The department offers specializations in the Master of Science in Natural Sciences. For details of the program, see the Natural Sciences major on page 48 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. Part-time students who have a bachelor's degree may take up to three courses at the graduate level before applying for the M.P.A. program. UConn M.P.A. students may take approved courses at CCSU's campus. There is some exchange of faculty between the two schools. Questions about the specifics of the cooperative program should be addressed to the M.P.A. director at UConn or to the chair of the Political Science
Department at CCSU.
CCSU courses that have been approved for credit toward the M.P.A. are the following:
PS 446 The Budgetary Process
PS 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

Bradley Waite (Chair, Marcus White 209), Carrie Andreoletti, Carol Shaw Austad, Laura Bowman, Paul Chu, James Conway, Joanne DiPlacido, Francisco Donis, Douglas Engwall, Carolyn Fallahi, Marianne Fallon, Carol Ford, Marc Goldstein, Steven Horowitz, Laura Levine, Charles Mate-Kole, Lauren Perdue, Moises Salinas, Marisa Tomalá-Mealy, Rebecca Wood (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. 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. programs in psychology can be designed to prepare students for careers in the field of human services or as preparation for further graduate study. The programs require 36 to 42 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.

All programs are planned with the assistance of a graduate advisor.

The specialization in Health Psychology is designed to prepare students for careers in the field of health psychology; 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 General Psychology, Community Psychology, and Health

Psychology options are intended for full- or part-time students. Most courses are offered in the evening.

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, with a minimum grade of $B$, are required. A minimum undergraduate grade point average of 2.75 and a 3.00 in psychology courses, three letters of reference (at least two from academic sources) and a personal statement are required. Application deadline for spring admission is December 1, and April 25 is the deadline for fall admission.

## 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

Common Core ( 18 credits)
Directed electives as approved by advisor (18 credits)

## Specialization in Community Psychology 36 credits

Common 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 <br> 42 credits

Common Core (18 credits)
Specialization:
PSY 541 Health Psychology

PSY 542 Psychology of Stress
PSY 543 Stress Management: Theory and Research
PSY 530 Psychopathology
PSY 551 Primary Prevention
PSY 595 Graduate Internship in Psychological Applications

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

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

## SCIENCE EDUCATION

## Faculty

Marsha Bednarski (Coordinator, Physics and Earth Sciences Dept., Copernicus 532; 8322943)

For details of the program, see Natural Sciences: Track II on page 48 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 Copernican Planetarium and Observa-

 tory (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 interdiscipli-
nary 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 Multimedia Language Learning

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

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

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

Christopher J. Galligan, Acting Dean<br>Sharon R. Braverman, Assistant Dean<br>Christopher J. Galligan, Interim M.B.A.<br>Program Director (Contact<br>galliganc@ccsu.edu for further<br>information on M.B.A.)<br>Phone: (860) 832-3205 (School)<br>(860) 832-3276 (M.B.A. Director)<br>Fax: (860) 832-3219<br>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. The faculty, dedicated to teaching and informed by their scholarship, prepare students to be thoughtful and responsible business professionals.

## INTERNATIONAL MASTER OF BUSINESS ADMINISTRATION

## Administration

Contact Christopher J. Galligan (Director, M.B.A. Program, Vance Academic Center 210, 832-3276). E-mail galliganc@ccsu.edu for further information.

Note: The University is currently not accepting applications to the Master of Business Administration (M.B.A.) degree.

## Overview

The International Master of Business Administration (I.M.B.A.) is a professional degree providing a broad-based education for people who aspire to be leaders in the global arenas of business. The I.M.B.A. 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 an 18 credit International Core, a Track of 12 credits, and an Integrative Capstone Experience of three credits. An M.B.A. Accounting Track is available to fulfill the 150-hour education requirement to sit for the CPA examination. Prerequisite course work in financial/managerial accounting, micro/macroeconomics, managerial finance, management organization and theory, fundamentals of marketing, and statistics/probability may be waived based on prior education. Applicants are expected to have completed the equivalent of a second course in a foreign language, either as part of their undergraduate program or before program completion.

The International Core consists of course work in accounting, financial management, management, marketing, management information systems, and quantitative methods for business.

## Admissions Requirements

M.B.A. 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 2.70 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, includ-
ing a TOEFL of 550 or higher, or a com-puter-based score of 213. International applicants generally are required to have a transcript evaluation from an outside agency, such as the World Education Association.

Questions pertaining to the M.B.A. degree program should be referred to the M.B.A. Director at (860) 832-3276 or galliganc@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 18 credits:
AC 531 Accounting Information for Decision Making
FIN 541 Financial Management
MGT 551 Management for Global Operations
MKT 571 Market Planning
MIS 502 Business Payoff of Information Technology \& Systems
MIS 505 Quantitative Methods for Business

## Tracks

12 credits of approved graduate course work in accounting, management, management information systems, marketing, or combination of approved graduate courses. The Accounting Track requires AC 532 and AC 537. Students in Accounting should consult with the Accounting Department Chair.

Integrative Capstone Experience (Plan E) All students must successfully complete the integrative capstone 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.

Note: The amount of graduate work transferable to the M.B.A. program is limited to
a maximum of two courses (six credit hours). Courses applied to a previously earned degree are not transferable.

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

## BUSINESS EDUCATION

## Faculty

Contact the Department of Management Information Systems (Vance 404), George F. Claffey (Dept. phone: 832-2590); Web site address: www.ccsu.edu/business/ GraduatePrograms/msbeprogram.htm

## 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
- Courses required by the School of Education and Professional Studies
- 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
- 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.

Please visit www.ccsu.edu/grad/ FAQ_BusinessEd.html and www.ccsu.edu/grad/Additional_Material/ business_edu_certification.htm for more details.

## 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
and
SPED graduate course as approved by advisor
Elective as approved by advisor

Business Education Specialization
(15-21 credits):
$\begin{array}{ll}\text { BE 501 } & \begin{array}{l}\text { Current Problems in } \\ \text { Business Education }\end{array} \\ \text { BE 598 } & \begin{array}{l}\text { Research in Business } \\ \text { Education }\end{array} \\ \text { Electives as approved by faculty advisor }\end{array}$
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 INFORMATION TECHNOLOGY

## Faculty

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

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

Computer Electronics and Graphics Technology: Veeramuthu Rajaravivarma, Karen Coale Tracey (phone: 832-1830) (website: 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 75 of this catalog.

## Mitchell Sakofs, Acting Dean

Anne Pautz, Assistant Dean
Phone: (860) 832-2100
Fax: (860) 832-2109
Web address: http://www.ccsu.edu/education
The mission of the School of Education and Professional Studies is to prepare leaders for service in our communities. It does this through Post Baccalaureate graduate programs that lead to Connecticut teacher certification as well as Masters degree, SixthYear Certificate, and Doctorate programs that provide advanced certification and professional development to education and counseling professionals. Programs allow students with a strong liberal arts and content area background to acquire the professional knowledge and skills necessary to practice in their chosen field.

Programs in the School of Education and Professional Studies are accredited by the American Association of Marriage and Family Therapy (AAMFT), Commission on Collegiate Nursing Education (CCNE), Commission on Accreditation of Allied Health Education Programs (CAAHEP), Council on Rehabilitation Education (CORE), Connecticut State Department of Education, and the National Council for the Accreditation of Teacher Education (NCATE). In addition, the School of Education and Professional Studies is a member of the American Association of Colleges of Teacher Education and an active participant on the Teacher Education Council of State Colleges and Universities (TECSCU).

The education programs also hold national recognitions from the following NCATE affiliated organizations: Association for Childhood Education International (ACEI), Council for Exceptional Children (CEC), Educational Leadership Constituent Consortium (ELCC), International Reading Association (IRA), National Association for Sports and Physical Education (NASPE), National Association for the Education of Young Children (NAEYC), National Council for the Social Studies (NCSS), and National Council of Teachers of Mathematics (NCTM).

In addition to providing rigorous graduate programs, faculty from the School of Education and Professional Studies and affiliated public schools have established a network of Professional Development Schools (PDS). These PDS provide exemplary clinical sites for teacher candidates,
enhance pupil learning, and provide sites for action research. The School also operates campus-based centers that provide services to the community. These partnerships allow the School to provide students and community members with outstanding educational opportunities and services.

Below is an overview of centers and graduate Post-Baccalaureate, degree, and post-Masters programs, as well as the departments where they are located.

## Counseling and Family Therapy

- Master of Science in Counselor Education with specializations in: School Counseling Professional and Rehabilitation Counseling Student Development in Higher Education
- Master of Science in Marriage and Family Therapy
- Advanced Official Certificate Program in Professional and Rehabilitation Counseling


## Educational Leadership

- Master of Science in Educational Leadership
- Master of Science in Technology Education
- Sixth-Year Certificate: Intermediate Administrator or Supervisor
- Doctor of Education in Educational Leadership
- Advanced Official Certificate Program in Superintendent of Schools


## Physical Education and Human <br> Performance

- Master of Science in Physical Education
- Post Baccalaureate Program for Physical Education teacher certification


## Reading and Language Arts

- Master of Science in Reading and Language Arts
- Sixth-Year Certificate: Reading and Language Arts Consultant
- Advanced Official Certificate Program in Reading and Language Arts


## Special Education

- Master of Science in Special Education
- Post-Baccalaureate program for Special Education teacher certification


## Teacher Education

- Master of Science in Early Childhood Education
- Master of Science in Elementary Education
- Master of Science in Foundations: Policy or Secondary Education Strands
- Post-Baccalaureate program for Elementary Education teacher certification
- Post-Baccalaureate programs for secondary education teacher certification areas
- Post-Baccalaureate programs for all-level teacher certification areas


## Title II Reporting

Federal Title II of the Higher Education Act of 1998 mandates that institutions of higher education that have teacher preparation programs must report the pass rates on certification tests for their program completers. Any institution that has been identified as "low performing" by the State must also report this designation to the public.

CCSU defines "program completer" as a student who has met the academic requirements of the Professional Program for Teacher Certification. The students who formed the 2004-2005 cohort (the most recent, as of June 2006) of program completers finished a rigorous program of study that is widely recognized for its quality and is nationally accredited by the National Council for Accreditation of Teacher Education (NCATE). Students completed subject/content area requirements equivalent to non-education majors in the same fields. In addition, students received a thorough grounding in pedagogy and extensive school-based field experiences to prepare them to be educational leaders in the learning communities of Connecticut. There were 273 program completers identified in the 2004-2005 cohort. They took a total of 970 individual Praxis tests, passing 961 of those tests. This yielded a summary institutional passing rate of $97 \%$, comparable to the statewide rate of $98 \%$.

## Post-Baccalaureate Programs for Teacher Certification

Students who already hold a bachelor's degree may pursue teacher certification through our Post-Baccalaureate Certification 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, history/social studies, Italian, mathematics, physics, and Spanish
- Pre-Kindergarten/Kindergarten through grade 12 ( $\mathrm{PK} / \mathrm{K}-12$ ) Education in the following subjects: art, music, physical education, special education, TESOL, and technology education

Admission to the Post-Baccalaureate Certification programs involves two distinct application processes. First, students must apply to the School of Graduate Studies through the CCSU Graduate Admissions Office. Students are admitted to the School of Graduate Studies at the pre-certification level and begin the program at this level. Once students have begun the program, they then apply for admission to the Professional Program for Teacher Certification through the Office of the Dean of Education and Professional Studies. Students admitted to the Professional Program for Teacher Certification are designated certification candidates. Registration for professionallevel education courses is restricted to students admitted to the Professional Program for Teacher Certification.

The Professional Program for Teacher Certification applications are located outside of Barnard Hall, Room 248. Applications to the Professional Program for Teacher Certification are processed twice a year. Submission deadlines are September 10 and February 10. The Professional Program Application has complete instructions about requirements for each program. Criteria for admission to the Professional Program include admission to a post-baccalaureate graduate program, current enrollment in classes at CCSU, an overall undergraduate Grade Point Average (GPA) from all institutions attended of 2.70 GPA, passing scores or a waiver for the Praxis I tests, an additional complete set of official transcripts (transcripts submitted to Graduate Admissions cannot be used), letters of reference addressing the students' potential as teachers, an essay, and other program-specific materials listed on the application. Students also must participate in a Professional Program interview. The appli-
cation review and admission process takes from 6 to 8 weeks and is completed before pre-registration for the following semester.

The Connecticut State Department of Education will issue a Praxis I waiver based on specific SAT, ACT, or PAA scores. Testing and waiver requirements are subject to change by the State of Connecticut without prior notification. Information about the waiver application and criteria for receiving a Praxis I waiver are available at Barnard 248 or from the Connecticut State Department of Education at http://www.ctcert.org/. Information on registering for the Praxis tests are also available at Barnard 248 or from Educational Testing Service at www.ets.org. Students should allow 10-12 weeks to receive Praxis I scores or waivers.

Program Planning. Post-baccalaureate students must meet all course and laboratory requirements specified in particular teacher education programs. Students in post-baccalaureate certification programs also are required to satisfy certain general education and subject matter major requirements, regardless of their bachelor's degree area.

A transcript evaluation is completed for each student to identify the specific courses that must be completed for certification. A "Planned Program" is prepared for the student based on this evaluation. Once the appropriate deans sign the Planned Program, it becomes the official program for the student. Planned Programs are subject to change based on changes in state certification regulations.

- Connecticut certification regulations are subject to change without notice to students. These changes can impact the official Planned Program. Students must meet the certification regulations in place at the time they apply for certification, regardless of what their Planned Program required. Students are responsible for insuring that their Planned Program meets all certification requirements that will be in effect at the time they plan to complete their certification programs. It is essential that students regularly review their Planned Program with their advisor so that changes in regulations can be incorporated into the Planned Program.
- All post-baccalaureate certification students, regardless of program, must have the following general education courses:

PSY 236 or a developmental or life span psychology course
HIST 261 or HIST 262 or a survey of American history course.
Coursework in four of the following areas: sciences, mathematics, English, fine arts, foreign language 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.

- A Planned Program is developed for each student as part of the School of Graduate Studies admissions process. The Planned Program for all teacher education candidates, except for those in Special Education, must include the following Professional Program courses: SPED 315 ( or 501), EDF 400 or 415 , EDTE 315 or 316 , methods courses, student teaching, a course in educational technology, and other courses as required by the student's specific program. These courses are restricted to students admitted to the Professional Program. Special Education programs have different requirements listed under the special education department.
- Once the Planned Program has been prepared, students should meet with their designated advisor to develop a sequence and schedule plan to complete the program in a timely manner.
- Note: Most 400-level courses and all 300-level and below courses that apply to post-baccalaureate teacher certification programs are found in the Undergraduate Catalog.


## Professional Program for Teacher Certification Policies

All policies of the Professional Program for Teacher Certification apply to all students admitted to the professional program, regardless of the program level of the student. A more complete description of polices can be found in the Undergraduate Catalog

## Appeal for Admission GPA Waiver.

Students who are denied admission because of a cumulative undergraduate GPA below 2.70 may appeal for a waiver of the GPA requirement. A limited number of GPA waivers are granted. Students denied a GPA
waiver may consult with the department chair or their advisors for advice on how best to raise their GPA

Restricted Professional Course Work. Most education courses offered in the teacher education programs require admission to the Professional Program for Teacher Certification. Students who have not been admitted to a teacher education program are not allowed to enroll in restricted courses.

Retention Criteria. Once admitted to a particular teacher education program, a post-baccalaureate student is expected to maintain:

- a 3.00 GPA overall and in the

Professional Program,

- appropriate or professional behavior, attitudes, attributes, and responses in various contexts in which teachers and teacher candidates serve,
- acceptable performance during field experiences or Student Teaching,
- acceptable performance on performance assessments,
- adherence to the Connecticut Code of Professional Responsibility for Teachers,
- confidentiality of all information concerning colleagues and students obtained during the educational process, and
- integrity and honesty in written and verbal communications, documentation, and coursework at all times.


## Connecticut Certification

## Procedures

The Connecticut State Board of Education is responsible for issuing teaching certificates required to teach in Connecticut public schools. Certification regulations are subject to change and the Connecticut State Board of Education requires students to meet the certification regulations in effect at the time they apply for certification.

The Assistant Dean of Education and Professional Studies is the CCSU Teacher Certification Officer. Questions concerning certification that cannot be answered by a department may be addressed to the Assistant Dean.

The instructions for down loading and completing the application for Connecticut certification can be found outside Barnard Hall 248. The completed forms are returned to the same office. While the Assistant Dean of the School of Education and Professional Studies recommends students completing CCSU programs for

Connecticut certification, it is the State of Connecticut's Bureau of Certification that makes the final determination about granting a certification.

## Out-of-State Certification Procedures for CCSU Graduates

Most states have reciprocity agreements with the Connecticut State Department of Education to accept Connecticut teacher preparation programs in lieu of their own approved teacher preparation programs. Other requirements will need to be met for certification outside of Connecticut. Any state application that requires verification of completion of an Approved Program should be referred to the Assistant Dean of the School of Education and Professional Studies. The Assistant Dean will complete the forms and return them.

## COUNSELING AND FAMILY THERAPY

## Faculty

Connie Tait (Chair, Barnard 230), Ralph Cohen, H. Jane Fried, Judith Rosenberg, Daniel Wiener (Department Secretary, Sarah Atkinson; 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, Drug and Alcohol Recovery 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. Students must obtain departmental approval prior to beginning their practicum.

Programs are accessible to full- and parttime students, offering flexible advising hours and classes in the late afternoons and evenings.

## Programs

## SCHOOL COUNSELING 48-51 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 Counseling6

CNSL 503 Supervised Counseling Practicum

Specialized Courses (33 credits):
CNSL 504 Professional Studies in Counseling
CNSL 506 Counseling Children and Adolescents

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CNSL 520 Guidance Principles, Organization and Administration
CNSL 521 Career Counseling and Development
CNSL 522 Appraisal Procedures in Counseling
CNSL 524 Consulting in the Schools 3
CNSL 525 Multicultural Counseling 3
CNSL 526 Principles of Comprehensive School Counseling
CNSL 591 Supervised School Guidance Internship (three credits for two semesters)
MFT 541 Introduction to Theories of Family Systems

Research (3 credits)
ED 598 Research in Education
Capstone ( $0-3$ credits):
Plan A: CNSL 599 Thesis
or
Plan B: Comprehensive Exam (consists of a major case presentation done in conjunction with the student's internship experience)

## PROFESSIONAL AND

REHABILITATION COUNSELING
48-57 credits

The Professional and Rehabilitation
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 drug and alcohol recovery focus, or Mental Health Counseling. The Professional and Rehabilitation 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) and/or national certification as Certified Rehabilitation Counselors (CRC). The curriculum is also approved by the Connecticut Certification Board for students pursuing credentials as a Licensed Alcohol and Drug Counselors (LADC). There are additional post-master's training requirements for both LPC and LADC candidates. The Professional and Rehabilitation Counseling program is a candidate for accreditation by the Commission on Rehabilitation Education (CORE).

Core ( 42 credits):
CNSL 500 The Dynamics of Group Behavior
CNSL 501 Theories and Techniques in Counseling

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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 560 Introduction to Rehabilitation Counseling
CNSL 561 Advanced Rehabilitation Counseling
CNSL 563 Medical Aspects of Rehabilitation Counseling
CNSL 568 Alcohol and Drug Counseling
CNSL 571 Mental Health Counseling
PSY 598 Research in Psychology
Specialization Courses ( 6 credits):
Students in the Mental Health Counseling track are required to take two additional specialization courses as follows:
MFT 541 Introduction to Theories of Family Systems
PSY 530 Psychopathology
or
3

MFT 556 Systemic Perspectives on Mental Disorders

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

Capstone ( $0-3$ credits):
Plan A: CNSL 599 Thesis or
Plan B: Comprehensive Exam (consists of a major case presentation done in conjunction with the student's internship experience)

Note: It is expected that prior to beginning the supervised counseling practicum (CNSL 503) all Professional and Rehabilitation Counseling students will complete PSY 512. Students in the drug and alcohol recovery program must also complete PSY 454 prior to beginning practicum.

## STUDENT DEVELOPMENT IN HIGHER EDUCATION 42-45 credits

3 Graduates are prepared to function as student affairs professionals who work in student activities, residence halls, academic advising, career counseling, orientation, first-year expe-
3 rience courses, and learning centers in colleges and universities.

Core Courses ( 12 credits):
3 CNSL 500 The Dynamics of Group Behavior
Theories and Techniques in Counseling

CNSL 521 Career Counseling and Development
CNSL 525 Multicultural Counseling
CNSL 530 Student Development in Higher Education
CNSL 531 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

3

Capstone ( $0-3$ credits):
3 Plan A: CNSL 599 Thesis
or
Plan B: Comprehensive Exam (consists of a major case presentation done in conjunction with the student's internship experience)

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


## MARRIAGE AND FAMILY THERAPY 51 credits

The Marriage and Family Therapy (MFT) program leads 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, 12during 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, all students must complete 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. In addition, students also may elect to complete Plan A (thesis).

| Prerequisites $(12$ credits): |  |
| :--- | :--- |
| PSY 512 | Seminar in Developmental <br>  <br> Psychology |
| CNSL 500 | The Dynamics of Group <br> Behavior |
| CNSL 501 | Theories and Techniques in <br> Counseling |

Marriage and Family Therapy Specialization (51 credits) - thesis optional:
CNSL 504 Professional Studies in Counseling
MFT 541* Introduction to Theories of Family Systems3
MFT 543 The Family Life Cycle ..... 3

MFT 544 Families in Context: Gender and Cultural Dimensions3

MFT 551 Structural/Strategic \& Behavioral Family Therapies 3
MFT 552 Experiential, Intergenerational and Psychodynamic Family Therapies
MFT 554 Couples Therapy 3
MFT 555 Dysfunctional Family Processes
MFT 556 Systemic Perspectives on Mental Disorders
MFT 557 Action Methods in Marital and Family Therapy 3
MFT 583 Marriage and Family Therapy Practicum I3

MFT 584 Marriage and Family Therapy Practicum II3

MFT 585 Marriage and Family Therapy Internship (3 credits in each of 3 consecutive semesters) 9
PSY 598 Research in Psychology
Elective required

* included as a pre-candidacy prerequisite


## Admission Requirements

Admission requirements differ for the various programs within the Department of Counseling and Family Therapy. The following information describes the different program requirements.

## ADMISSION REQUIREMENTS FOR SCHOOL COUNSELING, PROFESSIONAL AND REHABILITATION COUNSELING, AND STUDENT DEVELOPMENT IN HIGHER EDUCATION

Admissions to the School Counseling, Professional and Rehabilitation Counseling, and Student Development in Higher Education programs are made on a competitive basis only one time per year. All applications must be completed and received by May 1 for fall admission of the following academic year. Candidates for admission will be selected on the basis of the following criteria:

1. Grade point average: Minimum 2.70 grade point average (GPA) for all undergraduate courses and a 3.00 for all graduate courses, based on a 4.00 point scale where A is 4.00
2. Three recommendations from individuals able to testify to the student's suitability as a prospective counselor.
3. A 2-3 page typewritten (double spaced) essay describing the following:
a. Reasons for entering the counseling profession.
b. Personal and professional experiences that influenced you to pursue the counseling profession.
c. Personal characteristics you believe will contribute to your success as a counselor.
4. 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 the student's potential for success as a professional counselor.

## ADDITIONAL ADMISSIONS REQUIREMENTS FOR SCHOOL COUNSELING

1. Documentation that the applicant has successfully passed all three parts of the Praxis I PPST Test or qualifies for a waiver. More information about the PRAXIS I PPST tests may be obtained by calling 1-800-742-9476 or by accessing the PRAXIS website at www.teachingandlearning.org. Applications for the PRAXIS I PSST tests and information about the waiver are usually available outside of the Office of the Dean, School of Education and Professional Studies, in Henry Barnard Hall.
2. At least one of the following prerequisite courses with a grade of B or better.

- A graduate course in psychology of human development that covers the whole life span (at CCSU PSY 512 meets this requirement)
- A course in education of exceptional learners including material relating to the special educational needs of students with physical and mental disabilities, the learning disabled, and the gifted and talented (at CCSU SPED 315 or SPED 501 meets this requirement)
- A course in contemporary education issues (at CCSU EDF 415, 500, 510, 516, 524, 525, 538 , or 583 meets this requirement) Students who believe that they may have taken equivalent courses at the undergraduate level may submit copies of the course descriptions from the college catalog that was in print at the time they took the course.

Note: While only one prerequisite course is needed to qualify for admission, all three prerequisite courses must be completed prior to graduation.

## ADMISSION REQUIREMENTS FOR THE MARRIAGE AND FAMILY THERAPY PROGRAM

The decision to admit the student into precandidacy status for the MFT program is based strictly on the student's grade point average. The admission standard for this program requires a minimum of 2.70 grade point average (GPA) based on a 4.00 point scale where A is 4.00 . Students with a grade point average between 2.40 and 2.69 may appeal their denial for admission and request a conditional admission. The conditional admission program is a non-degree arrangement that allows students to demonstrate the ability to perform successfully in a graduate degree program. It is afforded on a space-available basis to students who are able to demonstrate their potential through additional coursework, relevant life experiences, and/or recommendations from individuals qualified to testify to the student's suitability to be a prospective counselor. All students who are accepted into the department are granted pre-candidacy status and are assigned an academic advisor. The advisor will orient the student regarding prerequisites, course scheduling, potential course transfers and substitutions, and the planned program of study.

All students are accepted into the Department of Counseling \& Family Therapy as pre-candidates. Pre-candidacy status allows the student to begin taking classes. During the advising process, students will be informed of the specific steps they will need to take to apply for full candidacy into their program.

## 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.

## Other Programs

## POST-MASTER'S STUDY

Candidates who complete the master's degree in counseling may be able to continue their education at Central Connecticut State University by applying for admissions to a post-master's plan program in a Counseling specialty. Once accepted the student and advisor will develop a planned program of study that must consist of a minimum of 30 credits that are completed within a six-year time period.

## ADVANCED OFFICIAL CERTIFICATE PROGRAM IN PROFESSIONAL COUNSELING

Admission criteria: Master's degree in counseling.

The Advanced Official 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.

## EDUCATIONAL LEADERSHIP

## Faculty

Anthony Rigazio-DiGilio (Chair, Barnard 260), Farough Abed, Karen Beyard (Ed.D. Director, Barnard 329), Carol J. CarterLowery, Judith Farynairz, Penelope Lisi, Tami Schultz, Bethany Silver, Olusegun Sogunro, Barry Sponder, Aldrige A. Vaillant, Sheldon Watson (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 in 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, a superintendent certificate program, and a Doctorate in Educational Leadership (Ed.D.). Non-degree programs leading only to certification are not available in this department.

## Programs

## MASTER OF SCIENCE IN

 EDUCATIONAL LEADERSHIPWith 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

( $\mathbf{3 0}$ credits): Graduates are prepared to pro-
vide specific leadership skills to public and private schools in the area of curriculum renewal.

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

Note: While students may take some courses as non-matriculated students, they must be accepted into the program before taking a fourth 500-level course. 500-level courses beyond the third course will not count toward program completion.

## 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 administra-
tors 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. The department accepts applications for summer and fall semesters only. All application and supporting materials for admission to the program must be received by May 1 for students taking EDL 590 in the summer and December 1 for students taking EDL 590 in the spring. 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.

