

University of Connecticut
2012 - 2013

GRADUATE CATALOG

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UNIVERSITY ACCREDITATION

The University of Connecticut is accredited by the New England Association of Schools and Colleges.

AFFIRMATIVE ACTION POLICY

The University of Connecticut policy prohibits discrimination in education, employment, and in the provision of services on account of race, ethnicity, religion, sex, age, marital status,

GRADUATE SCHOOL CALENDAR

SUMMER SESSIONS 2011

The summer calendar and detailed information concerning the Summer Sessions may be obtained from the Registrar's Office. For course offerings, registration procedures, fees, and deadlines, please consult <http://www.summersession.uconn.edu/summer>.

Fall Semester 2012

- Mon. Aug. 27 Fall semester begins
- Mon. Sept. 3 Labor Day - No classes
- Mon. Sept. 10 Courses dropped after this date will have a "W" for withdrawal recorded on the academic record
Add/Drop via the Student Administration System closes
- Mon. Oct. 22 Registration for the Spring 2013 semester via Student Administration System begins
- Mon. Oct. 29 Last day to drop a course without advisor's written recommendation and dean's approval
- Sun. Nov. 18 Thanksgiving recess begins
- Sat. Nov. 24 Thanksgiving recess ends
- Fri. Dec. 7 Last day of Fall semester classes
- Mon. Dec. 10 Final examinations begin
- Sun. Dec. 16 Final examinations end
Conferral Date for Fall 2012 Degrees
- Wed. Dec. 19 Deadline for submitting Fall grades via Student Administration System
- Wed. Dec. 26th Last day for degree candidates to submit their thesis and dissertation final copies and related paperwork to the Graduate School for December/Fall conferral

Spring Semester 2013

- Tues. Jan. 22 Spring semester begins
- Mon. Feb. 4 Courses dropped after this date will have a "W" for withdrawal recorded on the academic record
Add/Drop via the Student Administration System closes
- Sun. Mar. 17 Spring recess begins
- Sat. Mar. 23 Spring recess ends
- Mon. Mar. 25 Registration for Fall 2013 semester via Student Administration System begins
- Mon. Apr. 1 Last day to drop a course without advisor's written recommendation and dean's approval
- Fri. May 3 Last day of Spring semester classes
- Mon. May 6 Final examinations begin
- Sat. May 11 Final examinations end
- Sat. May 11 University Commencement ceremonies
Conferral date for Spring 2012 degrees
- Tues. May 14 Deadline for submitting Spring grades via Student Administration System
- Wed. May 22 Last day for degree candidates to submit their thesis and dissertation final copies and related paperwork to the Graduate School for May/Spring conferral

Faculty members should construct course syllabi with awareness of religious holidays.

<http://www.registrar.uconn.edu>

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- Ms. Louise M. Bailey (Secretary of the Board)
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- Susan Herbst, PhD, Interim President of the University
- Peter J. Nicholls, Ph.D., Provost and Executive Vice President for Academic Affairs
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- Suman Singha, Ph.D., Vice President for Research

* As of June 2012

Kent Holsinger, Ph.D., Interim Vice Provost for Graduate Education

THE GRADUATE SCHOOL

- Kent Holsinger, PhD, Interim Vice Provost for Graduate Education and Dean of the Graduate School*
- Barbara E. Kream, Ph.D., Associate Dean of the Graduate School – Health Center*
- Thomas B. Peters, Ph.D., Program Director*
- Anne Lanzit, B.S., Program Administrator*
- Melanie Dolat, M.S., Program Specialist*
- Terra A. Zuidema, B.A., Administrative Services Specialist II*
- Ann Wilhelm, M.B.A., M.S., Database Manger*
- Lisa Pane, M.A., Systems Administrator*
- Ryan Sayers, B.F.A., Webmaster*

GRADUATE FACULTY COUNCIL

The Graduate Faculty Council is the legislative body of the Graduate School. It establishes academic policy for graduate education, except for those areas reserved to the Board of Trustees, to the University Senate, or to the faculties of other colleges and schools. The 60 members, representing specific content areas derived from constituent Fields of Study, are elected to serve three-year terms. The membership includes two voting student members chosen by the Graduate Student Senate. The President, the Provost, the Vice President for Research and Dean of the Graduate School, and certain other administrative officers of the Graduate School are nonvoting ex officio members. The Council, representing the Graduate Faculty at large, exercises legislative authority in such areas as admissions criteria, curricular and degree requirements, new course approval, academic program review, and the like.