## 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 professional 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 Leadership I
EDL 616 Understanding External Environments of School Leadership II
EDL 690 Internship in Educational Leadership I: Theory and Practice
EDL 691 Internship in Educational Leadership II: Research and Practice

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 PreK-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 in alternate years for a cohort of 25 students. Deadline for admission is December 1. 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

The follow minimum criteria have been established for admission into the Ed.D. Program:

1. Master's degree from an accredited institution of higher education in a discipline or professional field that is relevant to the Ed.D. Program
2. 3.00 GPA on all graduate coursework
3. Two positive letters of reference from leaders in education familiar with the applicant's work
4. Detailed résumé that illustrates important work-related experiences
5. Acceptable scores on the Graduate Record Examination (within five years of admission and including a 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. If selected as a finalist, a satisfactory interview with the admission committee

## Admission Process

The application packet for the Ed.D. can be obtained from the Graduate Admissions Office, the Office of the School of Graduate Studies, or from the Graduate Studies and Ed.D. Program websites. Admission decisions are determined by a faculty admissions 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
- Curriculum and Literacy

Component III:
Inquiry Seminars ( 16 credits)

## Component IV:

Capstone: Dissertation and Dissemination (14 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 are taken during the initial summer of study and another nine credits are completed during the second summer.

Component II includes a specialty area of the student's choice. 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. More information about all of these components is available on the program's website.

## 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 completes a dissertation and demonstrates proficiency on each program standard. Criteria for judging performance on other standards are described in the Assessment and Dissertation Handbook.

During the second year of the program, each Ed.D. candidate completes a summative electronic portfolio. This portfolio consists of evidence (artifacts, evaluations, projects, and reflections) gathered from the beginning of the program. All entries must be tied to the program's conceptual framework and to the program's advanced leadership standards. Candidates present their portfolios to a committee of faculty, including their dissertation advisors.

Foundational Core (18 credits):
EDF 700 The Purposes of Education in America
EDL 705 Leadership to Promote Effective Teaching and Learning
EDT 700 Topics in Leadership for Technology in Schools
EDL 701 Leading Organizational Change I: Theory
EDL 702 Leading Organizational Change II: Program

Inquiry Seminars and Dissertation (30 credits required; up to six additional credits optional): EDL 710 Inquiry Seminar I: The Study of Human and Organizational Learning
EDL 711 Inquiry Seminar II: Quantitative and Qualitative Research I

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EDL 712 Inquiry Seminar III: Quantitative and Qualitative Research II

EDL 713 Inquiry Seminar IV: Study of Organizational Change
EDL 714 Inquiry Seminar V: Advanced Research Design
EDL 715 Inquiry Seminar VI: The Dissertation Proposal
EDL 716 Inquiry Seminar VII: Dissertation I
EDL 717 Inquiry Seminar VIII: Dissertation II
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
EDL 611 School Leadership II
EDL 615 Understanding External Environments of School Leadership I
EDL 616 Understanding External Environments of School Leadership II
MGT 553 Human Resource Management 3
MGT 583 Organizational Leadership 3
EDL 634 Seminar in Curriculum Development
3 EDL 652 Advanced Topics in Educational Leadership
EDL 680 Educational Planning
6 EDL 681 The Superintendency I: Leading District Operations
3 EDL 682 The Superintendency II: Board and Public Relations
3 EDL 695 Internship: The Superintendency I
EDL 696 Internship: The Superintendency II
EDL 697 Readings and Conference 1-6 (repeated for up to 6 credits)
EDL 690 Internship in Educational Leadership I: Theory and Practice
EDL 691 Internship in Educational Leadership II: Research and Practice

Curriculum and Literacy
3 RDG 667 Multicultural Literature in the Classroom

RDG 675 Reading and Writing as

Integrated Process
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 Development
EDL 652 Advanced Topics in Educational Leadership
EDL 697 Readings and Conference 1-6 (repeated for up to 6 credits)

## ADVANCED OFFICIAL CERTIFICATE PROGRAM IN SUPERINTENDENT OF SCHOOLS

Total credits: 12-15

The program is designed for educational professionals seeking certification as a School District Superintendent. The core program consists of two courses on theory and research (EDL 681 and EDL 682) and two courses on practice (EDL 695 and EDL 696). Candidates who have completed their graduate work at CCSU will be required to take 12 credits. Candidates who have completed their graduate work at another institution will be required to complete 15 semester hours as mandated by State Department of Education. Courses to be approved by advisor are dependent on student's prior coursework.

## 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 E (special project) may be selected in consultation with the advisor.

Core Courses ( 27 credits):
EDT 500 Instructional Design and Evaluation I
EDT 501 Message Design and Production
EDT 510 Design Tools
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 I
EDT 533 Distance Learning and Networking II

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
or
EDT 514 Integrating Technology in the Classroom Curriculum

Research and Capstone Requirements ( 6 credits):
Plan E: EDT 598 and EDT 597, Final Project

Computer prerequisite: A valid CCSU BlueNetID (username) and password. Graduate students must also have a personal computer and e-mail account.

Special Service Course (undergraduate and graduate):
EDT 490 Instructional Computing
Note: Students interested in a School Library
Media Specialist cross-endorsement should contact the Connecticut State Department of Education Certification Office.

## PHYSICAL EDUCATION AND HUMAN PERFORMANCE

## Faculty

David Harackiewicz (Chair, Kaiser 0180), Jan Bishop, Antone Capitao, Matthew Cummiskey, Catherine Fellows, Frank

Frangione, Thomas McCarthy, Peter Morano, Victoria Morley, Elizabeth O'Neill, Katherine Pirog, Susan Smith, Kimberly Tower, Sean Walsh (Dept. phone: 832-2155)

## Department Overview

The Department of Physical Education and Human Performance 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.

Note: The following courses will have the new designator EXS after Fall 2007: PE 507, 515, 519, 522, 523, 530, 590, 592.

## MASTER OF SCIENCE IN PHYSICAL EDUCATION

## 30 credits

Admissions requirements: Admission to the School of Graduate Studies

## 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 410 Exercise Physiology
PE 411 Organization and Management of Health Promotion Programs
PE 415 Fitness Assessment and Exercise Prescription
PE 425 Implementation and Evaluation of Health Promotion Programs
PE 450 Practicum in Exercise Science
PE 470 Internship in Exercise and Health Promotion
PE 500 Improving Student Learning in Physical Education
PE 505 Instructional Tools for Physical Education
PE 507 Human Perspective in Sport
PE 510 Instructional Models for Physical Education
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 590 Independent Study/Topics in Physical Education and Sports Medicine
PE 592 Advanced Physiology of Sport and Exercise

Research (3-6 credits):
PE 598 Research in Physical Education and Human Performance (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 PK-12 teacher certification and does not result in a master's degree. For information on admission to this program, see page 53 .

## 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), Elene Demos, Julia Kara-Soteriou, Catherine Kurkjian, Cara M. Mulcahy, Jesse Turner, Lynda Valerie, Kenneth J. Weiss (Dept. phone: 832-2175; Dept. website: www.reading.ccsu.edu))

## Department Overview

The Department of Reading and Language Arts is committed to promoting and enhancing quality instruction in reading and language arts. Preparing literacy leaders for service in our communities is the overarching mission of the department and is consistent with and closely aligned to the theme of preparing leaders for service in our communities embraced by the School of Education and Professional Studies. The underlying principles of our mission are derived from our professional standards as defined by the International Reading Association and NCTE and by state mandates. Accordingly, the department offers a Master of Science degree program and a Sixth-Year Certificate in Reading and Language Arts. The Master of Science degree offers strands in Classroom Instruction in Reading and Language Arts, and Corrective and Remedial Reading and Language Arts. The master's program also offers a strand in Reading-Mathematics. The Sixth-Year Certificate 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, clini-
cal, or field-based experiences under close supervision in order to provide students with opportunities to apply their skills. The Department of Reading and Language Arts collaborates with the Doctor of Education in Educational Leadership program in offering a specialty area in literacy leading to consultant certification. It is also home to the Central Connecticut Writing Project under the National Writing Project.

## Admission

To apply to the Department of Reading and Language Arts Master of Science degree or Sixth-Year Certificate program, a student must submit an application for graduate admission, official copies of transcripts, and application fee directly to the School of Graduate Studies. Other admission requirements for the Master of Science degree program in Reading and Language Arts are explained in the admissions packet distributed by the School of Graduate Studies at the time of application. Admission packets may also be downloaded from the department website at www.reading.ccsu.edu/Programs/ APPLICAT.HTM. Admission requirements include (1) letters of recommendation, (2) application essay, (3) department interview, (4) teaching certification and experience qualifications, and (5) basic computer literacy. A Connecticut teaching certification and a special education course are required for students seeking endorsement as remedial reading and language arts teachers or reading and language arts consultants.

Students seeking endorsement as a Reading and Language Arts Consultant in the State of Connecticut must apply to the School of Graduate Studies 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

## Electronic Program Portfolio: An

 Electronic Program Portfolio (EPP) 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 e-portfolio during thecourse work phase of the student's program. The e-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 e-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 program advisor following completion of fifteen 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 have their e-portfolio accessible for evaluation.

## Planned Program of Graduate Study

Following admission to the Master of Science degree and Sixth-Year Certificate program in Reading and Language Arts, students 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.

Note: M.S. and Sixth-Year Certificate students may transfer up to six credits of courses, including on-line courses, from accredited institutions upon recommendation of the program advisor and approval of the department chair. No transfer credits will be allowed after a student's planned program of study has been approved.

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

The Master of Science degree in Reading and Language Arts is designed to increase knowl-
edge and to improve skills of teachers in the area of reading and language arts. Additionally, the program includes three strands-Corrective and Remedial Reading and Language Arts, Classroom Instruction in Reading and Language Arts, and ReadingMathematics. The student's planned program of graduate study totals a minimum of 30-33 credits and must include the following: either Plan A: RDG 599 Thesis ( 6 credits) or RDG 599 (3 credits) and RDG 598 Seminar in Reading and Language Arts Research (3 credits) or Plan B: RDG 598 Seminar in Reading and Language Arts Research (3 credits) and Comprehensive exam, and include a field of study ( 27 credits).

A planned program of graduate study will be developed by the student and the program advisor. Based on the program advisor's evaluation of student's needs, background, and experiences in reading and language arts, a student may need to complete additional coursework for his/her planned program of graduate study and therefore may exceed the minimum of 30-33 credits.

## Strand in Classroom Instruction in

 Reading and Language Arts (non-certification track)For the Strand in Classroom Instruction in Reading and Language Arts, a student's planned program of graduate study totals 27 credits and includes courses from the following:
RDG 502 Current Trends in Developmental Reading K-12
or
RDG 503 Developmental Reading in Primary Grades
or
RDG 504 Middle School Level Literacy Development
or
RDG 505 Developmental Reading in the Secondary Schools
RDG 569 Folktelling Art and Technique
RDG 578 Teaching Writing in the Elementary Schools
RDG 579 Technology in Reading and Language Arts Instruction
RDG 582 Introduction to Critical Literacy
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

## Strand in Reading-Mathematics (non-certification track)

The strand in Reading-Mathematics totals 27 credits. The student's planned program of graduate study includes $12-15$ credits of reading and language arts courses from the following:
RDG 502 Current Trends in Developmental Reading K-12
or
RDG 503 Developmental Reading in the Primary Grades
or
RDG 504 Middle School Level Literacy
Development
or
RDG 505 Developmental Reading in the Secondary Schools
RDG 578 Teaching Writing in the Elementary Schools
RDG 585 Reading in Content Area RDG 588 Teaching Children's Literature RDG 589 Creative Language Arts The remaining $12-15$ credits are mathematics courses recommended by the department of mathematical sciences.

## Strand in Corrective and Remedial Reading and Language Arts (certification track)

The Strand in Corrective and Remedial Reading and Language Arts totals 27 credits and requires the clinical sequence- RDG 594, 595, and 596, and the following courses: RDG 503 Developmental Reading in Primary Grades
or
RDG 504 Middle School Level Literacy Development
or
RDG 505 Developmental Reading in the Secondary Schools
RDG 578 Teaching Writing in the Elementary Schools
RDG 585 Reading in Content Area
RDG 588 Teaching Children's Literature
RDG 589 Creative Language Arts

## 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

The student's planned program of study totals a minimum of 30 credits and must include the following:
RDG 696 Practicum for Reading and Language Arts Consultants
RDG 698 Research Seminar
RDG 588 Teaching Children's Literature
RDG 692 Specialized Diagnosis \& Remedial Techniques
RDG 694 Organization, Administration, and Supervision of Reading and Language Arts Programs

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

A student may need to complete additional coursework for his/her planned program of study and therefore may exceed the minimum of 30 credits.

## Reading/Language Arts Consultant

Non-Certification Track
Research (3 credits):
RDG 698 Research Seminar
Related Area of Study ( 6 credits)
Area of Specialization (15-18 credits)
Electives (3-6 credits)

## ADVANCED OFFICIAL CERTIFICATE PROGRAM IN READING AND LANGUAGE ARTS

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 15 to 27 credits of course work:

RDG 588 Teaching Children's Literature
RDG 692 Specialized Diagnosis and Remedial Techniques
RDG 694 Organization, Administration, and Supervision of Reading and Language Arts 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

Mitchell Beck (Chair, Barnard 232), John Foshay, Joan Nicoll-Senft, Ernest Pancsofar, Joanne Walker (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 certification in elementary education or a 7-12 secondary subject certificate in biology, business, chemistry, earth science, English, his-
tory/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 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. Students in Strand B must have a current Connecticut certification.

## Specializations <br> MASTER OF SCIENCE PROGRAM FOR STUDENTS ALREADY CERTIFIED IN SPECIAL EDUCATION 30 credits

General Education Elective (3 credits)
Professional Education (6 credits)
SPED 566 Legal and Administrative Issues in Special Education

3
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 History of American Education
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education

Specialization ( 12 credits):
Electives - Students usually take 12 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 ( 9 credits):
SPED 596 Designing Action Research in Special Education (Plan E) 3
SPED 597 Implementing and Documenting Action Research in Special Education (Plan E) 3
ED 598 Research in Education 3

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
3

EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education

Strand A (15 credits):
Choose 6 credits from:
SPED 511 Behavioral/Emotional Disorders
SPED 512 Learning Disabilities
SPED 513 Developmental Disabilities
Choose at least 9 credits from:
SPED 506 Foundations of Language for the Exceptional Child
SPED 510 Inclusive Education
SPED 536 Autism Spectrum Disorder 3
SPED 560 Positive Classroom Management for Students Receiving Special Education Services
SPED 578 The Juvenile Offender with Special Education Needs
SPED 580 Collaborative Process in Special Education
SPED 581 Assistive Technology in Special Education
SPED 595 Topics in Special Education 1-3

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

Research ( 9 credits):
ED 598 Research in Education
SPED 596 Designing Action Research
in Special Education (Plan E) 3
SPED 597 Implementing and
Documenting Action Research in Special Education (Plan E) 3

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

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

3
$\begin{array}{llr}\text { EDF } 525 & \text { History of American } & \\ & \text { Education } & 3 \\ \text { EDF } 538 & \text { The Politics of Education } & 3 \\ \text { EDF } 583 & \text { Sociological Foundations of } & \\ & \text { Education } & 3\end{array}$
Strand B (24 credits):
SPED 511 Behavioral/Emotional Disorders
SPED 512 Learning Disabilities
3 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

3 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

Research ( 9 credits):
ED 598 Research in Education
SPED 596 Designing Action Research
in Special Education (Plan E) 3
SPED 597 Implementing and
Documenting Action Research in Special Education (Plan E)

Strand C: Master of Science Program for Students Already Certified in Special
Education (30 credits)

Professional Education (6 credits):
SPED 566 Legal and Administrative Issues in Special Education
and one of the following:
EDF 500 Contemporary Educational Issues
EDF 516 School and Society 3
EDF 524 Foundations of Contemporary Theories of Curriculum

3

EDF 525 History of American Education
EDF 538 The Politics of Education 3
EDF 583 Sociological Foundations of Education

Strand C (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.

3 Research (9 credits):
ED 598 Research in Education 3
3 SPED 596 Designing Action Research in Special Education (Plan E) 3
SPED 597 Implementing and Documenting Action Research in Special Education (Plan E) 3

## ${ }^{3}$ TEACHER

## EDUCATION

## Faculty

Susan Seider (Chair, Barnard 277), Aram Ayalon (Assistant to the Chair), Elizabeth
Aaronsohn, Ronnie Casella, Barbara Clark, Gail Cueto, Lynda George, Nancy Hoffman, Maxine Howell, Lawrence Klein, Marian Matthews, Daniel Mulcahy, Karen
Riem (Dept. phone: 832-2415)

## Department Overview

The Department of Teacher Education is committed to the initial preparation and continuing professional education of those involved in early childhood, elementary and secondary education. Accordingly, the department offers programs leading to a Master of Science degree in the following areas: Early Childhood Education, Educational Foundations: Policy or Secondary Education, and Elementary Education. The department offers PostBaccalaureate 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 elementary education.

The department plans to offer a Master of Arts in Teaching (MAT): Teacher Education with specializations in Mathematics, Science, Spanish, English, Technology Education, and Special Education upon completion of the approval
processes for the Connecticut Department of Higher Education and the Board of Governors. Once approved, this program will be listed on the department website at www.ccsu.edu/grad and on the graduate application. Students interested in pursuing this degree should contact the Teacher Education Department.

## Programs <br> MASTER OF SCIENCE IN EARLY CHILDHOOD EDUCATION <br> 33 credits

Contact: Susan Seider (832-2429)
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:

EDEC 553 Family, School and Community Partnerships in Early Childhood Education
RDG 586 Literacy Instruction for Diverse Populations I
Related course approved in advance by advisor (SPED 510 recommended)
c) Urban Education:

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

Capstone Block ( 6 credits): EDEL 591 and EDEL 592 (all students will be Plan E). 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 <br> EDUCATIONAL FOUNDATIONS/ POLICY AND SECONDARY EDUCATION STRANDS

Contact: 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 $\mathbf{1}$ is centered on the theme of policy studies in American education. Strand 2 employs an approach to the study of curriculum and instruction in secondary education which integrates both theory and practice. Teacher certification in a secondary or NK-12 area is required for admission to Strand 2.

## Strand 1: Educational Foundations and Policy Studies <br> 30 credits

Core courses ( 18 credits, no sequence specified; take any 6 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 528 Comparative and International Education
EDF 535 Special Topics in Educational Foundations
EDF 538 The Politics of Education
EDF 583 Sociological Foundations of Education

Required course (3 credits):
ED 598 Research in Education

## Capstone:

Plan A, Thesis (ED 599) plus two electives approved by advisor.
or
Plan B, Comprehensive exam (available fall or spring only), with electives ( 9 credits) approved by advisor.

## 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
ED 598 Research in Education
Curriculum and Instruction Block 2 (9 credits):
EDSC 505 Innovations 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 528, 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 E).
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

Contact: 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 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 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 E). 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 400 -level 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. 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. Additional policies governing these certification programs are found in the Undergraduate Catalog. 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, History, Italian, Mathematics, Physics, Social Studies 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 53. Students may enroll part time or full time, extended over a number of years in any certification field. Each student will, together with an advisor, submit a planned program of graduate study which would satisfy all certification requirements. Each planned program is individualized, based on the studen's previous college course work, CCSU program requirements, and state certification requirements.

Student may also apply for full-time study in three specific fields: accelerated
math (see page 45), Spanish (see page 47), and the summer through summer program in elementary education.

Students in the summer-through-summer program in elementary education 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 later be used towards a master's degree. An additional admissions process is required by the Department of Teacher Education. Students seeking admission to this program should submit their application to the School of Graduate Studies no later than March 1. However, fall applications are strongly encouraged to allow students to take full advantage of financial aid and complete needed prerequisites.

## SUMMER THROUGH SUMMER POSTBACCALAUREATE CERTIFICATION PROGRAM IN ELEMENTARY EDUCATION <br> 56 credits

Contact: Nancy Hoffman (832-2425)
21 of the 56 credits are later applicable to a Master of Science in Elementary Education

* Indicates course that carries graduate credit toward a M.S. in education degree.

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 Comprehensive Reading Instruction I
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 (field experience required)
SPED 315 Introduction to Educating Learners with Exceptionalities
RDG 412 Literacy in the Elementary School
SCI 555 Teaching of Science in the Elementary School*

EDTE 540 Advanced Seminar in Leadership and Learning Communities*
MATH 531 Basic Concepts of Elementary School 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*

OFFICE OF FIELD EXPERIENCES Student Teaching<br>Holly Hollander, Director (832-2417)

All students in elementary, all level, secondary, and special education programs who are seeking initial certification by the State of Connecticut are required to complete fulltime student teaching. Prospective student teachers must complete a student teaching application form which is available on the Office of Field Experiences Web site. The application and its related materials must be submitted by the given dates. To student teach in the fall semester, applications must be submitted no later than February 15 in the preceding spring semester. Applications to student teach in the spring semester must be submitted no later than September 15 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. Please refer to the website at http://www.ccsu.edu/ofe for information on additional materials that must accompany application. Applications are accepted by appointment only.

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. Students may not take any additional courses while student teaching except for the related seminar.

## SCHOOL OF EDUCATION AND PROFESSIONAL STUDIES CENTERS

The Center for Multicultural Research and Education (Barnard Hall 260) pro- vides 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.

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.

Zdzislaw B. Kremens, Dean<br>Olusegun Odesina, Associate to the Dean and Graduate Coordinator<br>Phone: (860) 832-1800<br>Fax: (860) 832-1804

Web address: bttp://www.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 develop the knowledge and confidence needed to meet today's modern challenges in their chosen professional careers.

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.

## BIOMOLECULAR SCIENCES

## Faculty

Thomas R. King (Chair, Copernicus 204); Michael A. Davis, Barry Hoopengardner, Martin A. Kapper, Kathy A. Martin-Troy, James P. Mulrooney, Cheryl L. Watson (Dept. office: Copernicus Rm 204; Dept. phone: 832-3560)

## Department Overview

The Department of Biomolecular Sciences offers instruction in molecular biology, cell biology, genetics, and physiology that is strongly integrated with the theory and practice of molecular biological research. The department offers an M.A. in Biomolecular Sciences degree and an Official Certificate Program in Cell and Molecular Biology, and also contributes to the interdisciplinary Post-Baccalaureate Certificate in Pre-Health Studies program.

Located in Copernicus Hall, the Department of Biomolecular Sciences includes a wide range of modern research equipment in laboratories designed both for class instruction and for independent student research. Special facilities include a protein purification and analysis facility, a cell culture facility, a molecular genetics
research laboratory, a laboratory animal care suite, and several computer laboratories. Student-centered biomolecular research activity is also promoted, fostered, and supported by the Biotechnology Institute at CCSU, an interdisciplinary organization (housed in the Department of Biomolecular Sciences) that is dedicated to developing graduates with excellent research skills.

## Admission Requirements

The application process begins with the submission of an application for admission to graduate study, as well as official transcripts from all institutions where graduate or undergraduate work has been done, to the Graduate Admissions Office (Davidson 115; 832-2350). Graduate Record Examination (GRE) scores for the aptitude and advanced biology tests are optional, but, if available, these should also be submitted to the Graduate Office. In addition, applicants should submit a narrative statement, describing their academic goals, and two or three letters of recommendation directly to the chair of the Department of Biomolecular Sciences. These materials will be reviewed by the Department Graduate Committee, and students who are accepted will be assigned a program committee that will work with each student to develop a planned program of academic study.

## Programs

## MASTER OF ARTS IN <br> BIOMOLECULAR SCIENCES

The Master of Arts in Biomolecular Sciences is designed to fulfill the educational needs of biologists who desire further specialization and/or knowledge of recent advances in cell and molecular aspects of biology, students who seek an immersion in cell and molecular biology as an intermediate step toward preparation for work at the doctoral level, and teachers who are interested in furthering their knowledge in molecular and cellular biology. Each student will be assigned a graduate committee that will help the student plan a sound program of study.

There are two options (Plan A and Plan B) leading to the Master of Arts in Biomolecular Sciences degree, both of which require a total of 30 credits, made up of a Course Component and a Capstone Component.

Course Component ( $24-27$ credits)
BMS 500 Seminar in BMS 1
BMS 540 Advanced Topics in BMS 3-4
BMS 572 Laboratory Rotation in Cell and Molecular Biology 1
and biomolecular course electives (18-22 credits in BMS or related fields) from the following courses or others as approved by the advisor:
BMS 412 Human Physiology
(413) (with optional lab) 3-4

BMS 415 Advanced Exploration in
Cell, Molecular \&
Physiological Biology 3
BMS 505 Molecular Biology 4
BMS 506 Biosynthesis, Bioenergetics,
(497) and Metabolic Regulation (with optional lab) 3-4
BMS 540 Advanced Topics in BMS 3-4
BMS 562 Developmental Biology 3
BMS 570 Advanced Genetics 3
BMS 590 Focused Study in Advanced BMS 1-4
CHEM 454 Biochemistry
(455) (with optional lab) 3-4

CHEM 456 Toxicology 3
BIO 416 Immunology 3
$\begin{aligned} \text { BIO } 449 & \begin{array}{l}\text { Plant Physiology (with } \\ \text { optional lab) }\end{array}\end{aligned}$
Capstone Component (3-6 credits)
Plan A:
Option 1—BMS 599 Thesis ( 6 credits) and a thesis defense
or Option 2-BMS 599 Thesis (3 credits) and BMS 591 Independent Research Project in BMS (3 credits) and a thesis defense
or
Plan B:
BMS 591 Independent Research Project in BMS (3 credits) and a Comprehensive Exam.

Note: No more than 9 credits at the $400-$ level will be allowed in the graduate Planned Program of Study.

## OFFICIAL CERTIFICATE PROGRAM: POST-BACCALAUREATE CERTIFICATE IN CELL AND MOLECULAR BIOLOGY

## Program Overview

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

## Admission

Students must have completed a bachelor's degree to participate in the program. Potential students should contact the Office of Graduate Admissions to request an application packet. The application requires official transcripts from all colleges and universities attended and an essay describing why the student is interested in the program. Completed applications will be filed with the Graduate Admissions Office. The biomolecular sciences chair will schedule an interview with the applicant, during which an advisory committee will work with the candidate to develop an individualized plan of study in keeping with their academic background and professional goals. The advisory committee will make admission recommendations to the department 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 BMS 102 and 103 (or BIO 121), BMS 190, 201, 290; and CHEM 121 and 122; or equivalent. Postbaccalaureate students will be classified as graduate students; they may be either parttime or full-time and may qualify for financial aid. Only students matriculated as fulltime 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 BMS 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 biomolecular sciences advisor. A minimum of 15 credits in the planned program must be taken at CCSU.

BMS 591 Independent Research Project in BMS

Laboratory Science Component: 2 courses with lab from the following:
BMS 505 Molecular Biology
BMS 506/ Biosynthesis, Bioenergetics,
497 and Metabolic Regulation (with lab)
BMS 540 Advanced Topics in BMS
BIO 449/ Plant Physiology/
450 Investigations in Plant Physiology

Elective Component:
7-9 credits elected from any additional Laboratory Science course(s) listed above and/or from the following:
BMS 415 Advanced Exploration in Cell, Molecular \& Physiological Biology
BMS 540 Advanced Topics in BMS
BMS 562 Developmental Biology
BMS 570 Advanced Genetics
BMS 506 Biosynthesis, Bioenergetics, and Metabolic Regulation
BIO 449 Plant Physiology
BIO 416 Immunology
CHEM 454 Biochemistry
CHEM 456 Toxicology
Note: To enroll in BMS 572 or 591, students need to have a planned program approved by the biomolecular sciences 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; 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:

## Health Professions Advisory Committe

 (Pre-PAC) is responsible for admitting students to this program and for individually advising them upon entry. Both the PrePAC and this Official Certificate Program are described in more detail on page 77.
## COMPUTER INFORMATION TECHNOLOGY

## Faculty

Computer Electronics and Graphics Technology: Veeramuthu Rajaravivarma, Karen Coale Tracey (phone: 832-1830) Computer Science: Joan Calvert (director MSCIT), Bradley Kjell, Neli Zlatareva (phone: 832-2710)

Management Information Systems: Marianne D'Onofrio, Michael Gendron (phone: 832-3297) (website 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. The Computer Electronics and Graphics Technology Department oversees the specialization in Networking and
Telecommunications Technology. For details of the program, see page 75 of this catalog.

## Program

Research Component:
BMS 572 Laboratory Rotation in Cell and Molecular Biology

## ENGINEERING TECHNOLOGY

## Faculty

A. Gates, P.E. (Chair, Engineering, Copernicus 2350900, 832-1823);
N. Al-Masoud; G. D. Alungbe, P.E.;
C. Anderson, P.E.; S. Basim, P.E.; P. F. Baumann; L. Lema, CMfgE; E.J. Maydock; O.A. Powell, P.E.; and Z. Prusak (Dept. phone: 832-1815; Fax: 832-1811; website: www.technology.ccsu.edu)

## 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 Engineering 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, 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)
ETC 571 Design and Construction of Concrete Structures
ETC 577 Engineering Technology Project Administration
ET or ETC (500-level elective approved by advisor)
ET, ETC, or CM (500-level elective approved by advisor)
ET or ETC (400- or 500-level elective approved by advisor)

Specialization—Manufacturing/Mechanical Engineering Technology ( 15 credits) ETM 517 Automated Assembly and Manufacturing Cell Design3

ETM 523 Contemporary Engineering Materials
ET elective (one 500- or 400 -level course) 3
ET electives (two 500-level courses) 6
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

3 Paul J. Resetarits (Chair, Manufacturing and Construction Management, Copernicus 2120900, Resetarits@ccsu.edu); Graduate advisors: Stuart Bennett, Bob Emiliani, Jacob Kovel, Raymond Perreault, David Stec (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 inter-
ests 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.

## Programs <br> MASTER OF SCIENCE IN TECHNOLOGY MANAGEMENT <br> The Master of Science in Technology Management consists of three different plans. A is 33 credits with a thesis, B is 33 credits with comprehensive exams and $C$ is 33 credits with a research project.

a. All three plans have a core curriculum ( 18 credits) as follows:
IT 500 Industrial Applications of Computers
IT 502 Human Relations and Behavior in Complex Organizations
IT 510 Industrial Operations Management
IT 551 Project Management
IT 594 Research in Methods Technology
AC 510 Accounting and Control
b. Directed electives. Plans A and C require 12 credits. Plan B requires 15 credits. These are courses in technology at the 400- and 500 -level as approved by a faculty advisor. This allows the student flexibility to develop a specialization.

## Strands

Some examples could include, but are not
limited to:

- Construction Management
- Computer Applications
- Environmental and Occupational Safety
- Manufacturing Operations
- Quality Management
- Supply Chain and Logistics
- 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 Capstone Project

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.

## OFFICIAL CERTIFICATE PROGRAM IN ENVIRONMENTAL HEALTH AND SAFETY

Participants must successfully complete the following courses ( 12 credits): IT 511, 512, 414, 456; nine credits of which may be applied as electives to the M.S. in Technology Management (provided six-year time limit for the master's is met).

## OFFICIAL CERTIFICATE PROGRAM IN LEAN MANUFACTURING AND SIX SIGMA

Participants must successfully complete the following courses ( 12 credits): IT 464, 490, 510,561 . Up to 12 credits may be applied to the M.S. in Technology Management (provided the six-year time limit for the master's is met).

## OFFICIAL CERTIFICATE PROGRAM IN CONSTRUCTION MANAGEMENT Participants must successfully complete the following courses ( 12 credits): CM 435, 500 or $505,515,575$. Up to 12 credits may be applied to the M.S. in Technology Management (provided the six-year time limit for the master's is met).

## OFFICIAL CERTIFICATE PROGRAM IN SUPPLY CHAIN AND LOGISTICS

Participants must successfully complete the following courses ( 12 credits): IT 562, 563, 565,566 . Up to 12 credits may be applied to the M.S. in Technology Management (provided the six-year time limit for the master's is met).

## TECHNOLOGY EDUCATION

## Faculty

James DeLaura (Chair, Copernicus 2350900, delaura@ccsu.edu); Michele Dischino, Patrick Foster, David Sianez, Michael Vincenti (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 gradu-
ate 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.

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 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)
or
TE 596 Special Projects in Technology Education (for Plan C)
or
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 GRADUATESThis post-baccalaureate certification program provides courses for college graduates, regardless of previous major, to teach technology education. This program, comprised of techni-
cal 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.

# 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)
(website: 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 soffware 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.

## Admission Requirements

The MS-CIT Admission Committee will consider applications for admission every two weeks, and the committee will make final recommendations on acceptance/rejection of applicants for admittance.

All CCSU policies for graduate program admission are in effect. Formal admittance criteria include:

- Official transcripts from all prior undergraduate and graduate programs and course work;
- 3.00 GPA for graduate and 2.70 undergraduate work;
- If a student has earned a master's degree, a GPA of 3.00 or higher is required (the undergraduate GPA is not considered);
- TOEFL test results with scores no less than 550 , or 213 on computer-based tests (if applicable);
- Résumé and two letters of recommendation to be used in reviewing CIT-related work. For the two letters of recommendation, at least one should come from an individual who can attest to the applicant's work experience; the second letter may be from an individual who can attest to the applicant's academic ability and commitment.

All applications and official transcripts must be submitted for processing to the Graduate Admissions Office, Davidson Hall, Room 115 , along with a $\$ 50$ application fee.

Additional criteria for admission to the program are as follows. Items requested below should be sent to the MS-CIT Director's office, Maria Sanford Hall, Room 312, Central Connecticut State University, New Britain, CT 06050.

Applicants selecting the MIS specialization must also earn a total score of 500 or higher on the GRE or GMAT.
Additionally, applicants selecting the MIS specialization must achieve a score of 3.5 or higher on the analytical writing section of the GRE or the GMAT.

Please note that students wishing to change their specialization to MIS after beginning the MS-CIT program in one of the other two specializations must have taken the GRE or GMAT and earned a total score of 500 or higher, as well as achieved a score of 3.5 or higher on the analytical writing section of the GRE or the GMAT in order to have their specialization changed.

Applicants should have the GRE or GMAT scores sent to the Graduate Admissions Office, Lawrence J. Davidson Hall, Room 115, Central Connecticut State University, New Britain, CT 06050.

Applicants are also required to send an unofficial copy of the GRE or GMAT score to the MS-CIT Director's office, Maria Sanford Hall, Room 312, Central Connecticut State University, New Britain, CT, 06050 .

## Conditional Admission

A student may be admitted conditionally if it is determined that additional course work is needed. The additional coursework will be specified for the applicant and must be completed with a grade of $B$ or better before full admission into the MS-CIT program.

Applicants without the required GPA will not be admitted to the MS-CIT program. Applicants without the required scores on the GRE or GMAT will not be conditionally admitted to the MS-CIT: MIS specialization.

## Notification Process

Confirmation of the MS-CIT Committee's admission recommendation will be electronically sent to the MS-CIT Admissions Committee members, the MS-CIT program director, the Dean of the School of Graduate Studies, and the Associate Director of Graduate Admissions. Records and applications then will be filed in the director's office. Final acceptance notification will come from the Dean of the School of Graduate Studies after all necessary supporting documents have been evaluated.

Students admitted into the program will be assigned advisors based on their indicated specialization. The advisor is responsible for monitoring the student's progress towards degree completion. The student and the advisor are responsible for keeping the planned program form current. The student should bring requests for substitutions and transfer credits to the attention of the advisor who subsequently must obtain approval and signatures from MS-CIT faculy members representing the other two specializations and from the Dean of the School of Graduate Studies. When approved, such forms will be filed at the Graduate office. Students may not register for any courses without first meeting with the advisor who will check knowledge of necessary background areas.

## Program <br> MASTER OF SCIENCE IN COMPUTER INFORMATION TECHNOLOGY <br> 33 credits

Core Courses ( 18 credits):
CS 501 Foundations of Computer Science
CS 502 Computing and
Communications Technology

MIS 501 Managing the IT Value Proposition
MIS 502 Business Payoff of Information Technology and Systems
CET 501 Applied Networking Technology
CET 533 Digital Telecommunications
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 510, 515, 550, 561, 565, 569
Specialization 3 - Networking and
Telecommunications Technology
electives (Computer Electronics and Graphics Technology Department): CET 443, 449, 453, 479, 502, 513, 543, 559; IT 502, 510, 551, 594, 596

Capstone (3 credits):
Students may register for the Special Project (Plan C) course upon completion of core requirements and at least three specialization courses.
CIT 595 Capstone in CIT
Note: A maximum of 6 credits at the 400 -level is allowed with prior permission of advisor.

## INTERNATIONAL AND AREA STUDIES

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 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. Evelyn Newman Phillips (832-2617)

African Studies: C. Charles Mate-Kole (Coordinator, Psychology Dept., and Director, Center for Africana Studies), Ali Antar, Carol Austad, Zakari Bello, Walton Brown-Foster, James Buxton, Carol Carter-Lowery, Tennyson Darko, Ghassan El-Eid, Gloria Emeagwali, Parker English, Sheri Fafunwa-Ndibe, Beverly Johnson, Grace Kennedy, Peter Kyem, Peter LeMaire, Andrew Moemeka, Segun Odesina, Peter Osei, Warren Perry, Evelyn Newman Phillips, Timothy Rickard, Segun Sogunro (Phone: 832-3105)

## East Asian Studies: Mark Jones

(Coordinator, History Dept.), Gavro Altman, Mark Jones, Yanan Ju, Ki Hoon Kim, Cheng Sing Lien, Joseph McKeon, Paul Petterson, Xiaoping Shen (Phone: 832-2819)

## European Union/West European

Studies: Angela Morales (Coordinator, Modern Languages Dept.), Louis Auld, Richard Benfield, Mitchell Charkiewicz, Peter Kilduff, Paloma LaPuerta, Maria Passaro, Carmela Pesca, Laurence Petit, Paul Petterson, Timothy Rickard, Karen Ritzenhoff (Phone: 832-2887)

Latin American Studies: Katherine Sugg (Coordinator, English Dept.), Abigail Adams, Walton Brown-Foster, Gloria Caliendo, Francisco Donis, Ronald Fernandez, Antonio Garcia-Lozada, Mary Ann Mahony, Gustavo Mejía, Serafín Méndez-Méndez, Cynthia Pope, Moisés Salinas, Lilián Uribe (Phone: 832-2760)

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

Slavic/East European Studies: Richard Benfield (Coordinator, Geography Dept.), Gavro Altman, Jay Bergman, Mieczslaw Biskupski, Matthew Ciscel, 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 ( 15 credits; take 5 of the following):
IS 570 Modern World Issues
IS 571 International Diversity and Integration
COMM 543 Intercultural Communication GEOG 544 The Geography of World

Economic Development

LING 515.. An Introduction to Sociolinguistics
PS 501 Advanced Studies in International Law

Specialization (9 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 International Studies program requires that all students have a level of proficiency in reading, writing, speaking, and understanding of a single modern languagepreferably in their area of geographical spe-cialization-equal to the completion of the 226 level. Fulfillment of this requirement will be determined by a CCSU instructor of the language and/or the chair of the Modern Language Department.

## 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.

## PRE-HEALTH STUDIES

A Pre-Health Professional Advisory
Committee is available to assist students interested in preparing for careers in medicine, dentistry, veterinary medicine, optometry and related fields in the health sciences for which undergraduate training is required prior to admission to other institutions. The Pre-Health Professional Advisory Committee consists of faculty members from the departments of Biology, Biomolecular Sciences, Chemistry, Physics, and Psychology.

Students interested in pre-health Professional Programs should consult Dr. Peter Osei, program coordinator for the health professions, Department of Biology, NC 339 (832-2657), and Dr. Cheryl Watson, chair of the Pre-Health Professional Advisory Committee, Department of Biomolecular Sciences, NC 344 (832-2649). Additional information is available at http://www.prehealth.ccsu.edu.

## 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 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 his or her 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 within the graduate admission deadlines of July 1 and December 1. 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.

## Program

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

## Model Program*

45 credits
Life Science ( 21 credits), including:
BIO 122 General Biology II
BMS 201 Principles of Cell and Molecular Biology
BMS 306 Genetics
or
BMS 316 Microbiology
BIO 318/ Anatomy and Physiology I
BMS 318
BIO 490 Topics in Biology
or
BMS 490 Topics in Biomolecular Sciences
BIO 319/ Anatomy and Physiology II BMS 319

BIO 412/413/ Human Physiology BMS 412/413

Chemistry ( 16 credits), including:
CHEM 1.61 General Chemistry I
CHEM 162 General Chemistry I
Laboratory
CHEM 163 General Chemistry II
CHEM 164 General Chemistry II Laboratory
CHEM 210 Organic Chemistry I
CHEM 211 Organic Chemistry I Laboratory
CHEM 212 Organic Chemistry II
CHEM 213 Organic Chemistry II Laboratory

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 School of Graduate Studies. (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 toward a master's degree upon the approval of a program advisor, provided that the graduate-syllabus option is elected at the time of course registration in 400 level courses.)

Cooperative Education is an academic program which integrates classroom study with career-related work experiences. Co-op work experiences are paid, full-time, six-month positions related to academic and career interests. Co-op is an optional and, in most cases, non-credit program.

CCSU's program, the largest in Connecticut and one of the largest in New England, combines five months of on-campus study with six months of paid Co-op employment. Thus, students apply textbook learning to on-the-job training. The money earned often helps students finance their University education.

Co-op students are assigned to a Cooperative Education coordinator who guides their career development and develops appropriate Co-op placements. In the Co-op Career Development Seminar students receive instruction in skills that make the difference in today's job market: résumé writing, interviewing techniques, career planning and job-seeking strategies.

Through participation in the Co-op program, students can graduate with up to two years of career-related work experience and, possibly, with a job offer. A sizeable number of Central Connecticut State's Co-op students are offered permanent positions with their Coop employers upon graduation. Nationwide, graduates of Co-op programs are hired at higher salaries and promoted faster than other employees. For students unsure of a career, Co-op is a no-risk way to test job options. For those set in their goals, Co-op provides a direct route from campus to career.

## How Co-op Works

- Co-op work blocks run from January through June (Group A) and from July to December (Group B).
- Students may participate in either one, two, three or four Co-op work blocks.
- Students must enroll in a Co-op Career Development Seminar during the semester prior to the first work experience.


## Enrolling in the Co-op Program

Once enrolled at Central Connecticut State, the first step in becoming a Co-op student is to attend a Co-op Information Session. These are offered weekly in the Co-op Office, Willard Hall Room 100. The session provides details about how the program works, how to enroll and the benefits the student can expect as a Co-op student at

Central Connecticut State. It gives students an opportunity to ask questions and receive current literature about the program.

After the Information Session, students meet with a coordinator to formally enroll in the program. Students should plan to enroll in the program at least one semester prior to the first planned work block. Group A students must apply no later than the third week of the fall semester; Group B students must apply no later than the third week of the spring semester. Applying a semester in advance of the work block ensures: 1) a place in the program; 2) sufficient time for the Coop staff to develop appropriate Co-op positions; and 3) sufficient time for students to complete the Career Development Seminar prior to their work experience.

## The Career Development

## Seminar

The Career Development Seminar is designed to teach students life-long career skills. They learn to write a résumé, interview effectively, make career decisions, explore occupations and discover where the jobs are in their field. This one-credit course is taught by the Co-op staff.

## Cost and Eligibility

The Co-op program is available to all fulland part-time students in good academic standing. Currently, it costs $\$ 400$ per year to be enrolled in the Co-op program. Students are billed $\$ 200$ per semester.

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

Symbols referring to course cycling information are: $(\mathrm{O})=$ odd year,
$(E)=$ even year, no symbol = course offered both semesters of the academic year, [c] = computer-intensive course

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 graduate degree 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 (C- or higher); 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.

AC 404 Taxation of Business Pass-Through Entities Prereq.: AC 401 (C- or higher); for graduate students, permission of chair. Analysis of federal tax law relating to (1) the formation, operation, and liquidation of partnerships and LLCs including current distributions; and (2) the election, operation, and termination of Subchapter $S$ corporations. Spring.

## AC 407 Advanced Accounting

3
Prereq.: AC 313 (C- or higher); for graduate students, permission of department chair. Accounting for partnerships and branches; business combinations and consolidated financial statements; foreign currency transactions and translation of foreign currency financial statements.

AC 430 Accounting for Non-Profit Institutions
Prereq.: AC 313 (C- or higher); for graduate students, permission of chair. 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 with grades of C- or higher; for graduate students, permission of chair. Introduction to the audit process and reporting using PCAOB and ASB auditing standards. Topics include demand for audit and other assurance service, legal and regulatory environment, professional ethics, and rules of conduct. Fall, Spring.

AC 455 Internal Auditing 3
Prereq.: AC 313, AC 340, STAT 201 with grades of C- or higher; graduate students require permission of department 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 $490 \quad$ 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 3
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. Fall.

AC 531 Accounting Information for Decision Making 3
Formerly BUS 531. Prereq.: Admission to MBA program or permission of MBA director. Linking the accounting system with the demands for financial information from managers and other professional employees. Examines the use of accounting information in management, marketing, and finance within the global environment. [c]

AC 532 Accounting Theory Research and Policy 3 Prereq.: AC 313 and admission to MBA program; or permission of MBA Director. Study of the conceptual framework of accounting principles, emphasizing recognition, measurement, and financial reporting. Current issues facing accounting are explored. Historical and present-day standard setting processes examined.

AC 534 Budgetary Planning and Control Systems
Formerly BUS 534. Prereq.: AC 301, 420 or 531, and admission to MBA program; or permission of MBA Director. Role of budgetary systems in an organization's planning and control activities. Topics include behavioral impact of budgets, responsibility centers, budget preparation, and analyzing performance reports.

AC 536 International Accounting
3
Prereq.: AC 311 and permission of MBA Director. 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
Director. 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 $539 \quad$ Current Topics in Accounting 1 TO 3
Formerly BUS 539. Prereq.: Admission to MBA program or permission of MBA Director. Accounting and information management issues in multinational firms and/or different national markets. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits.

## ACTUARIAL SCIENCE

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

## 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

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. Spring. (O)

ACTL 565 Graduate Actuarial Models I
Prereq.: Admission to M.A. program in Mathematics with specialization in Actuarial Science. Models the valuation of life contingent payments. Specific topics include survival models and life tables and their use in the calculation of net premiums and reserves. Multiple life and multiple decrement models are
introduced. This is a link course with ACTL 465. Not open to students who have passed ACTL 465. Fall. (O)

## ACTL 566 Graduate Actuarial Models II

Prereq.: Admission to M.A. program in Mathematics with specialization in Actuarial Science. Frequency and severity models, compound distribution models, stochastic process and ruin models. This is a link course with ACTL 466. Not open to students who have passed ACTL 466. Spring. (O)

ACTL $580 \quad$ Advanced Topics in Actuarial Science
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.

## ANTHROPOLOGY

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

## ANTH $401 \quad$ City Life \& Culture

Formerly ANTH 300. Exploration of the historical and contemporary development of urban spaces in the United States and Hartford area. Development of diverse cultural identities through neighborhood, social and, religious institutions will be examined. Spring. (O)

## ANTH 416 Archaeology of Africa

Prereq.: ANTH 150 or permission of instructor. Formerly ANTH 316.
Examines pre-historic and historic period of Africa via archaeological, documentary, and oral historical data. Spring. (O)

ANTH $418 \quad$ New England Prehistory
Prereq.: ANTH 140 or 150 or permission of instructor. Formerly ANTH 318.
An examination of the prehistoric people of New England through analysis of
fragmentary remains of their villages, burial grounds, and trash deposits. Focus will be on sites excavated by the Anthropology Department at Central Connecticut State University. Spring. (E)

## ANTH 420 African Diaspora Archaeology

Prereq.: ANTH 150 or permission of instructor. Formerly ANTH 320.
Examination of early African diaspora life via analysis of archaeological remains. Consideration of issues such as diversity of populations, health and diet, and labor conditions. Spring.

ANTH 422 Native Americans
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 $425 \quad$ Human Ecology
Prereq.: 100-level anthropology course or permission of instructor. Formerly ANTH 325. Explores the relationship between humans and their environments. How humans have changed the face of the earth and to what extent different environments have influenced human biological and cultural evolution. Fall. (O)

## 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-Colombian 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 450 Archaeological Field School
3 TO 6
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 475 Topics in Anthropology
Examination of selected topics in Anthropology. Irregular.
ANTH $530 \quad$ Critical Issues in Contemporary Anthropological Theory
Prereq.: Admission to and good standing (3.00 GPA) in Anthropology M.A. program. Examination and analysis of major contemporary issues in cultural anthropological theory. Post-colonialism, crises in authority and representation, critical and feminist theories, performance and practice. Spring.

ANTH 533 Independent Study in Anthropology
Prereq. Admission to M.A. in Anthropology. Directed, advanced independent study in anthropology under faculty supervision. On demand.

ANTH 537 Internship in Anthropology
Prereq.: Admission to and good standing (3.00 GPA) in Anthropology M.A. program; permission of instructor and agency. A combined lecture and fieldbased experience in an appropriate local, national, or international agency to address an aspect of a contemporary problem. May be taken twice for up to a total of 6 credits.

## ANTH $550 \quad$ Proseminar in Anthropology

Prereq.: Admission to M.A. in Anthropology. Major themes in archaeology: historical roots of the field; theory and method; cultural resource management; ethical principles and public archaeology. Seminar format requires student preparation and presentation. Fall.

ANTH 560 Proseminar in Biological Anthropology
Prereq.: Admission to M.A. in Anthropology. Major themes in biological anthropology, including: the scientific method; evolutionary theory; the evolution and definition of humanity; the evolution of human behavior; biodiversity, race and racism; challenges to evolution; and ethical concerns. Seminar format requires student preparation and presentation. Spring.

## ANTH 570 Proseminar in Cultural Anthropology

Prereq.: Admission to M.A. in Anthropology. Major themes in cultural anthropology; inequality and difference; community, structure, and organization; culture, history, and change; individual in society and culture; the production and significance of meaning and symbol. Seminar format requires student preparation and presentation. Fall.

ANTH 571 Applying Anthropology
Prereq.: Admission to M.A. in Anthropology. Methods and theories used in applying anthropological knowledge for practical result. Examines role of anthropology in medicine, education, social services, and in the development and implementation of public policy in the U.S. and cross-culturally. Fall. (E)

ANTH $580 \quad$ Cultural Resource Management
3
Prereq.: ANTH 550. Overview of local, state, and federal legislation concerning the preservation of cultural resources; how these laws came about; and what they mean to archaeologists. Spring.

ANTH 581 Archaeology Laboratory Methods
Prereq.: ANTH 550. Practical, hands-on experience in a wide variety of laboratory methods for the identification, conservation, and curation of material culture. Fall.

ANTH $597 \quad$ Project in Anthropology (Plan C)
M.A. core (ANTH 550, 560,570, and 598) and an additional 9 credits of electives. Students will develop and implement original project in either archaeology or community anthropology. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

ANTH 598 Research in Anthropology 3
Prereq.: Admission to M.A. in Anthropology. Research methods in Anthropology with focus on qualitative practices such as participant observation, selecting and interviewing informants, ethnohistorical, and documentary research. Ethics of anthropological research. Fall.

ANTH 599 Thesis (Plan A)
Prereq.: Admission to and good standing ( 3.00 GPA ) in Anthropology M.A. program, and completion of 21 credits in Anthropology including completion of M.A. core (ANTH 550,560,570, and 598) and an additional 9 credits of electives. Preparation of Masters Thesis under supervision of faculty thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## ART

Note: Additional work will be required for graduate credit in 400 -level courses.
ART $420 \quad$ 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 porffolio review is required before enrollment. Topics in the development of individual media techniques.

ART 430 Color Drawing 3
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

Prereq.: ART 130 or 435 . A successful porffolio 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
3
Prereq.: ART 431 or permission of instructor. A successful porffolio 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
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 $450 \quad$ 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 $460 \quad$ Ceramics III
Prereq.: ART
360. A successful portfolio review is required before enrollment. Advanced clay and glaze techniques.

ART 464 Design-Handcraft Materials and Techniques II 3
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
Prereq.: To be stipulated at time of course offering. A successful portfolio review is required before enrollment. Selected topics in studio art, announced each semester. Students may not take this course for credit under the same topic more than once.

ART 466 Jewelry Design
Prereq.: ART 120 or 366 or 435 . 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
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
1 TO 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. May be repeated up to a maximum of 6 credits.

## 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 Advanced Studies in Art History 3
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. NOTE: This is a link course, on demand, with ART 408, 411412,414 , or 420 . On demand.

ART 549 Advanced Painting I 3
Formerly ART 452. Prereq.: Permission of department chair. 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 Advanced Painting III
Prereq.: ART 550. Continuation of ART 550.

ART $559 \quad$ Advanced Ceramics I
3
Formerly ART 469. Prereq.: Permission of department chair. Emphasis on skills in wheel use, glazing and firing techniques. Plans $\mathrm{A}, \mathrm{C}, \mathrm{D}$, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

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
Prereq.: ART 560. Using self-designed clay and glaze to make a mini solo exhibition.

ART 565 Advanced Studies in Art:
3
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 $570 \quad$ Advanced Sculpture I

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

ART $571 \quad$ Advanced Sculpture II
Formerly ART 462. Prereq.: ART 570 or equivalent. In-depth exploration of one or possibly two sculptural processes to be announced. Irregular.

ART 572 Advanced Sculpture III
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) 3
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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

ART $598 \quad$ 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 Thesis (Plan A) 3
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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. [c]

## BIOLOGY

Note: Additional work will be required for graduate credit in 400-level courses.
BIO $401 \quad$ Human Nutrition and Metabolism
Prereq.: BIO 200 and BIO 290, or permission of department chair. Biochemical and physiological processes that affect the nourishment of humans, including newborns and the aging. Interactions among nutrients, the environment and the body resulting in perturbations affecting human health are considered. Spring. [c]

BIO 405 Ecology
Prereq.: BIO 200 and BIO 290 (or permission of department chair) and CHEM 122. Distribution and abundance of different types of organisms and the physical, chemical, and biological features and interactions that determine survival, growth, and reproduction in changing environments. Ecological theory and quantitative analyses included in lecture and laboratory. Three hours of lecture and one three-hour laboratory per week. Fall. [c]

BIO 410 Ecological Physiology
Prereq.: BIO 200 and BIO 290 and CHEM 122, (or permission of department chair). An examination of the physiological interactions between organisms and their associated ecosystems. Equivalent of three hours of lecture and three hours of laboratory per week. Summer. [c]

## BIO 412 Human Physiology

Prereq.: BIO 122 or BMS 201 (formerly BIO 201) or permission of department chair. 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. Cross listed as BMS 412. Fall. [c]

BIO 413 Human Physiology Laboratory
Prereq. or coreq.: BIO 412 or BMS 412 (either may be taken concurrently).
Laboratory course to accompany BIO 412. One three-hour laboratory per week. Cross listed as BMS 413. Fall.