The Executive Committee

The Executive Committee has both executive and advisory responsibilities to the Graduate Faculty Council and to the Vice President for Research and Dean of the Graduate School. Its membership is drawn from the Graduate Faculty Council and from the Graduate Faculty at large. The Dean serves as chair. The Executive Committee is the steering committee for the Graduate Faculty Council. It advises the vice provost on matters of policy and regulatory interpretation, approves plans of study and dissertation prospectuses, and considers on

As of March 2012

the basis of academic merit proposals to modify or to create fields of study and areas of concentration. Members include:

- Mark Aindow
- Professor of Chemical, Materials and Biomolecular Engineeringappointed 2011
- Arlene D. Albert
- Professor of Molecular and Cell Biology elected 2013
- Richard W. Bass
- Professor of Music elected 2015
- Monica M. Bock
- Associate Professor of Art and Art History appointed 2013
- J. Garry Clifford
- Professor of Political Scienceelected 2014
- Sylvain De Guise
- Associate Professor of Pathobiology and Veterinary Scienceelected 2011
- Joseph J. LoTurco
- Professor of Physiology and Neurobiology ... elected 2015
- Shayla C. Nunnally
- Assistant Professor of Political Science appointed 2013
- Kent Holsinger
- Interim Vice Provost for Graduate Education and Dean of the Graduate Schoolex officio
- Barbara E. Kream
- Associate Dean of the Graduate School (Health Center)ex officio
- Thomas B. Peters
- Program Director, Secretaryex officio
- *****
- *****

Student Responsibility

In accepting admission, the student assumes responsibility for knowing and complying with the regulations and procedures set forth in this Catalog and subsequent ones, as appropriate.

Exceptions to Policy

The approval of an exception to Graduate School policy is publicized to all interested parties. Persons who perceive that an approved exception to Graduate School policy has created a conflict of interest or has affected them adversely should make their concerns known to the Dean of the Graduate School.

ADMISSION

To study for a graduate degree, a student must be admitted by the Dean of the Graduate School. No course work taken before the date of admission to the Graduate School may be included on a plan of study for a graduate degree unless specific approval has been granted by the Dean of the Graduate School.

Unless students complete appropriate course work for credit in the semester or summer for which they have been admitted, or a written request for a limited postponement has been submitted to and approved by the Graduate School before the end of that semester or summer, the admission becomes invalid. If this occurs, the student must apply for readmission with no certainty of being accepted.

Students may earn a graduate degree only in a program to which they have been admitted. Ordinarily, a student is granted admission to pursue graduate study in one field at a time. On occasion, however, a student may be permitted with approval to enroll concurrently in two different programs.

There are several approved dual degree programs providing the opportunity for the student to pursue work toward two degrees simultaneously. These programs often involve the sharing of a limited and specified number of course credits between the two degrees. The list of dual degree programs offered by the Graduate School and the other participating schools and colleges within the University (e.g., the Schools of Law, Medicine, and Dental Medicine) can be found in the index under "Dual Degree Programs." In some cases, separate applications must be filed for each of the two degree programs.

To be admitted to Regular status and to begin studies, an applicant must hold a baccalaureate from an accredited college or university or present evidence of the equivalent. The applicant must submit to the Graduate School official transcripts covering all previous work, undergraduate and graduate, which must be of at least the following quality: a cumulative grade point average of 3.0 for the entire undergraduate record, or 3.0 for the last two years, or excellent work in the entire final year. The grade point average is computed on the basis of the following scale: A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0. Applicants from foreign colleges and universities must meet equivalent standards of eligibility and are expected to submit official transcripts showing all work completed. All advanced post-baccalaureate course work is considered, as well. Failure to send transcripts from all educational institutions, regardless of whether or not a degree was received, may be grounds for cancellation

of admission.