BIO 416 Immunology
Prereq.: Any 300-level (or higher) course in Biology or Biomolecular Science or permission of chair. Cells and organs of the immune system, immunoglobulin structure and genes, antigen-antibody interactions, major histocompatibility genes and molecules. complement, humoral and cellmediated immunities, hypersensitivities, immunodeficiencies, transplants, and autoimmunity. Spring. [c]

BIO $420 \quad$ Ornithology
Prereq.: BIO 200 and BIO 290 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
Prereq.: BIO 200 and BIO 290, 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
Prereq.: BIO 200 and BIO 290, or permission of department chair and CHEM 122. A comparison of lotic and lentic freshwater environments, with emphasis on physical and chemical parameters influencing the distribution of aquatic organisms, nutrient cycling, and fäctors 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
Prereq.: BIO 200 and BIO 290, or permission of department chair and CHEM 122. Analysis of the interactions of human population-resource depletion-pollu-
tion 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 200 and BIO 290 (or permission of department chair) and CHEM 122. Study of the various types of aquatic pollutants, their sources and control/treatment, and the effects of water pollution upon aquatic ecosystems, as well as Federal and State water pollution regulatory programs. Laboratory will include field collection of water samples and measurement of indicators of water quality. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. Spring. (O) [c]

## BIO 440 Evolution

Prereq.: BIO 200 and BIO 290 or permission of department chair.
Mechanisms of inter-generational change including mutation selection, and drift; sexual selection; speciation; and extinction. Fall. (O) [c]
BIO 444 Plant Taxonomy

Prereq.: BIO 200 and BIO 290 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. Fall. [c]

BIO 449 Plant Physiology 3
Prereq.: BIO 200 and BIO 290; or BMS 201 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. Spring. [c]

BIO $450 \quad$ Investigations in Plant Physiology
Prereq.: BIO 449 (may be taken concurrently) or permission of instructor. Investigative laboratory in plant physiology. Topics include water potential, transpiration, mineral nutrition, phloem transport, photosynthetic and respirational gas exchange, photosynthetic electron transfer, plant movements, and plant hormones. One three-hour lab per week. Spring.

## BIO 480 Animal Behavior

3
Prereq.: BIO 200 and BIO 290 or permission of department chair. Adaptive function, evolutionary history, development and physiological control of animal behavior. Fall. (E) [c]

## BIO 481 Skeletal Biology

Prereq.: BIO 200 and BIO 290 or permission of department chair. The vertebrate skeletal system as a model for the study of evolutionary homology, development, and functional morphology. Physiology and diseases of the skeleton are included. Three hours of lecture and three hours of laboratory per week. Irregular. [c]

## BIO 488

Animal Behavior Laboratory
Prereq.: BIO 200 and BIO 290 or permission of department chair. Laboratory and field exercises designed to test hypotheses about the development, adaptive function, evolution, and physiological control of behavior of vertebrates and invertebrates. Includes an extensive observation-based behavioral catalog for a species of the student's choosing. Three hours of laboratory and one hour of lecture per week. Fall. (E)

BIO 489 Vertebrate Dissection
Prereq.: BIO 200 and BIO 290 or permission of department chair. The anatomy of representative vertebrates, with emphasis on the muscular, digestive, circulatory, reproductive, excretory, and other soft tissue systems. Laboratory work will include dissection of specimens. One hour of lecture and three hours of laboratory per week. Irregular.

BIO $500 \quad$ Seminar in Biology
Prereq.: Admission to the graduate school or permission of department chair. Study of contemporary topics in biology through individual readings, discussions and presentations. Irregular. [c]

BIO 508
Coastal Ecology
3
Prereq.: Admission to the graduate school or permission of the 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

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
Prereq.: Admission to graduate school 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. Spring. (E)

BIO 517 Human Anatomy, Physiology, and Pathophysiology 6 Prereq.: CHEM 210 and 211 (formerly 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 Applied Physiology 3
Prereq.: BIO 412 or 517 or BMS 412 or permission of department chair. 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
Prereq.: Admission to graduate school 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. Spring. (O)

BIO 528 Pharmacology
4
Prereq.: BIO 412 or BIO 517 or BMS 412, and CHEM 550 or permission of department chair. For students in anesthesia and health sciences; others require permission of anesthesia program coordinator. A comprehensive investigation into the pharmacological agents and their utilization with relevance to the health sciences. Special consideration given to pharmacodynamics. Fall.

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 571 Advanced Field Studies in Biology
1 TO 4
Prereq.: Admission to the Graduate School or permission of department chair.
(Interview with instructor required for courses outside the U.S.) Travel-based field study experience. Advanced students will develop their abilities to identify biological questions, design and conduct observations and/or experiments that address those questions, and analyze their data and reach valid conclusions. May be repeated at different field sites. Irregular.

BIO $590 \quad$ Focused Study in Advanced Biology
1 TO 4
Prereq.: Written permission of instructor(s) and department chair. Advanced project 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 under a different topic no more than three times, for a maximum of 8 credits. On demand.

BIO 591 Independent Research Project in Advanced Biology 1 TO 4 Prereq.: Written permission of instructor and department chair. Individual student research in biology. Laboratory and/or field study under the supervision of faculty chosen consultation with the graduate advisor. Written research report required. May be repeated for a maximum of six credits. On demand.

BIO 598
Research in Biology
3
Prereq.: Admission to the graduate school or permission of department chair. Designed to familiarize student with techniques and resources associated with research in the specialization. Opportunity for practical application will be provided. Fall. [c]

BIO 599 Thesis 3 OR 6
Prereq.: BIO 598 and permission of thesis advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## BIOMOLECULAR SCIENCES

Note: Additional work will be required for graduate credit in 400 -level courses.
BMS 412 Human Physiology 3
Prereq.: BIO 122 or BMS 201 (formerly BIO 201) or permission of department chair. Study of 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. Cross listed as BIO 412. Fall. [c]

BMS 413 Human Physiology Laboratory
1
Prereq.: BMS 412 or BIO 412 (may be taken concurrently). Laboratory course to accompany BMS 412. One three-hour laboratory per week. Cross listed as BIO 413. Fall. [c]

BMS 415 Advanced Exploration in Cell, Molecular, and Physiological Biology
Prereq.: BMS 306 or BMS 311 or BMS 316. (BMS 306, 311 and 316 formerly carried BIO designators.) or permission of instructor. The focus will be on understanding a modern biological issue at the level of molecular, cellular, and physiological inquiry. The treatment of the topic will be at an advanced level, reflective of current research in the field. May be repeated under a different topic for a maximum of 6 credits. Irregular. [c]

BMS 497 Biosynthesis, Bioenergetics and Metabolic Regulation Laboratory

1
Prereq. or coreq.: BMS 496 (formerly BIO 496) or BMS 506 (formerly BIO
506). Laboratory to accompany BMS 496 or 506 . One three-hour laboratory per week. Irregular. [c]

BMS $500 \quad$ Seminar in Biomolecular Science 1
Prereq.: Permission of department chair. Study of contemporary topics in biomolecular sciences through individual readings, discussions and presentations. Irregular.

BMS 505 Molecular Biology
Prereq.: BMS 306 (formerly 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 BMS 495 . No credit given to students with previous credit for BMS 495 (formerly BIO 495). Irregular. [c]

BMS $506 \quad$ Biosynthesis, Bioenergetics, and Metabolic Regulation 3 Prereq.: BMS 306 (formerly BIO 306), BMS 311 (formerly BIO 311), or BMS 316 (formerly BIO 316), and CHEM 212 and 213 (formerly CHEM 312). 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. Integration and regulation of metabolic pathways will be discussed. This is
a bridge course with BMS 496 (formerly BIO 496). No credit given to students with previous credit for BMS 496 (formerly BIO 496). Irregular. [c]

BMS $540 \quad$ Advanced Topics in Biomolecular Science 3 OR 4
Prereq.: Permission of department chair. Selected topics in the biomolecular 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. This is a link course with BMS 490. Irregular.

BMS 562 Developmental Biology
Prereq.: BMS 306 (formerly 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]
BMS $570 \quad$ Advanced Genetics
3
Prereq.: BMS 306 (formerly BIO 306) or permission of department chair. Study of contemporary genetic research. Readings will be assigned from various texts and journals. Irregular. [c]

BMS 572 Laboratory Rotation in Cell and Molecular Biology 1 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]

BMS $590 \quad$ Focused Study in Advanced Biomolecular Sciences 1 TO 4 Prereq.: Written permission of instructor(s) and department chair. Advanced project in biomolecular sciences 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 under a different topic no more than three times, for a maximum of 8 credits.

BMS 591 Independent Research Project in
Biomolecular Sciences

1 TO 4
Prereq.: Written permission of instructor and department chair. Individual student research. Laboratory study under the supervision of faculty chosen in consultation with faculty advisor. Written research report required. May be repeated for a maximum of 6 credits.

BMS 599 Thesis
Prereq.: Permission of thesis advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## BUSINESS

BUS $591 \quad$ Global Strategy (Plan E)
3
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. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Irregular.

BUS 595 Field Studies in International Business 1 TO 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
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 teéchniques, teaching and reference material, and the use of community resources. Spring. [c]

## BE 450 Office Systems Application Software and

 Records ManagementPrereq.: 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 $501 \quad$ Current Problems in Business Education
Prereq:: Completion of Business Education or Marketing Education certification programs. Designed for experienced teachers. Consideration given to such business education problems as objectives, relationship of vocational to general education, place of business education in the changing secondary school curriculum, work-experience programs, standards of achievement. vocational guidance for business occupations and effect of modern trends and developments.
Required of all students taking master's degree in business education. Irregular.

## BE $524 \quad$ 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
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
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. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## CHEMISTRY

Note: Additional work will be required for graduate credit in 400 -level courses.
CHEM 402 Instrumental Methods in Analytical Chemistry
Prereq.: CHEM 301 and CHEM 322; or admission to graduate studies. Theoretical and practical aspects of the most important instrumental techniques used in chemical analysis, including potentiometry, coulometry, voltammetry, UV/Visible absorption spectrophotometry, fluorescence spectrophotometry, atomic spectrometry, gas chromatography, and high-performance liquid chromatography. Three hours of lecture and one four-hour laboratory per week Spring. (E) [c]

CHEM 406 Environmental Chemistry
Prereq.: CHEM 301 and CHEM 210 and 211. 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

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, literature, and searching procedures in chemical research. One conference per week. Spring. [c]

CHEM 454 Biochemistry
Prereq.: CHEM 212 and 213. General principles of biochemistry, chemical constituents of cells, metabolic pathways, energies, and biochemical regulators. Three hours of lecture per week. Fall.

## CHEM 455 Biochemistry Laboratory

1
Coreq.: CHEM 454. Experimental work to accompany CHEM 454. One three-hour laboratory period per week. Fall. (E)

## CHEM 456 Toxicology

Prereq.: CHEM 212 and CHEM 213 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. Spring

CHEM 459 Bioinorganic Chemistry
Prereq: CHEM 212 and 213 or admission to graduate studies. Principles of inorganic chemistry as applied to biology. Focuses on correlation of function, structure and reactivity of metals in biological systems. Three hours of lecture per week. Spring. (O) [c]

CHEM 460 Inorganic Symmetry \& 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) [c]

## 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 hours of lecture 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. Irregular.

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

CHEM 511 Topics in Organic Chemistry
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
Current topics in physical chemistry including symmetry and spectroscopy advanced computational methods. Irregular.

CHEM 550 Basic Organic and Biological Chemistry
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 561 Topics in Inorganic Chemistry
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 3
Selected topics in analytical, biochemistry, inorganic, organic, and physical chemistry. May be taken once in each field of chemistry. Irregular

CHEM 599 Thesis
3 OR 6
Prereq.: Admission to M.S. Natural Sciences and 16 credits in graduate level chemistry courses (not to include CHEM 432). Preparation of thesis under the supervision of the thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## 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 $411 \quad$ Business Chinese II
Prereq.: CHIN 410 or permission of instructor. Additional practice in the oral and written skill needed for conducting business in China; emphasis on commercial translation. (E)

CHIN 475 Classical Chinese I
Prereq.: CHIN 342 or 352, or permission of instructor. Introduction to classical Chinese literature, with an emphasis on etymology, semantics and grammar of classical Chinese. (O)

CHIN 476 Classical Chinese II
Prereq.: CHIN 475 or equivalent. Masterpieces of classical Chinese literature, with an emphasis on the moral teachings of Confucius. (O)

## COMMUNICATION

Note: Additional work will be required for graduate credit in 400-level courses.
COMM 450 Communication Skills for Training and Development 3 Prereq.: For graduate students, COMM 500 (may be taken concurrently). Application of communication strategies for training and development in public and private corporate and institutional settings. Additional written work will be required for graduate students. Irregular.

COMM 451 Environmental Communication
Knowledge, attitude, and behavior- change strategies related to environmental and natural resource conservation issues. Coercive, incentive based, and commu-nication-based change strategies will be contrasted. Additional written work will be required for graduate students. No credit given to students who have taken COMM 506. On demand.

COMM 454 Communication and Social Change
3
Prereq.: For graduate students, COMM 500 (may be taken concurrently). Study of the relationship between communication and social change and the impact of socio-political and communication strategies on the achievement of effective community development and social change objectives. Additional written work will be required for graduate students. Fall.

COMM 500 Introduction to Graduate Studies in Communication 3 Introduction to the theoretical, mythological, and philosophical perspectives that constitute the study of organizational communication and public relations. 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. Spring.

COMM 503 Research Methods in Communication
Prereq.: Completion of 18 credits in COMM graduate courses. Quantitative and qualitative methodologies including survey, experimental, focus group, ethnographic, and contents analysis. Students develop a research proposal including a literature review and research questions/hypotheses. Spring.

COMM 504 Organizational Communication Audits 3 Prereq.: COMM 500 or permission of instructor. 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. Fall. (e)

## COMM 505 Persuasive Communication

Prereq.: COMM 500 (may be taken concurrently) or permission of department chair. 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 500 or permission of instructor. Learning based, persuasion based, and social mobilization approaches to communication campaigns including strategic selection of receiver, message, channel, source factors, program management, and evaluation. No credit given to students who have taken COMM 451. Spring. (O)

COMM 507 Campaign Planning and Evaluation
Prereq.: COMM 500 or permission of instructor. Methods and procedures used to plan, monitor, and evaluate communication campaigns. Both quantitative and qualitative methodologies are explored. Fall. (E)

COMM 508 Public Relations Writing Strategies
Prereq.: COMM 500 or permission of department chair. Critically examines most common writing tools and formats used in the professional practice of Public Relations. Techniques focus on developing press releases, feature stories, pitch letters, op-eds, and newsletters. Irregular.

COMM 512 Communication \& Change
Prereq.: COMM 500. Examination and critical analysis of existing theories and paradigms of communication and development (social change) and evaluation of current approaches and methods to the use of communication (Interpersonal,
Folk/Traditional, Group and Mass Media) for development/social change objectives. Irregular.

## COMM 522 Corporate Communication

Prereq.: COMM 500. Communication of an organization with its investors, customers, and employees. Interpersonal communication, media campaigns, and training programs are among the strategies examined. Focus will be on the use of media in public relations and corporate advertising processes and related theoretic and empirical research. Spring. (E)

COMM 543 Intercultural Communication
Study and critical examination of theories regarding how communication in and between multinational organizations must be modified to cope with 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 negotiation and conflict resolution strategies and appropriate communication patterns unique to each approach and their impact on an organization's effectiveness. Fall. (O)

COMM 551. Policy Issues in Organizational Communication 3
Prereq.: 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. Fall. (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 TO 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 597 Special Project

3
Prereq.: COMM 500. Preparation of a special project under the supervision of an advisor. Students must have 24 credits completed or in progress in the M.S., Communication program. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## COMM 599 Thesis

3
Prereq.: COMM 500. Preparation of the thesis under the supervision of the thesis advisor. Students must have 24 credits completed or in progress in the M.S., Communication program. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## COMPUTER ELECTRONICS TECHNOLOGY

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

## CET 402 Topics in Computer Electronics Technology 1 TO 3

Prereq.: Permission of department chair. An individualized inquiry of comprehensive study into a selected technical area. The students may elect to examine processes, products or developmental aspects of networking, telecommunications or electronics. May be used as an elective on a graduate student's planned program advisor. Course may be repeated for a maximum of 6 credits for different topics. On demand.

CET 405 Applied Topics in Computer Electronics Technology
Prereq.: Permission of department chair. A laboratory oriented course providing comprehensive study of a selected technological topic. May be used as an elective on a graduate student's planned program of study with the permission of the program advisor. Course may be repeated for a maximum of 6 credits for different topics. On demand.

CET 443 Electronic Communication
Prereq.: CET 233 or, for graduate students, permission of the department chair. Formerly TC 443. RF transmitting and receiving circuits, amplitude and frequency modulation and detection, phase modulation, antennas, RF transmission lines, and data transmissions. Focus on units of measurement. Laboratory experiments cover resonance, modulation, demodulation, and transmission channels. Spring. [c]

## CET 449

Advanced Networking
3
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
Prereq.: For graduate students, permission of department chair. 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
Prereq.: CET 349. For graduate students, permission of chair. Laboratory-based course emphasizing concepts, tools, applications, and development of internetrelated 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 3
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
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.: Admission to graduate studies. 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.

CET 543 Telecommunications Systems
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.

CET 559
Applied Network Security
Prereq.: CET 501. Practical techniques of network security. Current applied research project presentation is expected. Topics include general security concepts, communication security, intrastructure security, cryptography basics, and operational security. This is a link course with CET 459. On demand. [c]

## COMPUTER INFORMATION TECHNOLOGY

CIT 595 Capstone in Computer Information Technology 3
Prereq.: Permission of advisor, CIT director, and Graduate Dean. Capstone integrative experience requiring analysis, design and implementation of an advanced team project of significant size and scope in an information technol-ogy- related topic. Deliverables include a research paper, oral presentation, and completed applied project. Students must have completed the CIT core and 3 specialization courses. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## COMPUTER SCIENCE

Note: Additional work will be required for graduate credit in 400 -level courses.
CS 407 Advanced Topics in Computer Science 1 TO 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
Prereq.: CS 355. An examination of the software development process from the initial requirement analysis to the operation and maintenance of the final system. The scope of the course includes the organization of software development projects, the verification and validation of systems, the problems of security and privacy, and the legal aspects of software development, including software protection and software liability. Irregular. [c]

CS 423 Computer Graphics
3
Prereq.: CS 253 or (for graduates) CS 501. 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
3
Prereq.: CS 253 or (for graduates) CS 501. 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 or (for graduates) CS 501. 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 or (for graduates) CS 501. 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
Prereq.: CS 253 or (for graduates) CS 501. 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 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
3
Prereq.: MATH 218 and CS 463. The concept of algorithm, correctness and efficiency of algorithm, decidable vs. undecidable problems, recursion, halting problem, formal languages, context free and context-sensitive grammars, and introduction to automata and parallel algorithms. Irregular. [c]

CS $490 \quad$ Computer Communications Networks \& Distributed Processing
Prereq.: CS 253 and 254. Study of networks of interacting computers. The problems, rationale, and possible solution for both distributed processing and distributed data bases will be examined. 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. [c]

CS 499 Seminar in Computer Science
Opportunity for student to explore topics of current interest not covered in normal curriculum. Majors only. Irregular. [c]

CS $500 \quad$ Computer Science for Computer Information Technology
Prereq.: Permission of department chair or C.I.T. program coordinator. Concepts of computer science, including software analysis and design, inheritance, polymorphism, recursion, elementary sorting, and programming using arrays, sequential files, and linked lists.

CS $501 \quad$ Foundations of Computer Science
Prereq.: CS 500 or CS 153 or permission of instructor. Software design for structuring and manipulating data. Topics include stacks, queues, hash tables, trees, graphs, advanced sorting, and analysis of algorithms. [c]

CS 502 Computing and Communications Technology
Prereq.: Admission to CIT program or permission of program director. 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 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. Spring. (O) [c]

CS 550 Topics in Human-Computer Interaction
Prereq.: CS 501, 502. Study of the design, evaluation and implementation of interactive computing systems for the joint 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
3
Prereq.: CS 501, 502. Topics include advanced techniques for symbolic processing, knowledge engineering, and building problem solvers. Irregular. [c]

CS $580 \quad$ 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 $590 \quad$ 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

Note: Additional work will be required for graduate credit in 400 -level courses.
CM $435 \quad$ Construction Superintendency
3

Prereq.: Senior standing. Examination of the role of the construction supervisor. Emphasis on personnel scheduling, time keeping, trade unions, superintendents, and the duties of the project manager.

CM 500 Fundamentals of Construction Management 3 Prereq.: Permission of the department chair. Introduces fundamental aspects of construction management to students without formal construction management backgrounds. Emphasis on creating familiarity with all aspects of construction projects. Topics covered include planning, scheduling, estimating, organizational forms, contracts and risk management. [c]

CM 505 Construction Project Delivery Systems
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

Principles of the legal doctrines relating to owners, design professionals and contractors. Emphasis on the legal issues surrounding the formation and interpretation of contracts, contract clauses, and legal remedies available to all parties.
Cross listed as CM 415. Spring. (E)
CM 525 Construction Equipment Operation \& 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 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.

CM 565 Construction Labor Relations 3 Focus on collective representation, including the historical development of collective bargaining and employment laws. Emphasizes the unique aspects of the construction industry and addresses practical approaches to construction labor issues. Spring. (O) [c]

CM 575 Construction Financial Management 3
A study of various techniques used in the construction industry to improve company performance in financial areas. Topics include preparing and using financial statements, calculating revenue, cost and profit and allocating costs to contracts. Fall. (E) [c]

CM 596 Topics in Construction Management 3 Topics of interest in the construction management field not currently covered by the construction management curricula. Students may take this course under different topics for a maximum of 6 credits. On demand.

## COUNSELING

CNSL 500 The Dynamics of Group Behavior
Prereq.: Admission to the graduate program and/or permission of department chair. Experiential approach to more effective interpersonal communication. Opportunity is offered for personal growth in awareness and understanding both of self and others, and in the communication of that self-awareness and understanding. The orientation of this course is educational. Students enrolled in this course may be observed by students in CNSL 507. Fall, Spring, Summer.

CNSL 501 Theories and Techniques in Counseling 6
Prereq.: Admission to M.S. in Counselor Education or Marriage and Family Therapy. Investigation of theories and techniques in counseling, including research findings and skill development. Fall, Spring, Summer.

CNSL 503 Supervised Counseling Practicum
Prereq.: Written permission from advisor. 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 oncampus 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 \& Adolescents 3
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. Fall.

CNSL 509 Independent Study in Counseling 1 TO 3
Prereq.: Permission of department chair Systematic study of problems of special interest in counseling. Students are guided in selection of topics for study. Can be taken more than once for a maximum of 6 credits.

CNSL $520 \quad$ 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. Fall.

CNSL $521 \quad$ 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, Summer.

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, Summer.

CNSL 524 Consulting in the Schools
3
Prereq.: CNSL 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 3
Prereq.: CNSL 501. 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 Principles of Comprehensive School 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 three levels. Spring.

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
Prereq.: Admission to M.S. in Counselor Education or Marriage and Family Therapy. Overview of student services in higher education including characteristics of special student populations. Spring.

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

CNSL 533 Legal, Financial, and Policy Issues in Student Affairs
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. Spring.

CNSL 563 Medical Aspects of Rehabilitation Counseling 3
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 Alcohol and Drug Counseling

Prereq.: CNSL 501 or permission of department chairperson. Basic assessment, intervention, and treatment techniques in working with individuals and families affected by alcohol and other drug abuse. Spring.

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. Spring.

CNSL $580 \quad$ Topics in Counseling 1 TO 3
Prereq.: Degree candidacy or permission of instructor. Topics will vary each time the course is offered. Combination of lecture, discussion, inquiry sessions, and student presentation. May be taken more than once for credit under different topics.

CNSL 591 Supervised School Guidance Internship
3 TO 6
Prereq.: CNSL 503 and permission of instructor. Series of supervised experiences in the public school setting is provided. Required for school counseling certification. Plan B requires a 3.00 overall GPA; students may not apply to take the Comprehensive Examination until $75 \%$ of course work for the major has been completed. Must be taken in Fall-Spring cycle.

CNSL 592 Supervised Internship in Higher Education
Prereq.: CNSL 532 or permission of instructor. Professional experience to prepare persons to enter the student development field in higher education:
Emphasis on actual practical experience, student/faculty/administrative interaction, and the special concerns which affect the conduct of student development services. Taken two semesters for a maximum of 6 credits. Plan B requires a 3.00 overall GPA; students may not apply to take the Comprehensive Examination until $75 \%$ of course work for the major has been completed.

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. Plan B requires a 3.00 overall GPA, students may not apply to take the Comprehensive Examination until $75 \%$ of course work for the major has been completed. Must be taken in Fall-Spring cycle.

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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## 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
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 $520 \quad$ 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

Prereq.: CJ 501 or 510 or 520; admission to the M.S. Criminal Justice Program and in good standing; or permission of the 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 Offender Profiles . 3
Prereq.: CJ 501 or 510 or 520 and admission to the M.S. Criminal Justice Program and in good standing; or permission of the department chair. 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
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 Criminal Justice Research 3 Prereq.: CJ 533 and admission to the M.S. Criminal Justice Program and in good standing; or permission of the department chair. Analysis of quantitative criminal justice data using compute applications. Spring.

CJ $535 \quad$ Correctional Counseling
Prereq.: CJ 501 or 510 or 520 and admission to the M.S. Criminal Justice
Program and in good standing; or permission of the department chair.
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 539 Delinquency and Control
Prereq.: CJ 501 or 510 or 520 and admission to the M.S. Criminal Justice Program and in good standing; 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 $540 \quad \begin{aligned} & \text { Assessing \& Developing Performance in } \\ & \text { Criminal Justice Organizations }\end{aligned}$
Prereq.: CJ 501 or 510 or 520; admission to the Criminal Justice Program and in good standing; or permission of the department chair. 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 560
Sexual Offending
Prereq.: CJ 501 or CJ 510 or CJ 520 and admission to the Criminal Justice Graduate Program and in good standing or permission of department chair. Explores theories of sex offending, subtypes of sex offenders, assessment practices with sex offenders, models of sex offender treatment, and criminal justice strategies to reduce recidivism. Irregular.

## CJ $575 \quad$ Organizational Development and Evaluation of Criminal Justice Organizations

Prereq.: CJ 501 or 510 or 520 and admission to the M.S. Criminal Justice Program and in good standing; 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 and admission to the M.S. Criminal Justice Program and in good standing; 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 597 Agency Collaborative Project
3
Formerly CJ 536. Prereq.: CJ 533, completion of 21 credits of approved graduate study, admission to the M.S. Criminal Justice Program and in good standing. Preparation of a research project (Plan C) within a criminal justice agency under the supervision of an agency and faculty advisor. The research project may be initiated by the agency or the student, and may involve such activities as program development, program evaluation, and instrument validation. Major research paper required upon completion of the agency project. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

CJ 599
Thesis
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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## CRIMINOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
CRM $450 \quad$ Drugs and Sociery
3
Prereq.: CRM 322 (formerly CRM 222) with grade of C- or higher; for graduate students, admission to the M.S. Criminal Justice Program and in good standing; or permission of the department chair. 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 322 (formerly CRM 222) with grade of C- or higher; for graduate students admission to the M.S. Criminal Justice Program and in good standing; or permission of department chair. Multi-disciplinary overview of theory and research on anger and aggression. Topics include the emotion of anger, theories of aggression, and intervention strategies. Irregular.

## DANCE

Note: Additional work will be required for graduate credit in 400 -level courses.
DAN $480 \quad$ Project: Dance 1 TO 3
Formerly TH 480. Prereq.: Permission of instructor. Individual projects in choreography, research, or production under the guidance of Dance/Theatre staff. Irregular.

## DESIGN (GRAPHIC/INFORMATION)

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

## DES $419 \quad$ History of Design

Prereq.: ART 110 or 112 or 113 (with grades of C- or higher). History and philosophy of design function and aesthetics. Topics include graphic design, industrial design, and architectural design. NOTE: A grade of C or better is needed for graduate students to count this course as a prerequisite.

DES 436 Graphic/Information Design III
Prereq.: ART 224 and DES 322 (both with grades of C- or higher).
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. Open to majors only. [c]

DES 438 Graphic/Information Design IV 3
Prereq.: DES 436 (with grade of C- or higher). 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. Open to majors only. [c]

DES 439 Central Design
3
Prereq:: DES 326 and DES 436 (both with grades of C- or higher) and successful Central Design portfolio review; 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 3
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 1 TO 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. Open to majors only. On demand. [c]

DES 499 Computer Applications for Graphic/Information Design 3 Prereq.: DES 326 (with a grade of C- or higher) and DES 425 (with a grade of C- or higher) 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
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
Prereq.: DES 501 (with a grade of C or higher) 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 (with a grade of $C$ or higher). 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
Prereq.: DES 503 ( with a grade of C or higher). Continuation of DES 503. Additional research and practice, portfolio, and presentation development. Spring. [c]

## DES 520 Advanced History of Design

Prereq.: DES 419 (with a grade of $C$ or higher) 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
Prereq.: DES 503 (with grade of $C$ or higher), portfolio review, and permission of instructor. Internship with professional graphic/information design organization. On demand.

DES 597 Research Project (Plan C)
Prereq.: DES 503, 598 (both with grades of C or higher), completion of 21 credits of planned program. 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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

DES 598 Research Methods in Design
3
Prereq.: DES 520 (with grade of C or highcr) 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

Prereq.: ESCI 121, MATH 152 (formerly 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 two-hour laboratory recitation per week. Fall.

ESCI $442 \quad$ Weather Analysis and Forecasting
Prereq.: ESCI 462 and MATH 152 or permission of instructor. Basics of analysis and forecasting. National Weather Service (NWS) codes and interpretation,
graphical analysis techniques, NWS facsimile products, applications of thickness and thermal wind equations, thermodynamic diagrams and their usefulness, cross-sectional analysis, tilt of pressure systems, quasi-geostrophic theory, performance characteristics of NWS prediction models. Three lecture hours and a three-hour laboratory per week. Fall. (O)

## 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
1 TO 4
Prereq.: Approved plan of study on 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 6 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 Topics in Geology
Prereq.: Prior permission of instructor. Topics will vary each time course is offered. Combination of lecture, discussion, and student seminar presentations. May be taken more than once for credit under different topics.

ESCI 598 Research in Earth Science
Prereq.: Admission to the M.S. program in Natural Sciences, and 15 credits in planned program of Earth Science, and permission of instructor. Course on theory and practice of conducting research in astronomy, geology, meteorology. Includes study of professional literature, evaluation of data-gathering techniques. Application of statistical methods to data; formation of multiple working hypotheses and verification of hypotheses. Classic problems in earth sciences are studied. On demand.

## ESCI 599 Thesis

Prereq.: ESCI 598 and permission of the thesis advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans $A, C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## ECONOMICS

Note: Additional work will be required for graduate credit in 400-level courses.
ECON 420 Urban Economics
Prereq.: ECON 200, 201. Economic analysis of metropolitan and regional entities with special focus on land use, location decision- making, the provision and role of public services, transportation, public finance, human resources, and social welfare.

ECON 430 International Economics
Prereq.: ECON 200, 201. Principles of international trade and finance and application to modern world, theory of comparative advantage, exchange rates, monetary standards, international financial institutions, tariffs, commercial policy, and aid to underdeveloped countries.

## ECON 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 445 Labor Economics

3
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

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 <br> 3

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
Prereq.: ECON 201. Role of government in the mixed economy, with special emphasis on antitrust laws, regulation and deregulation, social legislation, and public enterprise.

## ECON 470 Managerial Economics

Prereq.: EC.ON 201. Application of economic theory and quantitative methods to managerial decision-making problems. Topics include decision analysis, forecasting, demand analysis, production and cost analysis, linear programming, break-even analysis, and capital theory and budgeting.

## ECON 475 History of Economic Thought

3
Prereq.: ECON 200, 201. Evolution of economic thought from Ancient Greece to current doctrines.

## ECON 485 Econometrics

3
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)
the department's regular courses. Course may be repeated with different topics for a total of 6 credits.

ECON 499 Independent Study in Economics
3 OR 6
Prereq.: Permission of instructor. Students may specialize in projects of an advanced nature not covered by regular course offerings. Supervision is given through periodic conferences with each student and through several group meetings to discuss findings and common problems.

## EDUCATION

## See also Education-Early Childhood, Education-Elementary, Education-Secondary, Education-Teacher Education, Educational Foundations, Educational Leadership, Educational Technology, Reading, Special Education, Technology Education, and VocationalTechnical Education.

ED $501 \quad$ 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
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
Multidisciplinary approach to understanding of underachievement and resistance to learning. Emphasis on innovative ways of effecting learning by means of sociological, psychological, and educational advances in practice and theory.

ED 545 Integration of Methods of Research and Assessment
Prereq.: Admission to the full-year post-baccalaureate certification program. 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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

$$
\text { ED } 595 \quad \text { Individual Study Project }
$$

1 TO 3
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. Plans $A, C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## EDUCATION—EARLY CHILDHOOD

EDEC 551 Programs and Curricula in Early Childhood Education 3 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. (O)

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. (O)

EDEC 553 Family, School and Community Partnerships in Early Childhood Education

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. Fall. (E)

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. Spring. (E)

EDEC 561 Administration in Early Childhood Education
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.

## 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. Irregular.

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
3
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 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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Fall.

EDEL 592 Implementing and Documenting Action Research in Elementary and Early Childhood Education
Prereq.: EDEL 591, and a 3.00 GPA. Students implement strategies proposed in EDEL 591. The final report documents findings and conclusions drawn from collected data and personal insights into their intervention. Presentation supplements the written report. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Spring.

## EDUCATION—SECONDARY

## EDSC 505 Innovations in Secondary Education

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 3
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. (O)

EDSC 582 Supervision of Secondary School Teaching 3 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, signed by the EPS Assistant Dean. Not to be credited towards master's degree. To meet teacher certification program requirements, student must enroll in two sequential semesters and earn at least a $C$ in each semester.

## EDSC 586 Seminar in Secondary Education

3
Examination of issues relevant to the teacher in the middle or high school. Investigation of a specific curricular issue through qualitative methods of inquiry. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Spring. (E)

## EDUCATION—TEACHER EDUCATION

EDTE 502 Focus on Diversity in Education 3
Prereq.: Admission to M.S. 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 Merhods 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 540 Advanced Seminar in Leadership and Learning Communities
Formerly ED 530. Prereq.: Admission to the full-year Post-Baccalaureate certification program. 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 $500 \quad$ Contemporary Educational Issues

 3Contemporary educational issues and the ways they are affected by social, political, and economic forces of society.

## EDF 510 The Social, Political, and Cultural Context of Urban Schools

3
Prereq.: 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 Society 3
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. Fall, Spring, Summer.

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 Prereq.: Admission to a Master's program. Study of the ideas, policies, practices, and social movements that have historically influenced and shaped the development of education in the United States. Fall.

## EDF 528 Comparative and International Education

Prereq. Ad
ation within international context, focusing on globalization, economic policy, and education in selected countries. Comparison with education in the U.S. will be made. Fall.

## EDF 535 Special Topics in Educational Foundations

Prereq.: Admission to Master's program. Inquiry into special topics in educational foundations. Examples include school violence, gender and education, multicultural education, national standards, and testing. Fall.

EDF 538 The Politics of Education
3
Introduction to the politics of education and the making of educational policy within our sociery'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 3 Sociological principles and information applied to problems and situations in education. Emphasis on cultural forces that affect education, institutions, and agencies which relate to the public school and social structure of the school. Summer.

EDF $597 \quad$ Supervised Readings in History and Philosophy of Education

1 TO 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 $700 \quad$ The Purposes of Education in America 3
Prereq.: Admission to the Ed. D. program. A critical examination of the social, political, economic, and moral purposes of American education and their implications for goals, curriculum, teaching, evaluation, organization, administration, and financing of education. Summer.

## EDUCATIONAL LEADERSHIP

## EDL 513 Supervision

Prereq.: Admission to an M.S. program or permission of department chair. 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. Summer.

## EDL 514

Administration
3
Prereq.: Admission to an M.S program or permission of department chair. 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 3
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 $553 \quad$ 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
Prereq.: Admission to an M.S. program or permission of department chair.
Study of leadership roles and strategies for developing a positive school climate for diverse cultural and racial groups in urban/suburban schools.

## EDL 590

Leaders as Learners: Educational Leadership and Self-Assessment
Prereq.: Master's degree, three years teaching experience, application to the Sixth Year Certificate program; or permission of department chair. Discussion of selfawareness as the cornerstone of effective leadership. Exploration of State and national standards, learning and leading styles, the impact of cultural and experiential background, and values and beliefs concerning educational leadership. 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
3
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]

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 IPrereq.: 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

Prereq.: EDL 615. Continuation of EDL 615. Includes a second 35 hour onsite field experience in a suburban public school setting. Spring. [c]

EDL $634 \quad$ Seminar in Curriculum Development 3
Study of curriculum design including the setting of objectives, selection of content material, instructional techniques, and program evaluation.

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
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 \& Public Relations
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.

EDL 690 Internship in Educational Leadership I: Theory and Practice

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

EDL 691 Internship in Educational Leadership II:

## Research and Practice

2
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: The Superintendency I
3
Prereq.: Admission to Ed.D., or Sixth-Year Certificate program; 092 cert.; EDL 681/682 and/or chair's permission. Part one of supervised administrative intern-
ship. 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: 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 Leading Organizational Change II: Program Development \& Evaluation
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 \& Learning

1 TO 4
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. Variable credit to a total of 6 credits applied to the doctoral program. Fall, spring, summer.

EDL $710 \quad$ Inquiry Seminar I: The Study of Human \& 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 and Qualitative Research I
Prereq.: EDL 710. Quantitative and qualitative methods for educational research with emphasis on surveys, comparative studies addressing race, gender and class, and quasi-experimental design. Preparation of a proposal for a field study about student learning. Fall. [c]

EDL 712 Inquiry Seminar III: Quantitative and Qualitative Research II
Prereq.: EDL 711 Continuation of EDL 711, with emphasis on quantitative analysis and qualitative research such as case study, participant-observation and interviews. Ethical and methodological issues. Completion of a written report of the 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
Prereq.: EDL 713. Advanced topics in design and data analysis such as randomized field experiments, interrupted time series, and critical ethnography. Matching design and method to contexts, questions and researcher intentions are discussed. Students complete and report their second field study. Fall. [c]

EDL 715 Inquiry Seminar VI: The Dissertation Proposal 3
Prereq.: EDL 714. Students complete the leadership portfolio requirement and prepare the dissertation proposal, including the literature review, methods, and instrumentation. Continued study of advanced research methods. Spring. [c]

EDL 716 Inquiry Seminar VII: Dissertation I
Prereq.: EDL 715. Defense of the dissertation proposal. Students work through the summer with their dissertation advisor and committee members both individually and in small group tutorials. Summer. [c]

EDL 717 Inquiry Seminar VIII: Dissertation II 5
Prereq.: EDL 716. 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

5
Prereq.: EDL 717. Continuation of EDL 717. 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.

EDL 720 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
3
Examination and application of computers and other related technologies to various teaching situations with emphasis on developing skills in developing and 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 $501 \quad$ 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 510 Design Tools
Prereq.: Admission to the EDT program or permission of instructor.
Exploration of various software and hardware programs and how these multimedia tools can impact the design of instructional materials. Development of various audio and video compression skills. Summer. [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 514 Integrating Technology in the Classroom Curriculum 3
Prereq.: Admission to the EDT program or permission of instructor. Issues and strategies related to integrating technology in the curriculum. Instruction will be delivered both online (WebCT) and on campus. Theoretical basis and a practical skills orientation for leading technology integration effort. Summer, winter. [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 3
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 I 3
Prereq.: Matriculation or permission of instructor. Analysis of distance learning and networking, including hands-on experiences to design, produce, evaluate, and manage students' own distance learning and networking programs. Spring. [c]

EDT 533 Distance Learning \& 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 Internet, off-line materials an interactive instructional movies. Students will create distance education instruction for clients. Summer.

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. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Summer. [c]

EDT 598 Inquiry in Educational Technology
3
Prereq.: Admission to the EDT program or permission of instructor. Graduatelevel research course with a focus on educational technology literature, providing familiarity with the process of reporting and evaluating research in the field.
Research concepts and procedures will be stressed. Summer, winter. [c]
EDT $700 \quad$ Topics in Leadership for Technology in Schools 1 TO 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. Variable credit to a total of 3 credits applied to the doctoral program. Summer. [c]

## ELECTRO-MECHANICAL TECHNOLOGY

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

EMEC 463 Programmable Logic Controllers
3
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

## ET $500 \quad$ Topics in Engineering Technology

Prereq.: Admission to the MSET graduate program or permission of instructor. Selected topics in engineering/technical applications. Opportunity to acquire knowledge of new and emerging technologies. Not for independent study. May be taken as a different topic more than once for credit. Link course with ET 495. No credit given to students with previous credit on the same topic for ET 495. Irregular.

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 568 CAE Applied Finite Element Analysis
Prereq.: ET 357 and 464, or permission of instructor. Application of the finite element method to structural problems. Spring. [c]

ET 592 Research and Development of Experiments
Prereq.: Matriculation in MSET program and completion of 15 credits of approved graduate study. Concepts and procedures for obtaining, evaluating, and reporting existing and measured data. Fall. [c]

## ET 598 Research in Engineering Technology

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. Plans $A, C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand. [c]

ET 599
Thesis
3
Prereq.: ET 592 and permission of thesis advisor. Preparation of thesis under supervision of advisor. Written and oral defense of research required. Plans A, C, $D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand. [c]

## ENGINEERING TECHNOLOGY-CIVIL

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

## ETC 405 Applied Structural Systems

Prereq.: ET 241 or ET 251, and CM 356 (formerly ETC 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.

ETC 451 Soil Mechanics \& Foundations
Prereq.: ET 357. Fundamentals of soil behavior and its use as a construction material. Principles of effective strength, permeability, shear strength, and consolidation. Application to construction problems in shallow and deep foundations, slope stability, retaining structures and excavation drainage. Lecture/lab required. Fall.

ETC 454 Introduction to Transportation Engineering 3
Prereq.: ETC 353 (formerly 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.

## ETC $458 \quad$ GPS Mapping for GIS

Prereq.: ETC 353 (formerly 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]

ETC $470 \quad$ Structural Steel Design
3
Prereq.: ETC 356 (formerly TC 356) and 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.

ETC $471 \quad$ Reinforced Concrete Structures
3
Prereq.: ET 357 and ETC 397 (formerly ET 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.

ETC 472 Timber Structures
Prereq.: ETC 397 (formerly 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.

## ETC 475

Hydrology \& Storm Drainage
3
Prereq.: ETC 122 (formerly TC 122) and 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]

## ETC 476 Environmental Technology

3
Prereq.: CHEM 111 or 121 , MATH 115 or 119 . Environmental effects on air, water, and land from construction activities. Case studies with discussion of corrective action. Fall.

## ETC $550 \quad$ Global Positioning Systems Applications

Formerly ET 550. 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]

ETC 556 Architectural and Civil Engineering Technology Computer Aided Design
Formerly ET 556. 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]

## ETC 571 Design and Construction of Concrete Structures

Prereq.: Admission to the MSET program or permission of instructor. Design and construction aspects of concrete structures with reference to buildings and short-span bridges. Case studies construction failures. Computer methods of analysis and design. Fall. (O)

ETC $573 \quad$ Foundation Analysis and Design
Prereq.: Admission to the MSET program or permission of instructor. A study of the methods for subsoil investigations and in-situ testing to determine soil characteristics, analysis and design of shallow and deep foundations, and gravity and cantilever retaining walls. On demand.

## ETC 574 Ground Improvement Techniques

Prereq.: Admission to the MSET program or permission of instructor. Principles of mechanical and chemical soil stabilizations, surcharging, dewatering, and deep dynamic compaction. On demand.

ETC 575 Earth and Earth Supported Structures
Prereq.: Admission to the MSET program or permission of instructor. Principles and methods for design and construction of flexible retaining structures, braced excavations, slurry walls, cellular cofferdams, and earth slopes. On demand.

ETC 577 Engineering Technology Project Administration 3 Formerly ET 577. 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.

ETC $578 \quad$ Value Engineering for AEC
Formerly ET 578. 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.

## ENGINEERING TECHNOLOGYMECHANICAL/MANUFACTURING

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

ETM $454 \quad$ Applied Heat Transfer<br>3

Prereq.: ET 354 and ETM 358 or permission of instructor. The principles of conduction, convection, and thermal radiation energy transfer. Conduction through walls, pipes. Forced and free convection, heat exchanges, thermal radiation of energy between surfaces, and the overall transfer of heat. Irregular.

ETM 461 Composites and Plastics Manufacturing Processes Prereq.: ETM 256 (formerly ET 256) or ETM 356 (formerly ET 356), CHEM 111 or CHEM 121. 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.

ETM $462 \quad$ Manufacturing Process Planning and Estimating 3 Prereq.: MFG 121 (formerly TC 121) and MFG 216 (formerly TC 216) and ETM 340 (formerly 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.

ETM $464 \quad$ CAD) Solid Modeling and Design
Prereq.: ETM 260 (formerly ET 260) and ETM 340 (formerly ET 340); or permission of instructor. Computer-aided design and analysis of solid, surface, and sheet metal models emphasizing product design. Uses computer software for design, detailing, mass property analysis, dimensional standards, and family tables. Two hours of lecture and one two-hour laboratory per week. Spring. [c]

ETM 466 Design for Manufacture
Prereq.: ETM 260 (formerly ET 260) and ETM 340 (formerly ET 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.

ETM $467 \quad$ CAE Applied Finite Element Analysis
Prereq.: ENGR 257 or 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]

ETM 517 Automated Assembly and Manufacturing Cell Design 3 Formerly ET 517. 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]

ETM 523 Contemporary Engineering Materials
Formerly ET 523. Prereq.: 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)

ETM 534 Concepts of Group Technology
Formerly ET 534. 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]

ETM $540 \quad$ Advanced Geometric Dimensioning \& Tolerancing 3 Formerly ET 540. 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.

ETM 542 Production Cost Estimates
Formerly ET 542. 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]

ETM $560 \quad$ Computer Aided Manufacturing
Prereq.: Admission to the MSET or MSTM graduate program. Applied parametric solid modeling for manufacturing. Topics include cutter location source data generation, tool path simulation, machine data file generation, post processing and CNC program verification. Spring. (O)

ETM 563 Plastics Mold Engineering and Design
Prereq.: Admission to the MSET or MSTM graduate program. Plastics mold engineering principles for the manufacture of products from polymeric materials. Mold design concepts and analysis are based on fluidic, heat transfer, rheology, strength of materials, and physical properties of selected materials. Irregular. [c]

ETM $569 \quad$ Composite Design and Analysis
Prereq.: Admission to the MSET graduate program or permission of instructor. Study of the design and analysis of composite structures using classical composite theory coupled with computational analysis software. New methods of structural redesign using composite materials. Irregular. [c]

ETM $572 \quad$ Optimizing Engineering Productivity
Formerly ET 572. Objective analytical techniques, modified with concepts of participative decision-making by the work force, to illustrate the development of modern manufacturing processes in an engineering/technological workplace. Spring.

ETM $575 \quad$ Facilities Engineering
Formerly ET 575. 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.

## ENGLISH

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

## ENG 401 Advanced Composition

Advanced course in expository writing designed for competent writers who wish to refine their skills. Emphasis on vividness, precision, and impact, with attention to audience and style. Not applicable to M.A. in English program.

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 program.

ENG 445 American Drama
3
Development of American drama and its contribution to literature. Irregular.

ENG $449 \quad$ 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 6 credits.

ENG $450 \quad$ Chaucer
Readings in Chaucer, with special emphasis on The Canterbury Tales and Troilus and Criseyde. Irregular.

ENG 451 Milton
Readings in Milton's prose and poetry, with emphasis upon Paradise Lost and Samson Agonistes. Irregular.

ENG 461 Shakespeare: Major Comedies
Close analysis of major comedies and pertinent critical problems. Fall.

ENG 462 Shakespeare: Major Tragedies
Close analysis of major tragedies and pertinent critical problems. Spring.
ENG 463 Elizabethan \& Jacobean Drama
Major dramatists from Kyd to Ford, excluding Shakespeare. Irregular.
ENG 464 Restoration \& 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, Steele, Gay, Fielding, 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
3
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 3
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 $480 \quad$ 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 World Literature and Film
Examines the historical, political, and aesthetic relationships of literature and film produced outside the U.S. and Great Britain. Discussion of texts will be frequently structured around arguments from cosmopolitan theory and film theory. This course is not applicable to the M.A. in English, but may count as an elective in other graduate programs. Spring.

ENG 487 20th-Century British Drama
Study of major British playwrights of the twentieth century. Selections may be from the works of Shaw, Coward, Maugham, O'Casey, Eliot, Beckett, Osborne, Pinter, Shaffer, Ayckbourn, Churchill, Gray, Hare, Stoppard, and others. Irregular.

ENG $488 \quad$ 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 B.A. or M.A. in English programs or English Minors.

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 B.A. or M.A. in English programs or English Minors.

ENG $500 \quad$ Seminar in American Literature
Prereq.: Admission to degree program in English or permission of instructor.
3 Designed to give student seminar experience in selected area of English studies. May be repeated with different topics for up to 6 credits. Fall.

ENG $501 \quad$ Seminar in British Literature
3
Prereq.: Admission to degree program in English or permission of instructor. Designed to give student seminar experience in selected area of English studies. May be repeated with different topics for up to 6 credits. Spring.

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 $558 \quad$ 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.

ENG $590 \quad$ 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. May be repeated with different topics for up to 6 credits.

## ENG $598 \quad$ Research in English

Prereq.: Admission to degree program in English or permission of instructor. Research skills in literature. Introduces the techniques and resources of literary research through an examination of the theory, history, and practice of literary criticism. Fall.

ENG 599 Thesis
Prereq.: Admission to the M.A. program in English, a minimum of 18 credits and a 3.00 overall GPA 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 (with grades of C- or better). 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 $410 \therefore$ Securities Analysis
Prereq.: FIN 301,310 and 320 with grades of C- or higher. An advanced course in investments with emphasis on security analysis and portfolio management practices. Topics include financial statement analysis, use of derivatives, and special techniques employed in forecasting, timing, and the development of investment strategies. [c]

FIN 425 Financial Derivatives
Prereq.: FIN 301, 310 and 320 with grades of C- or higher; for graduate students, permission of department chair. Valuation of financial derivatives, including options and futures, applications to portfolio, and corporate risk management. Fall.

## FIN 490 Independent Study in Finance

1 TO 3
Prereq.: FIN 301, 310 and 320 with grades of C- or higher. 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. [c]

## FIN 496 Practicum in Finance <br> 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.

FIN $498 \quad$ Finance Seminar
Prereq.: Permission of instructor. Course content varies.

## FIN 499 CFA Seminar

Prereq.: FIN 295, 310, 410 with grades of C- or higher; or permission of instructor; for graduate students, prerequisite of FIN 410 must have $C$ or higher. 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 Financial Management
Prereq.: Admission to MBA program or permission of MBA director.
Introduction to fundamental principles of financial management; asset valuation, risk and return, capital budgeting, financing, and dividend policy.

FIN 543 Multinational Financial Management
Prereq.: Admission to MBA program. Develop understanding of factors affecting exchange rates and build skills necessary to manage exchange rate risk. Includes financial modeling and forecasting needed for operational and strategic planning. No credit given to students who have taken FIN 541 prior to Fall 2003.

FIN $544 \quad$ Securities \& Investments
Prereq.: FIN 541. Study of types of securities and marketable investments, sources of information, capital markets and security valuation theory.

FIN $549 \quad$ Current Topics in Finance 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 6 credits.

## FINE ARTS

Note: Additional work will be required for graduate credit in 400-level courses.
FA 490 Integrating the Fine Arts for the Young Learner
Prereq.: Permission of department chair in Art, Music, or Theatre. Study of the aesthetic experience, its importance for children, and its interrelationship with empirical knowledge. Music, the visual arts, and movement will be investigated, with an emphasis on discovering resources and developing techniques for integrating each. Summer.

3

3

## 3 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. Irregular. (O)

FR $451 \quad$ The Structure of Modern French 3
Prereq.: Permission of instructor. Taught in French. Assists in the improvement of all aspects of oral expression. Includes study of the sound system, description of word forms, and analysis of syntactic structures. Intensive practice in pronunciation. Irregular.

FR $460 \quad$ Advanced Grammar \& Composition
Prereq.: FR 336 or permission of instructor. Taught in French. Written expression of French, particularly in idiomatic-free composition, designed to develop the ability to express shades of meaning. Comprehensive study of French grammar and levels of style. Use of translation from English. Spring. (E)

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 3

Prereq.: Admission to M.A. in Modern Language or permission of chair. Taught in French. Culture, language and literature from the 9 th through the 16 th centuries and their relation to contemporary society. Fall. (O)

FR 532 17th- \& 18th-Century French Literature
Formerly FR 571. Prereq.: Admission to M.A. in Modern Languages or permission of chair. Taught in French. The main currents of 17th- and 18th-century thought in literature, the arts and the sciences, with emphasis on the evolution of classicism. Spring. (E)

FR 553 19th-Century French Literature
Formerly FR 581. Prereq.: Admission to M.A. in Modern Languages. 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 $561 \quad$ Topics in French Literature
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
3
Formerly FR 471. Prereq.: Admission to M.A. in modern languages or permission of chair. 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)

FR 599 Thesis
3
Prereq.: 21 credits of approved graduate study and permission of advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans A, $C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## GEOGRAPHY

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

GEOG 414 Teaching Methods in Geography
Prereq.: Admission to the Professional Program. Concepts, methods, and materials for teaching geography. Middle-level certification students selecting the Complementary Subject Matter Area in geography will enroll for two credits; all others will enroll for three credits. 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 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
3
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
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 \& Regional Planning
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
Environmental, cultural, and economic patterns that give character to the various regions of Russia and the N.I.S. Its contemporary political economy viewed in a 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 3
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
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 manufacturing may influence the spatial aspects of tourist behavior and industry development strategies. Fall.