Applicants to most programs are encouraged to submit test scores from the General Test of the Graduate Record Examinations to the department or program to which they are applying.

Many departments or programs require or recommend that test scores be submitted for the Graduate Record Examinations and/or the Miller Analogies Test. Letters of recommendation, usually three, preferably from members of the academic profession, are required by all departments.

Meeting the minimum requirements does not guarantee admission. Applicants must show promise of superior achievement and must have specific preparation for the course of study they wish to undertake. If their records indicate deficiencies, they may be refused admission or required either to take background courses without graduate credit or to demonstrate by examination that they have acquired the requisite knowledge or skills for graduate study. In addition, since each graduate program has a limited number of places, the successful applicant must have a record competitive with those of other applicants in the same field.

Regular and Provisional Status

Application procedures and required credentials for admission to Regular status are specified above. Occasionally students who hold the baccalaureate but do not qualify fully for admission to Regular status may give evidence of ability in their chosen field sufficiently convincing to warrant their provisional admission to a master's degree program only. (Applicants are not admitted provisionally to a doctoral program.) If a Provisional student's initial twelve credits of completed course work (excluding 1000's-level courses) meets the minimum scholastic requirement of the Graduate School, he or she is accorded Regular status. Otherwise, he or she is subject to dismissal. In situations where special consideration is warranted, and only upon the specific request of the major advisor, the dean may approve changing a student to Regular status if at least nine credits of advanced course work have been completed with superior grades. Regular, not Provisional, status is required for degree conferral.

Language-Conditional Status.

International graduate applicants whose English language proficiency does not meet the minimum standard to qualify for Regular admission (a computer-based score of 213 or greater, or a written test score of at least 550), on the Test of English as a Foreign

Language, or an overall band score of 6.5 on the IELTS (International English Language Testing System) may be admitted at the master's level as Language-Conditional Students. Those admitted on F-1 visas must be fully academically admissible as a Regular student (see above).

Admission to the D.P.T. Program

The Department of Physical Therapy in the Neag School of Education offers study leading to the degree of Doctor of Physical Therapy. In addition to the standard requirements of the Graduate School, applicants must have the required prerequisite courses which include cellular biology, comparative anatomy and physiology (8 credits), general chemistry (8 credits), general psychology, pre-calculus or calculus, statistics, and general physics (8 credits). Recommended courses include biology of human health and disease, organic chemistry with lab, human development, human genetics, biochemistry, fundamentals of nutrition, nutrition for exercise and sport, developmental psychology, physiological psychology, abnormal psychology, and pathology.

Sixth-Year Diploma in Professional Education

This post-master's diploma program is offered by the School of Education. It is not administered by the Graduate School. Inquiries regarding the Sixth-Year Diploma in Professional Education should be addressed to the Office of the Dean, School of Education, 249 Glenbrook Road, Unit 2064-C, Room 227, Storrs, Connecticut 06269-2064.

Admission to the D.M.A. Program

Applicants are expected to demonstrate outstanding musical ability and to have a superior record of previous performance and scholarship. A completed master's degree is required for admission. Holding a master's degree from this or from any other institution, however, does not render the applicant automatically admissible to the D.M.A. program. Areas of Concentration offered are Conducting and Performance (specifically cello, piano, trumpet, violin, viola, and voice). A personal audition is required as part of the application process. Inquiries should be addressed to: Director of Graduate Studies, Department of Music, 876 Coventry Road, Unit 1012, Storrs, Connecticut 06269-1012.

Admission to Ph.D. Programs

Applicants to Ph.D. programs are expected to demonstrate outstanding ability and to show on the record of previous scholarship and experience that they are likely to do superior creative work in their

respective fields. Holding a master's degree from this or any other institution does not render the applicant automatically admissible to a doctoral program. Certain master's programs, on the other hand, are open only to applicants likely to qualify for doctoral study. In general, doctoral applicants must meet all admission requirements for the master's degree as Regular graduate students and must present evidence that they are capable of doing independent work of distinction.