## GEOG 455 New Directions in Tourism

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. Spring.

## 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 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 476 Advanced Cartography
Prereq.: GEOG 256 or 276 or permission of instructor. Advanced design and production of maps using cartographic/GIS and graphic software. Use of statistical packages to process data for cartographic purposes. No knowledge of computer programming required. Spring. [c]

GEOG 478 GIS Design and Implementation
Prereq.: GEOG 378 or permission of instructor. Advanced study of geographic information systems and applications. Students will prepare a proposal to develop GIS for a municipality or non-profit organization. Portions of the database will be implemented. Concentration on vector software. Fall. [c]

GEOG $500 \quad$ 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 578 Internet GIS and Mapping
Prereq.: Planned program of study in M.S. Geography or permission of instructor. Principles and practices of interactive mapping and GIS data distribution across the World Wide Web. Fall. (O) [c]

GEOG 595 Special Project in Geography
Prereq.: GEOG 598 and permission of graduate advisor. Completion of an advanced project in geography under the supervision of a faculy member. Requirements include preparation of a paper and an oral presentation on the project. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. 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

3
Prereq.: GEOG 500, and 15 additional graduate credits in geography. Designed to familiarize student with techniques and resources associated with research in field of geography. Practical application. Fall.

## GEOG 599 Thesis

3
Prereq.: GEOG 598 and permission of graduate advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall (iPA. Spring.

## GRAPHICS TECHNOLOGY

Note: Additional work will be required for graduate credit in 400 -level courses.
GRT 402 Topics in Graphics Technology 1 TO 3
Prereq.: Permission of department chair. An individualized inquiry of comprehensive study into a selected technical area. The student may elect to examine processes, products or developmental aspects of graphics technology. May be used as an elective on a graduate student's planned program of study with the permission of the program advisor. Course may be repeated for a maximum of 6 credits for different topics. On demand.

GRT 405 Applied Topics in Graphics Technology
Prereq.: Permission of department chair. A laboratory oriented course providing comprehensive study of a selected technological topic. May be used as an elective on a graduate student's planned program of study with the permission of the
program advisor. Course may be repeated for a maximum of 6 credits for different topics. On demand.

GRT 442 Print Production
Prereq.: GRT 212 (formerly TC 212). Applied study of pre-production, production, and post-production in the printing industry. [c]

GRT 462 Advanced Graphic Arts Techniques
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). [c]

GRT 472 Digital \& Film Photography
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.

## HISTORY

Note: Additional work will be required for graduate credit in 400 -level courses.
HIST $423 \quad$ Colonial Period of American History 3
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
3
Prereq.: HIST 301 or 310 or permission of instructor. 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
3
Prereq.: HIST 301 or 310 or permission of instructor. 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
3
Prereq.: HIST 301 or 310 or permission of instructor. 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. Major political, social, economic, cultural, and diplomatic developments since 1933. Spring.

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

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 Early Medieval Europe
3
Prereq.: HIST 301 or 310 or permission of instructor. The Late Roman empire to the 11 th century. Spring. ( E )

HIST 441 Renaissance \& Reformation
3
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 $442 \quad$ 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 $443 \quad$ European History, 1815-1918 3
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 $447 \quad$ History of the Soviet Union 3
Prereq.: HIST 301 or 310 or permission of instructor. Study of the rise and fall of Soviet Communism, 1917-1991. Irregular.

HIST $448 \quad$ Stalin and Stalinism
3
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 19 th and 20th centuries. Spring.

HIST 458 United States Sectionalism: the Clash of Cultures
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 19003
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. American economy from its agricultural beginnings through stages of its commercial, industrial, and financial growth.

HIST 466 History of American Technology 3
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
Prereq.: HIST 301 or 310 or permission of instructor. 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 20th century with a special emphasis on political, social, and economic conflicts. Fall.

HIST 473 History of Judaism
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
Prereq.: HIST 301 or 310 or permission of instructor. History of the ArabIsraeli conflict from the time of Israel's creation as a modern nation-state until the present. Spring.

## HIST 476 African History through Film

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 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 489 American Labor History 3
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 497 Topics in History
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. 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. Spring.

HIST $510 \quad$ Seminar in Public History
Exploration of development, methodologies, and employment opportunities of the field public history. Fall.

## HIST 511 Topics in Public History

Topical knowledge and hands-on experiences in the practice of public history in fields such as oral history, museums, archives, and historical editing. May be repeated with different topics for a total of 9 credits. Spring.

## HIST 512 Connecticut Encounters

Experience Connecticut's history through its buildings, landscapes, objects, and three-dimensional artifacts. Fieldwork and travel experience are an important part of the curriculum and narrative instruction will be carefully tied to site visits. May be repeated with different topics for a total of 6 credits. Summer.

HIST $521 \quad$ Public History Internship

3

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 $540 \quad$ Seminar in European History
3 OR 6
Selected problems in historical research. Irregular.
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
3 OR 6
Selected problems in historical research. Irregular
HIST 563 The Age of Jackson
Investigates the major events, figures, and political struggles of the Jacksonian Period. 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 570 Immigration in American History 3
Study of major waves of immigration into United States in 19th and 20th centuries. Fall. (O)

HIST $580 \quad$ Seminar in Non-Western History
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 590 Teaching American History
Prereq.: Acceptance into the History is Central Teaching American History grant project; permission of program director. Covers one of the major themes of the grant, either social movements, social change: the story of American freedom; technology and industry: changing economy; changing society, or American ideals in a changing nation. Students will explore the newest historiography on the theme and to discover new and effective methods to teach American history. Students will produce lesson plans and historiographic papers, participate in primary source research, and discuss a variety of readings. Summer.

## HIST 593 Directed Study in History

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 (Plan C)
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. Requires completion of 18 credits and a 3.00 overall GPA. Spring.

HIST 596 Directed Advanced Readings in History
Prereq.: Permission of department chair. Selected readings appropriate to student's program. May be repeated once. On demand.

HIST 598 Research in History (Plan C)
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. Open only to students in M.S. program. Requires completion of 18 credits and a 3.00 overall GPA. Irregular.

HIST 599 Thesis (Plan A) 6
Prereq.: Permission of advisor. Preparation of thesis under the supervision of the thesis advisor and second reader. Requires completion of 18 credits and a 3.00 overall GPA.

## HUMANITIES

Note: Additional work will be required for graduate credit in 400 -level courses.
HUM 490 The Culture and Civilization of Other Lands
An approach to better understanding of other peoples' life and culture as reflected in their language, music, literature, art, and folklore. The area covered may vary from section to section. Offered in English. May be repeated with different topics. Irregular.

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 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 $414 \quad$ Accident Investigation \& Loss Control
3
Loss control philosophy and techniques and investigation strategies. Background information and specific techniques to develop and implement an effective com-pany-wide and on-site loss control program, personnel responsibilities and total safety program. Spring.

IT 415 Fire Protection \& Prevention
Measures related to safeguarding human life and preservation of property in prevention, detection, extinguishing fires. Spring.

IT 432 Worker/Supervisor Relations
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 HAZWHOPPER \& 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 safery 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 Six Sigma Quality 3
Prereq.: STAT 104 or permission of department chair. 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.

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. [c]

IT $490 \quad$ Advanced Six Sigma Quality
3
Prereq.: IT 464. 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 3 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 Operations Management
Principles underlying industrial management. Topics include organization for production, industrial risk, product research and development, and the management of capital goods. Spring, Summer.

IT 511 Safety Training Methods
Discuss instructional methods for safety professionals. Covers company needs analysis, training content development, basic facilitation and instructional strategies to increase employee safety awareness. On demand.

## IT 512 Principles of Occupational Safety

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 521

Computer Aided Design and Drafting
3
Prereq.: TC 113 or permission of instructor. In-depth utilization of computer technology to create and modify two and three-dimensional engineering drawings. Space geometry, vector analysis and specialized drafting conventions will be used to generate a data base for a variety of design-drafting applications. This course is laboratory-oriented and intended to further the student's knowledge in drawing preparation using the computer and associate peripherals.

## IT 551 Project Management

Application of the techniques and tools to manage each state of the project life cycle within the organizational and cost constraints. Utilize project management tools to set goals tied to needs for successful project management. Spring. [c]

## IT 561 Application of Lean Principles

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

3
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
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
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 565 Logistics: Traffic \& Transportation
Practical techniques for improving the traffic and transportation performance of a company and it supply chain. Topics include: transportation documentation and pricing, inbound/outbound freight control, international transportation, elogistics and 3rd-Party Logistics providers. On demand.

IT 566 Distribution \& Warehouse Management 3 Methodologies for planning, managing and controlling warehouse/distribution operations in the supply chain. Topics include: equipment selection, warehouse layouts, inventory control and work methods. Topics are linked to measuring productivity and performance of warehouse operations. On demand.

IT 572 Innovative Leadership 3 Prereq.: IT 502. Utilizes innovative concepts and methods derived from scientific and industrial management. Topics include: Lean management systems, results- and processes-focused leadership behavioral routines, decision-making flaws, value stream maps and leadership credibility and organizational capability building. On demand.

IT 590 Decision Failure Analysis in Technology Management
Prereq.: AC 510 and IT 502 and IT 510. Examines contemporary decisions made by technology managers that result in outcomes unfavorable to the company and its key stakeholders. Topics include: formal root cause analysis identification of practical countermeasures, predicting future failures, and lessons learned. On demand.

## IT 594 Research in Methods Technology

Prereq.: Admission to the M.S. Technology Management program. 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 595 Applied Research Capstone Project

Prereq.: IT 594 and 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. Plans $\mathrm{A}, \mathrm{C}, \mathrm{D}$, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand. [c]

## IT 596 Technological Issues and Problems <br> 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 599 Thesis
Prereq.: IT 594 and permission of advisor. Preparation of thesis under the supervision of thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## INTERNATIONAL BUSINESS

Note: Additional work will be required for graduate credit in 400 -level courses.
IB 491 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 3 credits. Irregular.

## IB $498 \quad$ Seminar in International Business

Prereq.: Senior standing. Advanced study of current trends in the global business environment. Emphasis will be on American competitive advantage in a global business context and a critical analysis of contemporary international business research. Course content will vary from semester to semester. Spring.

IB 511 Contemporary Issues in International Business 3
Formerly BUS 511. Prereq.: Admission to MBA program or permission of MBA director. General introduction to the field of international business with special emphasis on contemporary economic, political, regulatory, ethical and socio-cultural environments. Irregular. [c]

## INTERNATIONAL STUDIES

Note: Additional work will be required for graduate credit in 400 -level courses.
IS $450 \quad$ Internship in International Studies
Students will work under faculty supervision in an international environment related to their academic track or planned program. Written reports are required. On demand.

IS 570 Modern World Issues
3
Examination of contemporary world problems such as population, underdevelopment, ecological degradation, war and diplomacy, and cultural extinction.

IS 571 International Diversity and Integration 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. Plans $A, C, D$, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

IS 596 Independent Studies 3
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

Research in International Studies
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. Plans A, C, D, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## 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. 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 3
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 3
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 3
Prereq.: Permission of instructor. 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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## LAW

Note: Additional work will be required for graduate credit in 400-level courses.
LAW 400 Advanced Business Law
Prereq.: LAW 250 (C- or higher). 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.

## LINGUISTICS

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

## LING 400 Linguistic Analysis

Intensive analysis (syntactic, morphological, phonological) of selected data from English and other languages. Particular emphasis on developing analytical skills.

LING 430 Studies in Linguistics \& the English Language 3 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
History, growth, and structure of the English language. Spring.
LING 496 TESOL Methods 3
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 TESOL classroom.

LING 497 Second Language Acquisition
Major theories of language acquisition and their potential application to language learning. The theoretical bases of second language instruction. Spring.

LING 512 Modern Syntax
Concepts and formalisms in grammar. Problem solving in English syntax.
Contemporary developments in syntactic theory. Spring.

## LING 513 Modern Phonology

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
Examination of the interlocking nature of language and society, with particular emphasis on sociolinguistic theory and field work.

LING 533 Second Language Composition
Formerly 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. Fall.

LING 535 Second Language Testing
Linguistic and academic assessment of non-native speakers of English.
Determination of language dominance and proficiency of bilinguals. Preparation of language tests. Fall.

LING 596 TESOL Practicum
Prereq.: LING 496. Students will teach ESOL under supervision. Spring.
LING 598 Research in TESOL \& Applied Linguistics
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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## MANAGEMENT

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

## MGT 403 Ethical and Social Issues for the Manager 3

Prereq.: MGT 295 with a grade of C- or higher and junior standing or permission of the department chair or MBA director. Defines contemporary ethical issues of managerial and corporate social responsibility and explores the impact of these issues on managerial decision-making behaviors. Emphasized issues that emerge in the internal as well as external environments of a business organization. Defines societal expectations of organizations regarding corporate social responsibility.

MGT 425 Labor/Management Relations
Prereq.: MGT 295 with a grade of C- or higher and junior standing. 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

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 (both with grades of C- or higher), and junior standing. 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 $460 \quad$ Staffing

Prereq.: MGT 305 with a grade of C- or higher and junior standing. Study of issues related to the staffing organizations. Topics include job analysis, human resource planning, recruitment, selection, equal employment oppor-
tunity, and related topics. Methods of measuring staffing-related criteria are included. Spring.

MGT 462 International Human Resource Management
Prereq.: MGT 305 with a grade of C- or higher and junior standing. 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 with a grade of C- or higher and junior standing. 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 471 Managing Knowledge for Business Performance

Prereq.: MGT 295 with grade of C- or higher and junior standing; for graduate students, permission of department chair (additional work required). Explores how people in organizations manage processes for creating, sharing, and evaluating knowledge used to improve and innovate business performance. Covers nature of knowledge, communities of practice, intellectual capital, knowledge life cycles, and executing knowledge projects. On demand.

## MGT 473 Organizing and Managing for Innovation

Prereq.: MGT 345 with a grade of C- or higher, and junior standing; or permission of department chair. Explores contemporary approaches for releasing employee, supplier and customer creativity to constantly innovate what and how an organization produces its products and services.

MGT 490 Management Topics
Prereq.: Permission of instructor. Selected topics in management, organization theory, and human resource management. Course content will vary from semester to semester. May be repeated with different topics for a maximum of 6 credits. Irregular.

MGT 551 Management for Global Operations
Prereq.: Admission to MBA program or permission of MBA director. Focuses on managerial issues, problems, and opportunities in the overall operations of businesses competing internationally. Analytic and experiential instructional techniques are utilized.

## MGT 552 Management Theory and Practice

Formerly BUS 552. Prereq.: Admission to MBA program or permission of MBA director. Critical study of management theories and applications necessary to manage a modern organization. Special emphasis will be placed on the complexities involved in planning, coordinating, controlling, and directing functional areas within organizations. Irregular.

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

MGT 559 Current Topics in Management
Prereq.: Admission to MBA program or permission of MBA director.
Management and/or organizational behavior issues in multinational firms and/or different national markets. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of 6 credits. Irregular.

## MGT $583 \quad$ Organizational Leadership

Prereq.: Admission to MBA program and completion of International Core, or permission of MḄA director. Strategy (mission and goals) as linked to structure, human behavior, group processes, and motivation. Decision making processes and innovative methodologies, approaches, and aids used to support these processes are stressed. Irregular.

## MANAGEMENT INFORMATION SYSTEMS

MIS 501 Managing the IT Value Proposition<br>3

Prereq.: Admission to MS-CIT or MBA program or permission of department chair. Examines IT management from the practical, technical and theoretical aspects of information systems. Introduces information systems concepts and their implication for management of technology. Socio-technical and behavioral issues are examined. [c]

MIS 502 Business Payoff of Information Technology \& Systems
Prereq.: Admission to MS-CIT or MBA program or permission of department chair. Examines effective methods for competitive advantage through information systems and methods for sustainable payoff of IT. Impact of information technologies/systems on conducting business in a dynamic, global environment including sourcing options, virtual community and work patterns. [c]

MIS 505 Quantitative Methods for Business
Prereq.: Admission to the MBA program or permission of the instructor or permission of the MBA program director. Understanding of the role that quantitative methods play in decision-making. Explains how various methods work and how they can be applied and interpreted. [c]

MIS 510 Managing Data Communications \& Networking
Prereq.: Admission to MS-CIT or MBA program or permission of department chair. Provides technology overview of data networking and telecommunications in context of Information Systems management issues. Business cases stress strategies for successful design, implementation and maintenance of large-scale networked information systems, management of digital networks. On demand. [c]

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

MIS 550 Information Technology Policy and Strategy
Prereq.: Admission to MS-CIT or MBA program or permission of department chair. Strategic use of enterprise information systems and technology for the evolving and changing global marketplace. Development and implementation of policies and plans to achieve the alignment of information systems, technology and enterprise goals. On demand.

MIS 561 International Management Information Systems
Prereq.: Admission to MS-CIT or MBA program or permission of department chair. 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 or MBA 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 $569 \quad$ Current Topics in Management Information Systems 3
Prereq.: Admission to MBA or MS-CIT program or permission of department chair. Management information systems and information technology issues.
Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits.

## MARKETING

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

MKT 413 Business Marketing
Prereq.: MKT 295 (C- or higher). Organization, principles, policies, procedures, and techniques used in effective and efficient buying and selling of mate-
rials, 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 with grades of C- or higher; or permission of department chair. Overview of research methods and procedures used in marketing to help solve marketing problems. Analysis of basic research designs and methods of collecting and interpreting data. [c]

MKT $450 \quad$ Strategic Marketing
Prereq.: AC 212 and FIN 295 and MGT 295 and MIS 201 and MKT 423 (all with grades of C - or higher); and senior standing. For graduate students, permission of the MBA director. 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 $480 \quad$ Marketing for Non-Profit Organizations
Prereq.: MKT 295 (C- or higher). 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 $571 \quad$ Market Planning

3
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 $579 \quad$ Current Topics in Marketing
1 TO 3
Prereq.: Admission to MBA program or permission of MBA director.
Contemporary issues in areas such as market entry, multinational sourcing and distribution and market planning. Topics vary to reflect conditions in the field. May be repeated with different topics for a maximum of six credits. 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. Fall, spring, summer.

## 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 $544 \quad$ Families in Context: Gender and Cultural Dimensions
Prereq.: MFT 541. Integral principles of human organization that influence family growth and development. Students gain an understanding of ethnicity and gender from a systemic framework. Fall.

MFT 551 Structural/Strategic \& 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

 3Prereq.: 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 3

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 3
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 558 Internal Family Systems Therapy
Prereq.: MFT 541 or permission of instructor. Basic theory, techniques, and clinical applications of the Internal Family Systems model of psychotherapy. This experiential course will emphasize exploration of the student's own internal family system through in-class exercises and course assignments. Summer.

MFT 583 Marriage and Family Therapy Practicum I 3
Prereq.: MFT 551 and permission of MFT coordinator. Students participate in direct client contact, staff meetings, and supervision in a clinical setting. 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 (Plan E) 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). Plans A, C, D, and $E$ require completion of 18 credits for programs with $30-.35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## MASTER OF ARTS IN TEACHING

MAT $510 \quad$ Research on Teaching Diverse Learners
Prereq.: Admission to the M.A.T program. Research-based introduction to teaching, learning theory, classroom implications of developmental and diversity issues, and personal stance. Includes at least 15 hours of school day field experiences in assigned settings. Summer I.

MAT 511 Introduction to Special Education
1
Prereq.: Admission to M.A.T. program. Introduction to basic concepts, legal issues, and terminology related to teaching special learners in the regular classroom. Satisfactory completion of exit examination is required to pass the course. Summer I.

MAT $520 \quad$ Design and Delivery of Instruction
Prereq.: Admission to the M.A.T. program, and MAT 510 (C or better).
Coreq.: MAT 529. Cross disciplinary study of design and delivery of instruction. Includes at least 45 hours of field experience in an assigned public school classroom, delivering lessons and observation by university instructor. Students must pass the field component to pass the course. Summer II.

MAT 529 Content Pedagogy I in Certification Area: English, Mathematics, Science, Spanish, Special Education, or Technology
Prereq.: MAT 510 (C or better). Coreq.: MAT 520. Introduction to disciplinespecific standards, pedagogy, and assessment strategies. Taught in certification area: English, mathematics, science, Spanish, special education or technology. Summer II.

MAT 530 Meeting the Needs of Special Learners in the Classroom 3 Prereq.: Admission to the M.A.T. program, and MAT 511 (C or better) and MAT 520 (C or better). Coreq.: MAT 533. Study of strategies for meeting the needs of special learners in the regular classroom, emphasizing differentiation of instruction, assessment and management. Fall.

MAT 531 Literacy and Language Issues in the Classroom Prereq.: Admission to the M.A.T. program, and MAT 520 (C or better).
Coreq.: MAT 533. Study of research, theory, and practice on developing literacy in content area classroom; differentiation to support struggling readers and writers; and strategies to support English language learners. Fall.

MAT 532 Research I: Reading and Designing Educational Research 3 Prereq.: Admission to the M.A.T program. Coreq.: MAT 533. Develop ability to locate and critically read educational research; review literature; and design action research. This is the first half of the program capstone sequence (Plan E). Plans A, C, $D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Fall.

MAT 533 Field Experience in the Certification Area: English, Mathematics, Science, Spanish, Special Education, or Technology

3
Prereq.: Admission to the M.A.T program, MAT 520 and MAT 529, both with grades of C or higher. Coreq.: MAT 530, MAT 531, MAT 532, MAT 534, and MAT 539. Two days weekly supervised field experience in assigned public school classroom in certification area: English, mathematics, Science, Spanish, Special Education, or Technology. Focus on lesson planning, delivery, management and analysis of instruction. University supervisor observations and seminar. Fall.

MAT 534 Creating Productive Learning Environments 3 Prereq.: Admission to the M.A.T. program, and MAT 520 with a grade of C or higher. Coreq.: MAT 533. Develop basic preventive management strategies, a repertoire of approaches to daily management of classroom behavior, skills in addressing chronic disciplinary problems, and a personal discipline plan congruent with school policies. Fall.

MAT 539 Content Pedagogy in the Certification Area II 3 Prereq.: Admission to the M.A.T. program, and MAT 520 with a grade of C or higher. Coreq.: MAT 533. Continuation of study of discipline-specific standards, pedagogy and assessment strategies in the certification area: English, mathematics, science, Spanish, special education, or technology. Taught in the certification area. Fall.

MAT $540 \quad$ Internship in the Certification Area 6

Prereq.: Admission to the M.A.T. program and MAT 530, 531, 532, 533, 534, and 539 (all with grades of C or higher); a minimum GPA of 3.00 ; and permission of department chair. Coreq.: MAT 541 and MAT 542. Sixteen week, fulltime internship in assigned public school classroom, supervised by certified teacher. Gradual assumption of full responsibility for classroom. Some certification areas must complete placements at two levels. Spring.

MAT 541 Internship Seminar
Prereq.: Admission to the M.A.T. program. Coreq.: MAT 540. Cross disciplinary seminar focused on problem solving and reflection to improve student learning and support novice teachers. Attention to progress in action research. Spring.

MAT 542 Assessment of Student Learning
Prereq.: Admission to the M.A.T. program. Coreq.: MAT 540. Design, implement, and analyze effective assessments of student learning, utilize state assessment data, make data-based decisions, and document impact on K-12 student learning. Spring.

MAT 550 Research II: Conducting and Reporting Action Research 3 Prereq.: Admission to the M.A.T. program; MAT 532, 540, 541, and 542 (all with grade of C or higher); and minimum GPA of 3.00 in MAT program. Complete the action research cycle by analyzing data and reporting research through paper and presentation. This is the second half of the program capstone (Plan E). Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Summer I.

MAT 551 Perspectives on Educational Policy and Practice 3
Prereq.: Admission to the M.A.T. program. Study of the contribution of philosophical, sociological and historical perspectives on American education today. Summer I.

## MATHEMATICS

Note: Additional work will be required for graduate credit in 400 -level courses.
MATH $421 \quad$ History of Mathematics
3
Prereq.: MATH 221 or for graduate students, admission to M.A., Mathematics or the M.S., Mathematics (for certified secondary teachers). 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. Irregular.

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 or middle level certification. Not recommended for use in meeting requirements for secondary school mathematics. Summer.

MATH 455 Introduction to Partial Differential Equations with Applications
Prereq.: MATH 355 (C- or higher) or permission of department chair.
Introduction to analytical, geometric, and numerical methods for solving partial differential equations. Basic models of physical systems using partial differential equations. Introduction to software used for solving partial differential equations. Fall. (O)

MATH 468 Symbolic Logic 3
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 $469 \quad$ Number Theory 3
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 Selected topics chosen from the areas of linear programming, decision analysis, and network analysis. Spring. (O)

MATH 477 Numerical Analysis
Prereq.: MATH 221 and CS 151 or permission of instructor. 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. No credit given to students with credit for CS 254. Fall. (E) [c]

MATH 491 Advanced Calculus
Prereq.: MATH 222 or permission of instructor. 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 Prereq.: Permission of instructor. Topics in mathematics appropriate for in-service and pre-service graduate certification students who are not covered in regular course offerings. May be repeated 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 \& Measurement 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 geometry and measurement in the elementary grades. Fall. (E)

## MATH 508 Teaching Probability \& 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 or permission of instructor. 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 $516 \quad$ Abstract Algebra II
Prereq.: MATH 515. Selected topics from advanced polynomial ring theory, Galois and extension field theory, homological algebra. Spring. (E)

MATH 519 Principles of Real Analysis I
Formerly MATH 495. Prereq.: MATH 377 or permission of instructor. 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 377 or permission of instructor. Rigorous study of point-set 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 or permission of instructor. 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
3
Prereq.: MATH 222 or permission of instructor. 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 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 post-baccalaureate certification students. Fall.

## MATH 534 Techniques in Diagnosis and Remediation for the Teaching of Mathematics - K-12

Prereq.: Admission to M.S. in Mathematics for certified elementary or certified secondary teachers. This course will train early childhood, elementary, middle and secondary teachers in diagnosis and remediation. The course will use a clinical case study approach so that each student will get practical, as well as theoretical experience. Topics include identifying the factors related to learning difficulties in mathematics in the cognitive and affective domains, diagnostic tests, identification of the underachiever, and case studies. Spring.

MATH 536 Teaching Number Concepts in the Middle Grades 3 Prereq.: Admission to M.S. in Mathematics for Certified Elementary School Teachers. NCTM Standards-based instructional practices that promote the development of number sense; operations with whole numbers, rational numbers, integers; problem solving; and graphical representations in the middle grades. Fall. (O)

MATH 537 Teaching Geometry \& Measurement in the Middle Grades 3 Prereq.: Admission to M.S. 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 \& Statistics in the Middle Grades 3 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 middle grades. Spring. (O)

MATH 539 Teaching Algebraic Thinking in the Middle Grades
Prereq.: Admission to M.S. in mathematics for elementary teachers. NCTM Standards-based instructional practices that promote algebraic thinking in the middle grades. Spring. (E)

MATH 540 Curriculum Problems in School Mathematics 3
Prereq.: Admission to M.S. in Mathematics for certified elementary or certified secondary teachers. 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
Prereq.: Admission to graduate certification program in mathematics or M.S. in Mathematics for certified secondary teachers. 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 Viewpoint3
Prereq.: Admission to graduate certification program in mathematics or M.S. in Mathematics for certified secondary teachers. For in-service 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

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 1 TO 3
Prereq.: Permission of the instructor. A study of selected topics in mathematics. The area of study will depend on the instructor and the interests and needs of the student(s). May be repeated with different topics to a maximum of 6 credits. Irregular.

MATH $590 \quad$ 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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. 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.

## 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. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## MODERN LANGUAGES

Note: Additional work will be required for graduate credit in 400 -level courses.
ML $400 \quad$ Topics in Modern Languages
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 $420 \quad$ 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 3 credits. On demand.

## ML 428 Methods and Materials for Teaching World Languages at Elementary School Level

Prereq.: ML 490 (may be taken concurrently) or LING 300 (may be taken concurrently) or permission of instructor, and admission to Professional Program or Accelerated Teacher Program in Spanish or admission to graduate program in modern language or permission of instructor for currently certified teachers. 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. NOTE: Instructors may not override professional program admission requirement.

ML 490 Teaching World Languages II: Acquisition in
Young Children for Teachers of World Languages
Prereq.: Admission to Professional Program or Accelerated Teacher Program in Spanish or admission to graduate program in modern language or permission of instructor for currently certified teachers. 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. NOTE: Instructor may not override professional program admission requirement. 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
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 Intensive Studies in Modern Languages
Prereq.: 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 current teachers and other graduate students of the target language, it includes a technology component. May be repeated with different topics for up to 9 credits per graduate program. 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.

## MUS 400

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
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 404
Topics in Performance
1 TO 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 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
1 TO 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. Plans A, C, D, and E require completion of 18 credits for
programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Irregular.

MUS 501 Topics in Music
1 TO 3
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 1 TO 3 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 3 Prereq.: Admission to the Masters of Science in Music Education. The study of the school music program from a historical, philosophical, and psychological basis. Special emphasis on current research in pedagogy and trends in aesthetic education. Fall.

MUS $505 \quad$ Topics in Pedagogy and Curriculum $\quad 1$ TO 3 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
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
1 TO 3
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

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 $510 \quad$ Current Issues in Music Education
Prereq.: Admission to M.S. in Music Education and 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 512 Topics in String Pedagogy
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
2
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
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
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
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
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
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
2
Study of various methods and evaluation as related to student, teacher, and program assessment. May be repeated with different topics for a maximum of 6 credits. Summer.

MUS 575 Topics in Band 2
Prereq.: Graduate standing. Study of selected aspects of the public school band program. May be repeated for a maximum of 6 credits with different content. Summer.

MUS 577 Secondary Applied Music
Prereq.: Permission of instructor. Individual instrumental or vocal instruction in a secondary area of performance. May be taken more than once for credit. Applied music fee required (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 $590 \quad$ Sinfonietta
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
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 Wind Symphony
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 Recita
3
Permission of advisor and department approval. The preparation and presentation of a recital under the guidance of the appropriate applied music instructor. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

MUS 598 Research in Music Education
Prereq.: Admission to M.S. in Music Education and 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. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## PHILOSOPHY

Note: Additional work will be required for graduate credit in 400-level courses.
PHIL $440 \quad$ Project in Applied Ethics
Prereq.: PHIL 220, 346 and six credits from PHIL 144, 222, 240, 241, 242, 349, NRSE 246 (formerly HHSP 246), 341, 342. Research in applied ethics. 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.
Note: The following courses will have the new designator EXS after Fall 2007: PE 507, 515, 519, 522, 523, 530, 590, 592.

PE 402 Organization and Administration of Physical Education
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.

Coreq. FE 404 . Prereq.: PE 272, and PE 300 (or permission of instructor) 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 off-campus practicum is included.

## PE 406 Adapted Physical Education

Prereq.: PE 300 and admission to the Professional Program in Physical
Education. Pedagogical skills and knowledge pertaining to physical education for

















































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. Fall, spring, summer.

PE $500 \quad$ 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 505 Instructional Tools for Physical Education
Prereq.: Admission to M.S. in Physical Education and teacher certification in physical education; or permission of instructor. The student will use pedometers and heart rate monitors as instructional tools. The internet will be used for the planning and implementation of programs of instruction in physical education. Summer. (E)

## PE $507 \quad$ Human Perspective in Sport

Prereq.: Admission to M.S. 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 510 Instructional Models for Physical Education 3 Contemporary instructional models for physical education. Includes theory, planning, and implementation for cooperative learning, personalized systems of instruction, inquiry, and other effective models used in physical education.
Summer. (O)
PE 515 Sport, Physical Activity, and Exercise Psychology
Identifies principles and guidelines that professionals use to help adults and children participate in and benefit from sport and exercise activities. 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. (E)

PE $520 \quad$ Current Issues in Physical Education
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 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 M.S. 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) play in the enhancement of health and sport performance. Topics include weight management and eating disorders. Summer. (O)

PE 590

## Independent Study / Topics in Physical Education

 and Sports MedicinePrereq.: Admission to the M.S. in Physical Education with approved planned program, or permission of instructor. Independent work in theory or research to meet individual requirements in areas not covered by the regular curriculum. May be taken more than one semester up to a limit of 6 credits. Irregular.

## PE 592 Advanced Physiology of Sport \& Exercise

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. (O)

PE 598 Research in Physical Education and Human Performance 3 Prereq.: Admission to M.S. in Physical Education or permission of department chair. 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. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## PHYSICS

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

## PHYS 425 Modern Physics

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 threehour laboratory per week. Irregular.

## PHYS 452 Independent Study in Physics

1 TO 3
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 6 credits.

PHYS 460 Seminar in Physics
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, eigenfunctions and eigenvalues, one-dimensional potentials, wave mechanics, operator methods. Irregular

PHYS 471 Quantum Mechanics II
3
Prereq.: PHYS 470. Three-dimensional Schrodinger equation, angular momentum, radial equation, hydrogen atom, operator matrices and spin, addition of angular momentum, plus additional topics to be chosen by instructor. 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
3
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. Irregular.

## PHYS 511 Classical Mechanics

3
Prereq.: PHYS 425 or permission of chair. Mechanics of continuous media, wave motion, special relativity, and introduction to Lagrange's and Hamilton's equations. Irregular.

## 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 542 Advanced Electricity \& Magnetism
Prereq.: PHYS 425 or permission of chair. Field theory of electromagnetism.
Magnetic fields of currents, magnetic materials, electromagnetic induction of Maxwell's equations. Irregular.

PHYS 598 Research in Physics
Prereq.: Admission to the MS program in natural sciences, and 15 credits in planned program of study, and permission of instructor. Student will conduct original research in physics including a literature review, project proposal, research presentation, and a report suitable for journal publication. On demand.

## PHYS 599 Thesis

3
Prereq.: PHYS 598 and permission of the advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## POLITICAL SCIENCE

Note: Additional work will be required for graduate credit in 400 -level courses.
PS $415 \quad$ Government \& Business in the Information Age 3
Prereq.: PS 104 or 110 or 315 or permission of department chair. Analysis of the evolution of the pattern of interaction between business and government in the American administrative and political process as we enter the information age, with attention to how we as members of society are affected by and may influence this process. Spring. (E)

PS 420 Government and Politics of Latin America 3 Historical, social, economic, and ideological factors impacting contemporary government and politics in Latin America. Spring. (O)

PS $421 \quad$ 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 or 110 or permission of instructor. Office of President and place in the political system, colonial antecedents and modern counterparts. Emphasis on the presidency's functional and institutional development, contemporary role in politics and public policy, and interplay between man and office. Spring.

PS 431 The Legislative Process
Prereq.: PS 104 or 110 or permission of instructor. Structure, behavior, and operation of U.S. Congress. Comparison with state legislatures.
Interrelationships with executive and judicial branches. Problems of popular representation. Attention to the budgetary process, lobbying, and campaign financing. Spring. (O)

PS 432
Urban Politics and Government
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, 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.
P.S 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.: PS 260 or permission of department chair. 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 448 The Politics of Human Services
Study of the politics and administration of government programs that deal with human problems such as poverty, crime, health, manpower development, and housing.

PS $480 \quad$ Government Intern Experience
4
Prereq.: Junior or senior status with 2.50 grade point average or higher; or for graduate students, permission of department chair. To be taken concurrently with PS 481. Students who apply and are admitted to this program are assigned to work in state and local government departments and agencies for a minimum of two days a week. Not open to students who have completed PS 482 and 483. By application.

PS 481 Intern Seminars and Research
Prereq.: Junior or senior status with 2.50 grade point average or higher: or for graduate students, permission of department chair. Seminars, a paper analyzing the internship experience, and research projects related to work assignments of PS 480 are required. Open only to students currently enrolled in PS 480.

PS $482 \quad$ Government Intern Experience 6 TO 8
Prereq.: Junior, senior, or graduate status; a minimum of 3.00 grade point average unless special exception is granted by the internship advisor in consultation with the department chair. Must be taken concurrently with PS 483. Students who apply and are admitted to this internship are assigned to work on a full-time basis, five days per week with the State legislature or administrative department or agencies. Cannot be taken by students who have completed PS 480 and 481. No more than 4 credits of PS 482 may be applied toward a political science major. By application. Fall, spring, summer.

PS 483 Intern Seminars and Research
6 TO 8
Prereq.: Junior or senior or graduate status; a minimum of 3.00 grade point average unless special exception is granted by the internship advisor in consultation with the department chair. Must be taken concurrently enrolled in PS 482. A series of seminars, assigned readings, a paper analyzing the experience and completion of a substantial research project related to work assignment of PS
482. No more than 4 credits of IS 483 may be applied toward a political science major. Fall, spring, summer.

PS 490
Directed Readings in Political Science
1 TO 6
Prereq.: Permission of instructor. Individual programs of study for students with special abilities or interests in political science. May be repeated with different topics to a maximum of 6 credits. On demand.

PS $491 \quad$ Advanced Studies in Political Science
1 TO 6
Intensive study of selected problems in political science. On demand.
PS 492 Policy Studies 3
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.

PS 501 Advanced Studies in International Law
Prereq.: Graduate status. Origins, scope and limitations of public international law. Fundamental principles affecting laws among nations, and variables influencing state compliance. Discussion of contemporary issues, the role of international organizations, and the impact of the changing global power configuration on the international legal, political and economic environment. Spring.

## PSYCHOLOGY

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

## PSY $410 \quad$ Media Psychology

Prereq.: One psychology course and at least junior standing or graduate status; or permission of the instructor. Seminar examining the impact of electronic media on human behavior, feelings, thinking, and psychological development. Primary focus on the psychological impact of television and newer electronic media technologies (e.g., computers and the Internet). Summer.

PSY $430 \quad$ Psychology of Diversity
Prereq.: PSY 112 or permission of instructor. Review of psychological research and theories pertaining to the study of diversity. Implications for clinical work and community education will be discussed.

PSY $440 \quad$ Motivation
Prereq.: Three courses in psychology. Physiological and psychological variables in selected motivational processes. Problems of measurement, empirical findings, and theoretical research. Readings in contemporary literature.

PSY 444 Positive Psychology
Prereq.: PSY 112 and 3 additional credits in Psychology or permission of instructor. Scientific study of human strengths. Topics include optimism, creativity, well-being, and resilience. Spring.

PSY 446 Introduction to Psychotherapy and the Psychology of Counseling

3
Prereq.: PSY 330 and 6 other credits in Psychology or permission of instructor or admission to M.A. Psychology. An introduction to the basic theories underlying psychotherapeutic process. Explores the primary assumptions of the behavioral, biological, cognitive, humanist-existential, and psychodynamic models. Topics include ethical and professional standards and diversity. Spring.

PSY $450 \quad$ Biopsychology
Prereq.: Six credits in psychology or permission of instructor. Analysis of relationships between bodily processes and behavior.

PSY 451 Psychological Evaluation
Prereq.: Three courses in psychology. Principles and problems basic to construction, choice and use of psychological measuring instruments, and study of application to diagnosis. 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 between the brain and behavior is examined. Topics include disorders of speech and memory, common neurological disorders such as dementia and stroke, and alco-hol-related disorders. Spring.

PSY 460 Behavior Modification: Theory and Practice
Prereq.: PSY 200 or permission of instructor. Application of learning principles to the modification of both normal and abnormal behavior. The settings for application include areas such as personal, social, and marriage counseling: individual and group psychotherapy; formal and informal education and re-education; personal, vocational, and correctional rehabilitation.

PSY $470 \quad$ Theories of Personality
Prereq.: Three courses in psychology. Nature of personality theory and critical analysis of major contemporary theories of personality, including empirical evidence relevant to these theories.

PSY 498
Topics in Psychology
1 TO 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
3
Prereq.: Admission to graduate program 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
Psychopathology
Prereq.: Admission to graduate program 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.: Admission to graduate program or permission of instructor. Examination of health-related behaviors, stress, risk factors and methods to improve well-being. Mind-body aspects of chronic illness, addiction, and immune system disorders are discussed. Fall.

PSY 542
Psychology of Stress
3
Prereq.: Admission to graduate program 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 \& Research
Prereq.: Admission to graduate program 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
Prereq.: Admission to Graduate program 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
Prereq.: PSY 550. Intensive examination of the theoretical and empirical underpinnings of primary prevention programs in mental health. Spring.

PSY 553 Developing Prevention Programs
Prereq.: PSY 551 or permission of instructor. Development and operation of prevention/empowerment strategies in institutional and/or community settings. Fall.

PSY $571 \quad$ Psychology of Women's Health
Prereq.: Admission to graduate program 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 $590 \quad$ Advanced Topics in Psychology
Prereq.: Admission to graduate program 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
Prereq.: Permission of instructor. Directed advanced independent studies in psychology. On demand.

PSY 595 Graduate Internship in Psychological Applications
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 3
Prereq.: Admission to M.A. program in psychology 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., SPSS). Each student will plan an independent research project. Fall. [c]

PSY 597 Psychological Research: Design and Analysis II
Prereq.: PSY 596. An overview of research methods in psychology, continued
from PSY 596. Each student will complete the independent project proposed in PSY 596. 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. Plans $\mathrm{A}, \mathrm{C}, \mathrm{D}$, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA.

## READING

RDG 500 Independent Study in Reading and Language Arts
Prereq.: 15 credits in Reading and Language Arts. Permission of program advisor, and admission to the Master's or Sixth-Year Certificate program in Reading and Language Arts. Independent study in the reading and language arts area not covered by regular course offerings. Supervision is given through periodic conferences with the student. Oral presentations are required. On demand.

RDG 502 . . . Current Trends in Developmental Reading K-12
Formerly RDG 590. Prereq.: Admission to M.S. or Sixth-Year Certificate 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 503 Developmental Reading in Primary Grades
Formerly RDG 591. Prereq.: Admission to M.S. or Sixth-Year Certificate 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 504 Middle School Level Literacy Development

Formerly RDG 592. Prereq.: Admission to M.S. or Sixth-Year Certificate 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.

RDG 505 Developmental Reading in the Secondary Schools
Formerly RDG 593. Prereq.: Admission to M.S. or Sixth-Year Certificate program in reading and language arts, or post-baccalaureate certification, or permission of department chair. 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.

RDG 569 Folktelling Art and Technique
Prereq.: RDG 588 and admission to M.S. or Sixth-Year Certificate program in reading and language arts, or permission of department chair. 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 Schools
Prereq.: Admission to M.S. or Sixth-Year Certificate program in reading and language arts, or permission of department chair. 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 \& Language Arts Instruction 3 Prereq.: Admission to M.S. or Sixth-Year Certificate program in reading and language arts, or permission of department chair. 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.

RDG 582 Introduction to Critical Literacy
3
Prereq.: Admission to M.S or Sixth-Year Certificate program in reading and language arts, or permission of department chair. Critical investigation of literacy. Examines literacy instruction, the relationship between classroom literacy practices and the curriculum, and the relationship among knowledge, equity, empowerment, class, race, resistance, and literacy. On demand.

## RDG 585 Reading in Content Area

Prereq.: RDG 502 (formerly RDG 590) or RDG 503 (formerly RDG 591) or RDG 504 (formerly RDG 592) or RDG 505 (formerly RDG 593); and admission to M.S. or Sixth-Year Certificate program in reading and language arts. Investigation of materials and procedures used for teaching reading in content area. Special emphasis on vocabulary and comprehension development.

RDG 586 Literacy Instruction for Diverse Populations I
Prereq.: Admission to M.S. or Sixth-Year Certificate program in reading and language arts, or permission of department chair. 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.

RDG $587 \quad$ Bibliotherapy
Prereq.: Admission to M.S. or Sixth-Year Certificate program in reading and language arts, or permission of department chair. Identification, selection, and effective use of books that address problems confronting young people from preschool age to adolescence. Concerns include physical and mental handicaps, divorce, death, alcoholism, drug abuse, neglect.

RDG 588 Teaching Children's Literature
Prereq.: Admission to M.S. or Sixth-Year Certificate program in reading and language arts, or permission of department chair. Study of wide variety of literature for children. Investigation of the appreciation for literature with children. Competency in storytelling and writing or original stories and poems will also be developed.

## RDG 589 Creative Language Arts

Prereq.: RDG 502 (formerly RDG 590), RDG 503 (formerly RDG 591), RDG 504 (formerly RDG 592), and RDG 505 (formerly RDG 593); and admission to M.S. or Sixth-Year Certificate program in reading and language arts. 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 594 Diagnosis of Reading \& Language Arts Difficulties 3 Prereq.: RDG 502 (formerly RDG 590) or RDG 503 (formerly RDG 591) or RDG 504 (formerly RDG 592), and admission to M.S., Sixth-Year Certificate program in reading and language arts, Reading and Language Arts Consultant Certification, or OCP 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 \& Corrective Techniques in Reading \& Language Arts
Prereq.: RDG 594 and admission to M.S., Sixth-Year Certificate program in reading and language arts, or Reading and Language Arts Consultant
Certification, or OCP in reading and language arts. Study of principles of reme-dial-corrective reading and language arts methods of analysis and interpretation, and materials useful in correction of reading and language arts difficulties.

RDG 596 Clinical Practices in Reading \& Language Arts 6 Prereq.: RDG 595 and admission to M.S., Sixth-Year Certificate program in reading and language arts, or Reading and Language Arts Consultant Certification, or OCP in reading and language arts. Diagnosis and treatment of reading and language arts difficulties and disabilities. Case study prepared for pupil tutored during term.

RDG 598 Seminar in Reading \& Language Arts Research
Prereq.: 15 credits in graduate reading and language arts courses and admission to M.S. or Sixth-Year Certificate program in reading and language arts.
Advanced studies in reading research as well as basic 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.

## RDG 599 Thesis

3 TO 6
Prereq.: 24 credits of graduate study in Reading \& Language Arts and admission to the master's program in reading and language arts. Preparation of the thesis under the supervision of thesis advisor and second reader. Oral and written presentation required. RDG 598 required if RDG 599 taken for only 3 credits. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

RDG 667 Multicultural Literature in the Classroom
Prereq.: RDG 588 and admission to Sixth-Year Certificate program in reading and language arts, or Ed.D. program. 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.

RDG 675 Reading and Writing as Integrated Process
Prereq.: RDG 412 or 589 , and admission to Sixth-Year Certificate program in reading and language arts, or Ed.D. program. 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.

RDG $680 \quad$ Current Trends and Issues in Reading and Language Arts 3 Prereq.: RDG 502 (formerly RDG 590), RDG 503 (formerly RDG 591), RDG 504 (formerly RDG 592), and RDG 505 (formerly RDG 593); and admission to M.S. or Sixth-Year Certificate program in reading and language arts, or Ed.D. program. 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.

RDG 686 Literacy Instruction for Diverse Populations II 3
Prereq.: RDG 586; RDG 667 and admission to Sixth-Year Certificate program in reading and language arts, or Ed.D. program. 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.

RDG 692 Specialized Diagnosis and Remedial Techniques 3
Prereq.: RDG 594 and 595, and admission to Sixth-Year Certificate program in reading and language arts. Specialized diagnostic procedures and materials in reading for children who are perceptually, neurologically, and psycholinguistically disabled. 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.

RDG 694 Organization, Administration, and Supervision of Reading \& Language Arts Programs
Prereq.: 15 credits of graduate study in reading and admission to Sixth-Year Certificate program in reading and language arts, or Reading and Language Arts Consultant Certification, or OCP in reading and language arts. Study of patterns of organization, administration, evaluation, and supervision of various types of reading and language arts programs in schools.

RDG 696 Practicum for Reading and Language Arts Consultants 6 Prereq.: RDG 596 and RDG 694 and admission to Sixth-Year Certificate program in reading and language arts, or OCP in reading and language arts. Work experience under guidance of certified reading and language arts consultant for an academic year. Experience includes supervision of reading programs, consultation with school personnel, assessment, clinical practice, professional development, and applied research.

RDG 698 Research Seminar
Prereq.: 24 credits of graduate study in reading, and admission to Sixth-Year Certificate program in reading and language arts, or OCP in reading and language arts. In-depth individual study of research pertaining to reading materials, programs, and methods. Research reports required.

RDG $700 \quad$ 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.

## SCIENCE EDUCATION

Note: Additional work will be required for graduate credit in 400 -level courses.
SCI $420 \quad$ History of Science
Prereq.: Three courses in science or mathematics, or permission of instructor. Historical development of biological and physical science, interdependence of various areas of science, and relations of scientific progress to society.

SCI 452 Independent Study in Science
1 TO 6
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 one semester up to a limit of 6 credits. On demand.

SCI 453 Environmental Interpretation Internship 3
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 3
Prereq.: Permission of instructor. Develops teaching strategies which assist young children in expanding their awareness, understanding, and appreciation of their natural environment. Teachers will learn active involvement techniques and will prepare hands-on science curriculum materials for use with children from preschool through grade 3. Spring.

## SCI 485

Studies in Science
1 TO 3
Prereq.: Permission of instructor. Selected studies in the sciences which are not offered presently in the curriculum of the science departments. Course may be repeated for different topics, but the student may not take this course for credit under the same topic more than once.

SCI 500 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 $518 \quad$ Teaching Science in the Out-of-Doors
Prereq.: Two science courses. Development of leadership skills and instructional techniques necessary for teaching science in the outdoor classroom. The methods and materials for developing and conducting an outdoor education program in science are discussed. Three hours a week; field studies are required. Fall. (O)

## SCI 520 The Physical Sciences

Study of basic physical and chemical phenomena with emphasis on materials suitable for use in the elementary grades. Course aims to broaden and deepen background of elementary school teacher of science; opportunity is provided through demonstrations and laboratory work to gain functional understanding of physical science concepts. Spring. (E)

SCI $530 \quad$ The Earth Sciences
Study of basic earth science phenomena with emphasis on materials suitable for use in the elementary grades. Course aims to broaden and deepen background of elementary school teacher of science; opportunity is provided through demonstrations and laboratory work to gain functional understanding of earth science concepts. 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 3
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 Standards. Fall.

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 Standards. Irregular.

SCI 570 . Teaching of Science in the Secondary School
Prereq.: In-service teacher or permission of instructor. Examination of middle level and secondary science curriculum, instruction, and assessment strategies in line with the National Science Standards and the State of Connecticut Standards. 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 $581 \quad$ 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. 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 3
Prereq.: Admission to the M.S. program in Natural Sciences: Science Education and completion of at least 15 credits in the planned program; 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. Plans A, C, D, and E require completion of 18 credits for programs with 30-.35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Spring. (E)

SCI $598 \quad$ Research in Science Education
Prereq.: Admission to the M.S. program in Natural Sciences and 15 credits in planned program of 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 $599 \quad$ Thesis (Science Education)
Prereq.: SCI 598 and admission to the M.S. program in Natural Sciences: Science Education and 21 credits in planned program and permission of advisor. Preparation of the thesis under the supervision of the thesis advisor. Plans $A, C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## SIGN LANGUAGE

Note: Additional work will be required for graduate credit in 400-level courses.
SL 420 Basic Manual Communication I 3
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. A continuation of the Manual Alphabet and American Sign Language for the Deaf, designed to provide further skill in non-verbal communication. Spring.

## 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; preven-
tion, treatment, and attitudes; policies and programs in both public and private sectors which impinge upon the lives of clients with health problems. Irregular.

SW 437 Child Welfare I
Prereq.: SW 226 and 227; or permission of the instructor. Examination of the role of the social worker in meeting the needs and protecting the rights of children. Irregular.

SW 438 Child Welfare II
Prereq.: SW 226 and 227 ; or permission of instructor. Examination of current social issues, such as war, poverty, and divorce, that impact the lives of children. Irregular.

SW 441 Puerto Ricans in Transition: A Social Work Perspective 3 Prereq.: Permission of instructor. Overview of critical areas in understanding the Puerto Rican population on the island and in the U.S. Puerto Rican history, migration, demographic trends, culture, socio-political issues, family, and gender roles will be explored, in addition to health, education, employment and poverty. Micro/macro approaches to providing culturally relevant intervention. Irregular.

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 $433 \quad$ Independent Studies in Sociology 1 TO 3 Advanced study and projects in sociology of special interest to students under the supervision of one or more department members. May be repeated for a maximum of 6 credits. 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. Irregular.

## SPANISH

Note: Additional work will be required for graduate credit in 400 -level courses.
SPAN 441 Cross-Cultural Communication
Prereq.: Permission of instructor. Open only to non-native speakers of Spanish. Development of fluency in oral expression. Speech analysis and phonetic theory to improve pronunciation and intonation. Introduction to problems of translation, enhancement of oral competence, and development of cross-cultural understanding. Fall. (E)

SPAN 515 Colonial Spanish-American Literature
3
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
3
Prereq.: Permission of instructor. Taught in Spanish. Study of major Spanish-
American 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 $530 \quad$ Contemporary Spanish Novel 3
Prereq.: Permission of instructor. Taught in Spanish. Study of significant novels from the 1940s to the present. Spring.

SPAN 534 Women Writers of the Spanish-Speaking World
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
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

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 Structure of Spanish Language
Prereq.: Permission of instructor. Taught in Spanish. Study of syntactical and morphological aspects of the Spanish language. Spring. (E)

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
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
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 3 Prereq.: Permission of instructor. Taught in Spanish. Contemporary society in the Spanish-speaking world, its institutions, traditions, and values.

SPAN 599 Thesis
3
Prereq.: 18 credits completed of approved graduate study program and approval of advisor. Preparation of thesis under the supervision of thesis advisor. Plans A, $C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## SPECIAL EDUCATION

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

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 $430 \quad$ 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 433 Educational Assessment for Exceptional Learners 3 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 DisabilitiesPrereq.: 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 ExceptionalitiesPrereq.: 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 4.37 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 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 handi-
capped, 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 or 501, admission to the School of Graduate Studies 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

3
Prereq.: SPED 315 or SPED 501, admission to the School of Graduate Studies 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

3
Prereq.: SPED 315 or SPED 501, admission to the School of Graduate Studies 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 315 or SPED 501, admission to the graduate program in Special Education; or permission of the department chair. Examination of methodologies for evaluation, management of student behavior, program planning, cognitive restructuring, and functional behavior analysis utilized in special education settings. Involves field-experience component.

SPED 515 Assessment in Special Education
Prereq.: SPED 511, 512, 513. Review of the methods and materials used in the assessing and evaluating the performance of students who may be eligible for special education. Topics include psychometric theory, selecting/administrating tests, scoring, interpreting and communicating test results/findings. Involves fieldexperience component.