Visiting Students

Individuals who otherwise would qualify for admission with Regular status but who do not seek a degree from this University may be permitted to take courses for an unspecified time if their work here meets Graduate School standards. Special students may be working toward an advanced degree at another institution, in which case they are presumed to be fully qualified to pursue degree work at this University. Others may wish to take courses as Special students for personal enrichment.

Graduate Certificate Programs

An earned baccalaureate degree (or its equivalent) is required for admission. Each certificate program sets specific admissions criteria, including minimum grade point average and standardized test scores (including the Test of English as a Foreign Language, if required). Detailed information concerning admissions criteria and procedures can be obtained from the coordinator of the specific graduate certificate program or from the Graduate Admissions Office.

Other Non-Degree Categories

Individuals with appropriate preparation who have not been admitted to any of the admissions categories described above may take courses as non-degree students. All non-degree students are presumed to be taking courses for reasons other than earning a certificate, sixth-year diploma in professional education, or a graduate degree at this institution. Should they later be admitted to a graduate degree program at this University, usually not more than six credits will be accepted toward the master's degree. In any event, such credits accepted toward graduate degree must be of B (not B-) quality or higher. For further information, contact the College of Continuing Studies, One Bishop Circle, Unit 4056, Storrs, Connecticut 06269-4056.

Admission of University Faculty and Staff

University of Connecticut faculty members who hold tenure or a rank higher than instructor leading to tenure ordinarily may not earn a graduate degree at

this institution. Exceptions to this policy may be made by the Dean of the Graduate School, with the advice of the Executive Committee of the Graduate Faculty Council, who must be satisfied that the intended program is in the best interest of the University.

New England Regional Student Program

The University of Connecticut participates in a regional program administered by the New England Board of Higher Education. This program, known as the New England Regional Student Program, permits qualified residents of the New England states to study with reduced out-of-state tuition privileges. * The purpose of the program is to expand opportunities in higher education for New England residents by making available on a substantially equal basis to all students those programs not commonly offered at every institution. This practice tends to reduce duplication of courses and thus to utilize most efficiently the higher educational facilities in each state.

Detailed information about this program can be obtained from the Graduate School, 438 Whitney Road Extension, Unit 1006, Storrs, Connecticut 06269-1006, or from the New England Board of Higher Education, 45 Temple Place, Boston, Massachusetts 02111.

Application Processing Fee*

A non-refundable fee of \$55 for electronic submission or \$75 for paper submission must accompany the application. It may not be applied toward other charges. This fee must accompany every application submitted except for a doctoral degree program to follow immediately a master's degree program in the same field at this University, or for re-application requested by the Dean. (Fees are subject to change without notice.)

Application Deadlines

Students are advised to file the application for admission several months in advance of the first semester of course work. Because many programs are filled far in advance of application deadlines, prospective students are encouraged to submit their applications for admission as early as possible. Applicants should check with appropriate academic departments concerning deadlines. All credentials, including official transcripts covering all undergraduate and graduate work taken up to the time of application, as well as the non-refundable processing fee, must also have been received by deadline dates.

International Applicants

Students who are not United States citizens or permanent resident aliens must meet additional requirements before their admission is finalized. They must present documentary evidence of their ability to meet all expenses for at least the first year of study and an acceptable plan for financing the remainder of their program. Students whose native language is not English must show evidence of proficiency in the English language by having earned either a computer-based score of at least 213 or a written score of at least 550 on the TOEFL (Test of English as a Foreign Language), or an overall band score of 6.5 on the IELTS (International English Language Testing System). Some departments require the Test of Spoken English (TSE) or the Test of Written English (TWE). All graduate students who will be serving as teaching assistants will be required to present evidence of competence in spoken English. This may take the form of a score of 50 or higher on the Test of Spoken English if the student's native language is not English and if the student does not hold a degree from an anglophone college or university. Further information is available from the Graduate Admissions Office.

Application Forms and Instructions

With the exception of the programs listed below, application materials may be obtained by writing to the Graduate School, 438 Whitney Road Extension, Unit 1006, Storrs, Connecticut 06269-1006. The application may also be completed and filed electronically from the Graduate School's Web site at <<http://www.grad.uconn.edu>>.