SPED 516 Instructional Programming for Students with Exceptionalities

3
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/self-determination, vocational transitioning, and functional living are also discussed.

## SPED 520 Seminar for Special Educators

3 TO 6
Prereq.: SPED 517 or 518 . 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 3 TO 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. The post-baccalaureate certification program has been revised to include two student teaching experiences within the same semester instead of the currently offered one student teaching ( 6 credits) for each of two semesters. The eight weeks ( 3 credits for

SPED 521) and eight weeks ( 3 credits for SPED 522) allow for students to complete student teaching in just one semester.

SPED 522 Student Teaching in Special Education - Secondary 3 TO 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. The post-baccalaureate certification program has been revised to include two student teaching experiences within the same semester instead of the currently offered one student teaching ( 6 credits) for each of two semesters. The eight weeks ( 3 credits for SPED 521) and eight weeks ( 3 credits for SPED 522) allow for students to complete student teaching in just one semester.

SPED 523 Practicum in Special Education - Elementary
Prereq.: SPED 517 or SPED 518, SPED 520 . Supervised practicum in elementary special education classrooms. 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. Summer.

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 534 Advanced Topics in Developmental Disabilities
Prereq.: SPED 513 or permission of Special Education advisor or permission of department chair. Overview of current theory and practice in various aspects of developmental disabilities including advanced topics in etiology, identification, classification, assessment and programming. Irregular.

## SPED 536 Autism Spectrum Disorder

Historical and current views regarding the characteristics, etiology, and prognosis of autism spectrum disorder will be examined. Current educational and treatment programs will be reviewed. Irregular.

SPED 541 Issues \& Strategies in the Transition Process
Prereq.: Admitted to Master's Degree Program in Special Education.
Emphasized the planning process for making a smooth transition from school to post school options for students with disabilities. Promotes the use and values of compatibility analyses, self-determination and natural supports. Irregular.

SPED 542 Designing Classroom Environments for Creative Learning Prereq.: Admission to graduate school or permission of department chair. Examines creative practices in assessment, instruction and curriculum development for students with special education needs. Participants share experiences from their own content areas and add to the richness of options in working with students in special education. Summer.

## SPED 560 Positive Classroom Management for Students

 Receiving Special Education ServicesPrereq.: SPED 315 or 501 or permission of instructor. Basic skill and application of reality-oriented verbal strategies and Life Space Crisis Intervention strategies and general classroom management for educators who address the needs of special education students experiencing emotional and/or physical crises. Irregular.

SPED 566 Legal and Administrative Issues in Special Education
3
Prereq.: Acceptance to M.S. program in Special Education or permission of department chair. Federal and state laws and regulations for special education are studied. Emphasis is placed on the theories and processes in pupil personnel services including writing an individualized education program (IEP) and organizing and participating in planning placement team (PPT) meetings.

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 with Special Education Needs 3 Study of the educational characteristics of the juvenile offender as special education student including a review of current educational interventions. Irregular.

SPED $580 \quad$ Collaborative Process in Special Education
Prereq.: Teacher certification or permission of department chair. Examination of the interactions between the special educator and the regular classroom teacher, including programming, management, and monitoring, for the purpose of providing supports and services for students with special education needs.

SPED 581 Assistive Technology in Special Education
Prereq.: Admitted to Master's Degree Program in Special Education.
Considering, designing, and implementing a range of assistive technologies for people with individualized education or rehabilitation programs; individualizing instruction through the use of adaptive devices, hardware, and software: applying instructional technology applications to the roles and responsibilities of special educators. Irregular.

SPED 595 Topics in Special Education
1 TO 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.

SPED 596 Designing Action Research in Special Education (Plan E) 3 Prereq.: Admission to M.S. in special education; 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, formulate an appropriate research design plan, and receive CCSU Human Studies Committee approval in partial completion of the Master's Degree Capstone (Plan E) project. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Fall.

SPED 597 Implementing and Documenting Action Research in Special Education
Prereq.: SPED 596 (formerly SPED 519). Students implement and document action research design plan formulated in SPED 596. Final report documents results, discussion, and limitations of study. Required presentation supplements the written report. Plans A, C, D, and E require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Spring.

## STATISTICS

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

## STAT $416 \quad$ 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 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
Prereq.: STAT 201 or 216 or 416 or permission of instructor. Introduction to experimental designs in statistics. Topics include completely 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 analysis packages. Spring. (E) [c]

## STAT 465 Nonparametric Statistics

Prereq.: STAT 201 or 216 or 416 or permission of instructor. General survey of nonparametric or distribution-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. (O)

## STAT 476 Topics in Statistics

Prereq.: Permission of instructor. Topics depending on interest and qualifications of the students will be chosen from sampling theory, decision theory, probability theory, Bayesian statistics, hypothesis testing, time series or advanced topics in other areas. May be repeated under different topics to a maximum of 6 credits. Spring. (O)

## STAT 521 Introduction to Data Mining

Prereq.: STAT 104 or STAT 200 or STAT 215 or STAT 315 or permission of department chair. Data mining models and methodologies. Topics may include data preparation, data cleaning, exploratory data analysis, statistical estimation and prediction, regression modeling, multiple regression, model building, k means clustering, and classification and regression trees. Fall.

## STAT 522 Data Mining Methods

4
Prereq.: STAT 521; STAT 315; STAT 201 or STAT 216 or STAT 416 or STAT 453 or permission of department chair. Data mining models and methodologies. Topics may include model evaluation techniques, hierarchical clustering methods, logistic regression, k -nearest neighbor classification, decision trees, the C4.5 algorithm, and neural networks. Spring.

## STAT 523 Applied Data Mining

Prereq.: Admission to M.S. in Data Mining and STAT 416 and STAT 522 or permission of department chair. Advanced investigation of data mining models and methodologies. Topics may include dimension reduction methods, Kohonen networks clustering, association rules using the a priori and generalized rule induction algorithms, naive Bayes classification and Bayesian networks, and generic algorithms. Fall.

## STAT 525 Web Mining

Prereq.: STAT 521 or permission of department chair. Methods and techniques for mining information from web structure, content, and usage.
Topics may include web log cleaning and filtering, de-spidering, user identification, session identification, path completion exploratory data analysis for web mining, and modeling for web mining, including clustering, association, and classification. Spring.

STAT 526 Data Mining for Genomics and Proteomics
Prereq.: STAT 521 or permission of the instructor. Topics include selection of data mining methods appropriate for the goals of a biomedical study (supervised versus unsupervised, univariate versus multivariate), analysis of gene expression microarray data, biomarker discovery, feature selection, building and validation of classification models for medical diagnosis, prognosis, and drug discovery. Spring.

STAT 527 Text Mining
Prereq.: STAT 521 or permission of the instructor. Intensive investigation of text mining methodologies, including pattern matching with regular expressions, reformatting data, contingency tables, part-of-speech tagging, and topdown parsing. Extensive use of Perl and Perl modules to analyze text documents. Spring.

## STAT $529 \quad$ Current Issues in Data Mining

Prereq.: Admission to the M.S. Data Mining program or permission of department chair. Topics depending on interest and qualifications of the students will be chosen from recent developments in data mining, including statistical pattern recognition, statistical natural language processing, bioinformatics, text mining, and analytical CRM. Use of statistical and data mining software. May be repeated under different topics to a maximum of 9 credits. Migration and Attrition. Extensive use of SPSS' Clementine data mining software is required. [c]

STAT 551 Applied Stochastic Processes
Prereq.: STAT 315 and MATH 228 or permission of instructor. 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 3
Prereq.: STAT 416 and MATH 228 or permission of instructor. Introduction to the methods of least squares. Topics include general linear models, least squares estimators, inference, and hypothesis testing. Spring. (E)

STAT $570 \quad$ Applied Multivariate Analysis
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 5.5 Mathematical Statistics III
3
Prereq.: STAT 416 or equivalent. Continuation of theory and applications of statistical inference. Advanced topics in the estimation of population parameters and the testing of hypotheses. Introduction to Bayesian methods, regression, correlation and the analysis of variance. Fall. (E)

STAT $576 \quad$ Advanced Topics in Statistics
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. Fall. (O)

STAT 599 Thesis
3
Prereq.: Permission of advisor. Preparation of thesis under guidance of thesis advisor for students completing master's requirements under M.S. Plan A in Data Mining. Plans A, C, D, and E require completion of 18 credits for programs with 30-35 credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. On demand.

## TECHNICAL COURSES

TC 591 Independent Study in Industrial/Engineering Technology 3 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

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.

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

## TE $400 \quad$ Teaching of Technology Education

Prereq.: TE 399 (may be taken concurrently) and 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 420 Manufacturing Systems 3
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 hours 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 450 Technological Enterprise 3
Prereq.: Junior standing and TE 420; for graduate students, admission to the 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
3
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 3 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 Adults
Approaches and strategies designed for use with adult learners. The development, presentation and evaluation of student-prepared lessons unique to technical subjects will be emphasized. Irregular.

## TE 520 Readings in Technology

Study of the nature of technology from a variety of perspectives. Students will explore, in-depth, the issues relative to the creation, use, and control of technology and its impacts on individuals and society.

TE $540 \quad$ 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

 3Prereq.: 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. Plans $A, C, D$, and $E$ require completion of 18 credits for programs with $30-35$ credits, or 24 credits for programs with greater than 35 credits, and a 3.00 overall GPA. Irregular.

## TE 598 Research in Technology Education

3
Familiarization with techniques and resources associated with research in the student's specialization. Opportunity for practical application will be provided. (To be taken during the first 12 credits of the graduate program.) Spring.

TE 599 Topics in Technology Education
3
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 $447 \quad$ Acting IV <br> 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 $465 \quad$ Creative Dramatics for Children

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 $481 \quad$ Projects: Scenery 1 TO 3
Prereq.: TH 316 and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff.

TH 482 Projects: Costuming
1 TO 3
Prereq.: TH 332 and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff.

TH 483 Projects: Acting A
1 TO 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 $484 \quad$ Projects: Acting B
1 TO 3
Prereq.: TH 483 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

1 TO 3
Prereq.: TH 352 and departmental permission. Individual direction of student production under faculty supervision.

TH $489 \quad$ Studies in Theatre/Drama
Prereq.: Permission of instructor. Selected area of theatre and/or drama not covered in other courses. Topic varies. May be repeated for credit. Irregular.

TH 490 Summer Theatre Workshop
Prereq.: Permission of instructor. Students work with experienced directors in a summer theatre production workshop learning the craft of acting and performing, culminating in a public performance. May be repeated for a maximum of 6 credits. 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

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
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 450 Principles and Organizations of Cooperative Work Education3 The development and organization of work experience programs at the secondary school level. Examines those activities necessary to establish, maintain, and improve cooperative work education programs. Fall.

VTE 455 Labor Market Trends and Student Job Readiness
Analysis of factors influencing the work placement of cooperative work education students. Special attention given to the study of present needs as well as anticipated trends in Connecticut's labor market, and the development of a curriculum to establish job readiness skills. Spring.

VTE $490 \quad$ Topics in Vocational-Technical Education 1 TO 3
Special purpose programs designed to meet the needs of selected groups of vocaSpecial 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.

## WOMEN'S STUDIES

Note: Additional work will be required for graduate credit in 400-level courses.
WS 400
Feminist Theory
Prereq.: WS 200 or permission of instructor. Examination of central theoretical and critical concepts, ideas and traditions in the development of feminist theory. Spring.

Note: Date of appointment to Central Connecticut State University in parenthesis.

JOHN W. MILLER, Ph.D.. Purdue University; President (2005).

## DISTINGUSHED PROFESSORS:

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 Jour nalism and Mass Communication
ANTHONY V. MILANO, B.S., University of Bridgeport; Visiting Distinguished Professor of Public Policy, William A. O'Neill Endowed Chair in Public Policy and Practical Politics (2004).

## CSU PROFESSOR:

FELTON O. BEST, Ph.D., Ohio State University; CS $L^{I}$ Professor of Philosophy (1991).
NORTON H. MEZVINSKY, Ph.D., University of Wisconsin; CSU Professor of History (1967).

ENDOWED CHAIR HOLDERS:
MIECZYSLAW B. BISKUPSKI, Ph.D., Yale Universiry; Professor of History and holder of the Stanislaus A. Blejwas Endowed Chair in Polish and Polish American Studies (2002).

BRIAN CHARLEBOIS, B.S., University of Connecticut; Assistant Professor of Finance and holder of the American Savings Foundation Endowed Chair in Banking and Finance (2006).

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 Massachusets; Associate Professor of Teacher Education (1991).
HELEN R. ABADIANO, Ph.D., Ohio State University; 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; Assistant to the Dean, School of Arts and Sciences, and Professor of Sociology (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).
I. BEN AKIN, M.S., Istanbul School of Technology, Turkey; University Architect (2005).
CHAD ALBERT, B.S., Central Connecticut Statc University; Programmer Specialist, School of Education and Professional Studies (2003).
NIDAL AL-MASOUD, Ph.D., State University of New York at Buffalo; Assistant Professor of Engineering (2003).
MIKE ALEWITZ, M.F.A., Massachusetts College of Art, Asso ciate Professor of Art (2000).
TAROME ALFORD, M.A., Southern Illinois University; Director of Residence Life (2005).
JEAN ALICANDRO, M.S., Central Connecticut State University; Interim Associate Director of Student Activities/Leadership Development (1984).
ANNE B. ALLING, M.P.A., University of Connecticut; Chief Human Resources Officer (2005).
PAUL L. ALTIERI, Ph.D., Boston College; Assistant to the Dean of Arts and Sciences and Professor of Economics (1975)
GABRIEL D. ALUNGBE, Ph.D., P.E., A.V.S., University of Florida; Assistant Professor of Engineering (1991).
MARIA ALVAREZ, M.A., Central Connecticut State Univer sity; Associate Registrar for Scheduling and CAPP (1983).

CLIFFORD E. ANDERSON, Ph.D., University of New Mexico; Assistant Professor of Engineering (2005).
CARRIE ANDREOLETTI, Ph.D., Brandeis University; Assistant Professor of Psychology (2004).
MICHAEL ANSARRA, M.S., Southern Connecticut State University; Senior Associate Athletics Director (1988).
ALI A. ANTAR, Ph.D., University of Connecticut; Professor of Physics and Earth Sciences (1980).
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).
EDWARD ARGAST, Ed.M., Rutgers University; Assistant Football Coach, Intercollegiate Athletics (2004).
DOMINGO ARIAS, M.A., University of Chile; Assistant Director, Career Services and Cooperative Education (1991). CLAUDIA ARIAS-CIRINNA, M.S., Central Connecticut State University; Associate Director, Residence Life (1999).
MATTHEW ATHERTON, Ph.D., The Pennsylvania State University; Assistant Professor of Criminology and Criminal Justice (2005).
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).
KATHLEEN BANTLEY, J.D., Western New England College; Assistant Professor of Criminology and Criminal Justice (2003).

CATHERINE R. BARATTA, Ph.D., Syracuse University; Aswiciate Professor of Social Work (1998).
STUART BARNETT, Ph.D., State University of New York Buffalo; Professor of English (1992).
BURLIN BARR, Ph.D., Cornell University; Assistant Professor of English (2006).
CANDACE BARRINGTON, Ph.D., Duke University; Associate Professor of Finglish (2001).
SWAMY BASIM, Ph.D., New Jersey Institute of Technology; Assistant Professor of Engineering (2004)
EUGENE BATEN, Ed.D., Harvard University; Associate Professor of Management and Organization (1988).
PETER F. BAUMANN, Ph.D., Polytechnic University; Associate Professor of Engineering (2001).
MITCHELL BECK, Ed.D., Wayne State University: Professor of Special Education (1997).
MARSHA BEDNARSKI, Ph.D., University of Connecticut; Associate Professor of Physics and Earth Sciences (1998).
ZAKARI BELLO, Ph.D., Virginia Polytechnic; Associate Professor of Finance (2002).
RICHARD W. BENFIELD, Ph.D., University of Oklahoma; Associate Professor of Geography (1997).
JEFFREY C. BENNER, B.A., Central Connecticut State University; Campus One Card Administrator, Card Office (2003).
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).

GREGORY BERNARD, B.S., Southern Connecticut State Universiry; Assistant to the Director/Residence Hall Director, Residence Life (2006).
FELTON O. BEST, Ph.D.. Ohio State University; Assistant to the Dean, School of Arts and Sciences, and CSU Professor of Philosophy (1991).
KAREN C. BEYARD, Ph.D., Arizona State University: Profes sor of Educational Leadership (1986).
MATTHEW BIELAWA, M.A., New York University; Associate Registrar for Operations (2003).

LISA MARIE BIGELOW, M.B.A., Central Connecticut State University; Associate Director, George R. Muirhead Center for International Education (1987).
ROGER BILISOLY, Ph.D., Ohio State University; Assistant Professor of Mathematical Sciences (2004).
JAN BISHOP, Ed.D., Arizona State University; Assistant Professor of Physical Education and Human Performance (2002).
RICHARD BISHOP, M.S.A., University of Notre Dame; Director of Financial Aid and Interim Director of Recruitment and Admissions (2001).
M. B. B. BISKUPSKI, Ph.D., Yale University; holder of the Stanislaus A. Blejwas Endowed Chair in Polish and Polish American Studies and Professor of History (2002).
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JOSEPH BONNICI, Ph.D.: University of Georgia; Professor of Marketing (2002).
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TENNYSON T. DARKO, M.B.A., Old Dominion University; Technical Support Specialist Information Technology Services (1988).

MICHAEL A. DAVIS, Ph.D., Harvard University; Associate Professor of Biomolecular Sciences (1998).
SUSAN DAVIS, Business Development Coordinator, ITBD (1998).

BRUCE P. DAY, Ph.D., University of New Hampshire; Associate Professor of Sociology (1998).
RAY A. DeCORMIER, Ph.D., University of Bradford Management Center (UK); Professor of Marketing (1983).
JOSE-CARLOS DEL AMA GONZALO, Ph.D., JohannesGutenberg Universität (Germany); Assistant Professor of Communication (2003).
JAMES A. DeLAURA, Ed.D., University of Northern Colorado; Professor of Technology Education (1970).
PATRICIA DELOY, M.S., Central Connecticut State University; Director, Career Services and Cooperative Education (1984).

THOMAS DELVENTHAL, M.F.A., University of Pittsburgh; Associate Professor of Theatre (1998).
BARBARA DeMAIO, Assistant Director, Facilities Support Services (1995).
ELENE S. DEMOS, Ph.D., University of Wisconsin-Madison; Professor of Reading and Language Arts (1991).

KENNETH DeSTEFANIS, B.S., Southern Connecticut State University; Asistant Director of Intercollegiate Athletics, Facilities (1985).
ALBERTA DEUTSCH, Assistant Director of Financial Aid (2003).

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Eric Jensen, Deputy to the Under-Secretary-General and
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Lech Walesa, President of Poland. ..... April 10, 1996
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# UNIVERSITY CALENDAR 2006-2007 

## Fall Semester 2006

September 4 Labor Day Holiday—No classes
September $6 \quad$ Classes begin 8 a.m.; last day for full-time

September 6-13
September 13

September 14-26
September 15
September 19

September 26

September 20October 3
September 27-
October 31

October 3

October 31

November 1
November 14
November 22

November 22-26
November 27
December 1

December 1

December 15
December 16
December 18-23
December 23
students to withdraw with $100 \%$ refund 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
Full-time students may drop courses but cannot drop below full-time status (need Dean's approval) Final day for graduate students to apply for December 2006 graduation (Graduate Studies) Last day for full-time students to withdraw with $60 \%$ refund; last day to drop first eight-week courses
Last day to change from full-time to parttime status; last day to declare Pass/Fail or Audit options; last day for part-time students to withdraw with $50 \%$ refund
Withdrawal from first eight-week courses without approval. "W" will be entered. Withdrawal from courses without approval. "W" will be entered. No permission to go below full-time status required
Last day for full-time students to withdraw with $40 \%$ refund Midterm; last day to withdraw from fullsemester courses without approval. "W" will be entered; first eight-week courses end Second eight-week courses begin Last day to drop second eight-week courses Last day for full-time students to withdraw from the University
Thanksgiving Recess-No classes
Classes resume 8 a.m.
Last day to withdraw from second eight-week courses without approval. "W" will be entered. Final day for undergraduates to apply for December 2007 graduation (Registrar's Office)
Day classes end
Commencement (tentative)
Final Exams
Semester ends

## Winter Session 2007

| December 26 | Winter Session classes begin |
| :--- | :--- |
| January 1 | New Year's Day-No classes |
| January 12 | Winter Session classes end |

## Spring Semester 2007

January 22 Classes begin 8 a.m.; last day for full-time students to withdraw with $100 \%$ refund

January 22-29
January 29

January 30-
February 12
February 5

February 9
February 12

February 13-
March 16

February 16-19
February 20

March 1

March 16

March 19-25
March 26

April 6-7
April 9
April 17
April 21

April 23

April 28

May 9
May 10-11
May 14-19
May 19
May 19

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
Full-time students may drop courses but cannot drop below full-time status (need Dean's approval) Last day for full-time students to withdraw with $60 \%$ refund; last day to drop first eight-week courses
Last day to change from full-time to part-time status
Last day to declare Pass/Fail and Audit options; last day for part-time students to withdraw with $50 \%$ refund
Withdrawal from courses without approval. "W" will be entered. No permission to go below full-time status required
Presidents' Holiday Break-No classes
Last day to withdraw from first eight-week courses without approval. "W" will be entered; last day for full-time students to withdraw with 40\% refund
Final day for graduate students to apply for May/August 2007 graduation (Graduate Studies) Midterm; last day to withdraw from fullsemester courses without approval. "W" will be entered; first eight-week courses end
Spring Recess-No classes
Classes resume 8 a.m.; second eight-week courses begin
Good Friday (A Day of Reflection)—No classes
Last day to drop second eight-week courses
Final submission of Thesis to Graduate Studies
Last day to withdraw from second eight-week courses without approval. "W" will be entered.
Last day for full-time students to withdraw from the University
Final day for undergraduates to apply for
May 2008 graduation (Registrar's Office)
Day classes end
Reading Days (No classes; make-up day if needed)
Final Exams
Semester ends; final day of Saturday classes
Commencement

## Summer Session 2007

May $29 \quad \begin{aligned} & \text { First five-week session begins; eight-week } \\ & \text { session begins }\end{aligned}$
June 28
July 2
July 4
July 19
August 2
August 6
August 23

First five-week session ends
Second five-week session begins
Independence Day-No classes
Eight-week session ends
Second five-week session ends
Three-week post session begins
Three-week post session ends


## FROM THE NORTH (Massachusetts)

Take I-91 South to I-84 West to Exit 39A (Rte. 9 South). Get off at Exit 29 and take a right at the end of the exit ramp onto Ella T. Grasso Boulevard. At the third traffic light, take a left into the Student Center Parking Lot; feel free to park in the garage during inclement weather.

## FROM THE SOUTHWEST (Stamford/New Haven)

Take I-95 North to I-91 North to Exit 22 North (Rte. 9 North). Follow Rte. 9 North and take Exit 29 (Rte. 175). At the traffic light at the end of the exit ramp, go straight and follow Fenn Road to the second traffic light, then take a left turn onto Ella T. Grasso Boulevard. At the third traffic light, take a left into the Student Center Parking Lot; feel free to park in the garage during inclement weather.

## FROM THE SOUTHEAST (Groton/New London)

Take I-95 South to Rte. 9 North to Exit 29 (Rte. 175). At the traffic light at the end of the exit ramp, go straight and follow Fenn Road to the second traffic light, then take a left turn onto Ella T. Grasso Boulevard. At the third traffic light, take a left into the Student Center Parking Lot; feel free to park in the garage during inclement weather.

## FROM THE EAST (Hartford)

Take I-84 West to Exit 39A (Rte. 9 South). Get off at Exit 29 and take a right at the end of the exit ramp onto Ella T. Grasso Boulevard. At the third traffic light, take a left into the Student Center Parking Lot; feel free to park in the garage during inclement weather.

## FROM THE WEST (Danbury/Waterbury)

Take I-84 East to Exit 39A (Rte. 9 South). Get off at Exit 29 and take a right at the end of the exit ramp onto Ella T. Grasso Boulevard. At the third traffic light, take a left into the Student Center Parking Lot; feel free to park in the garage during inclement weather.
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 (Rte. 175). At the traffic light at the end of the exit ramp, go straight and follow Fenn Road to the second traffic light, then take a left turn onto Ella T. Grasso Boulevard. At the third traffic light, take a left into the Student Center Parking Lot.

## HOW TO FIND US

## CCSU

Central Connecticut State University

## Located on the edge of New Britain, in the heart of Connecticut, CCSU is 15 minutes from

 $5:$
## Hartford and less than two hours from New York City and Boston.

1. Lawrence J. Davidson Hall
2. Power House (Facilities Management)
3. Marcus White Hall

3A. Marcus White Annex
4. Clarence Carroll Hall
5. Henry Barnard Hall
6. Herbert D. Welte Hall
7. Harrison J. Kaiser Hall
8. Catherine Beecher Residence Hall
9. Samuel J. May Residence Hall
10. Seth North Residence Hall
11. Emma Hart Willard Hall
12. Maria Sanford Hall
13. Student Center
14. Robert E. Sheridan Residence Hall
15. Frank J. DiLoreto Hall
16. Thomas H. Gallaudet Residence Hall
18. Memorial Hall
19. Mildred Barrows Residence Hall
20. Robert Vance Residence Hall
21. Arute Stadium/Press Box 21A. Arute Field
22. Elihu Burritt Library
23. Nicolaus Copernicus Hall
25. James J. Maloney Hall
26. East Hall (Facilities Management)
27. North Pump House (Facilities Management)
28. Charter Oak State College
29. Public Safety Building (Police Department)
34. Grounds Building (Facilities Management)
35. Kaiser Hall Annex
36. F. Don James Residence Hall
37. Robert C. Vance Academic Center
42. Balf-Savin Field/Bottalico Baseball Pressbox
43. Energy Center (Facilities Management)
44. South Pump House (Facilities Management)
47. East Pump House (Facilities Management)
64. Softball Field/Pressbox
67. ATM Kiosk
68. Soccer Field
76. Hitchcock-Young Pavilion NH Newman House

PARKING KEY
A Kaiser Hall Lot
B Student Center Lot
BB Library Lot
C Pikiell Lot
CG Copernicus Garage
CO Charter Oak State College Reserved Lo
D Manafort Drive Lot
E Welte Hall Lot
F Barrows/James Hall Lot Willard/DiLoreto Lot
Marcus White Service Drive DOT Commuter Lot Balf-Savin Field Lot James Hall Circle
L Willard Hall Reserved Lot
M Maintenance Grounds Lot

N Davidson Hall Reserved Lot
O May Hall Lot
P Power House Lot
R Kaiser Annex Lot
S Vance Residence Hall Reserved Lot
SG Student Center Garage
T Memorial Hall Lot
U Copernicus Hall Lot
V East Hall Upper Lot
VG Vance Garage
W East Hall Lower Lot
WG Welte Garage
X Receiving (Gas Pump) Lot
Y Barbour Road Lot (future site)
Z Fine Arts Center Lot

## 8566-0¢090 Lכ 'NIVLIYGG MヨN  <br> THE SCHOOL OF GRADUATE STUDIES <br> Central Connecticut State University