Inquiries regarding the Master of Business Administration should be addressed to the director of that program, School of Business, 2100 Hillside Road, Suite 238, Unit 1041-MBA, Storrs, Connecticut 06269-1041. Inquiries regarding graduate degree programs located at the University of Connecticut Health Center should be addressed to: University of Connecticut Health Center, Graduate Student Affairs Office, Room MC 3906, Farmington, Connecticut 06030. Inquiries regarding the Master of Social Work, should be directed to the School of Social Work, University of Connecticut, 1798 Asylum Avenue, West Hartford, Connecticut 06117-2698. Inquiries regarding study in Law should be directed to the School of Law, 55 Elizabeth Street, Hartford, Connecticut 06105-2296.

Supplementary and Departmental Transcripts

If a student is admitted before completing a baccalaureate or graduate degree or additional non-degree course work which is in progress at the time of application, admission is conditional on the completion of the degree or course work and the submission to the Graduate School by the end of the first semester of study of a satisfactory

supplemental official transcript. A duplicate set of official transcripts of all work taken prior to the commencement of work in the Graduate School should be sent to the student's major advisor. Until all transcripts have been received, the plan of study will not be approved. All transcripts submitted, including test scores, become the property of the Graduate School and are not returnable.

Advisory System

Degree programs are planned by the advisory committee after consultation with the student. There is considerable flexibility in meeting special needs insofar as these are consistent with the regulations of the Graduate School. A degree program may entail course work in more than one field of study, but each program must include a coherent emphasis within one existing field of study and area of concentration, if applicable.

A major advisor must be appointed at the appropriate level by the Dean of the Graduate School, by authorization of the President of the University, to advise in a particular field of study or area of concentration. In applying for admission, an applicant may indicate a preference for a particular major advisor. If at the time of admission an applicant expresses no preference, or if the preferred advisor is unable to accept, another may be appointed. Since consistency of direction is important, a durable relationship between the student and advisor should be formed as early as possible. Occasionally, it may be desirable or appropriate for a student's degree program to be directed by co-major advisors (not more than two). Each co-major advisor must hold an appropriate appointment to the graduate faculty in the student's field of study and area of concentration (if applicable).

If a change of major advisor becomes necessary for any reason, the student must file a special form, bearing the signatures of the former advisor and the new advisor, with the Graduate School. The signature of the former major advisor is requested for informational purposes only. It does not, in any way, signify permission or consent on the part of the former major advisor.

If a major advisor decides that it is not possible to continue as a student's major advisor and wishes to resign, the Graduate School must be notified in writing as soon as possible. The student is then provided with a reasonable opportunity to arrange for a new major advisor. If a new major advisor is not identified within six weeks of the resignation of the former major advisor, the student's graduate degree program status is terminated. A student whose status has been terminated may request a hearing before the Associate Dean by filing a written request within 30 days of receipt of the letter of termination.

The advisory committee of a master's degree program student is formed after consultation between the major advisor and the student and must include at least two associate advisors, at least one of whom must hold a

current appointment to the graduate faculty of the University of Connecticut. An associate advisor must possess suitable academic or scientific credentials in the field of study of the degree. The advisory committee should be formed before the student has completed twelve credits of degree program course work and shall then supervise the remainder of the student's degree program.

The advisory committee of a doctoral degree program student is formed after consultation between the student and the major advisor and shall include at least two associate advisors with suitable academic or scientific credentials. The major advisor and at least one associate advisor shall be members of the graduate faculty appointed to advise doctoral students in the student's field of study and area of concentration, if applicable. In addition to the three or more members chosen in the usual way, another member, ordinarily a member of the graduate faculty outside the student's field of study but in a related field, may be appointed by the Dean of the Graduate School. If the committee consists of three members, committee decisions must be unanimous. If the committee consists of four or more members, committee decisions are considered adopted if there be no more than one negative vote, although the major advisor must always vote in the affirmative. Committee decisions involving the outcome of the General Examination, approval of the dissertation proposal, oral defense of the dissertation, or approval of the dissertation itself, however, must be unanimous in any event.

A member of the University of Connecticut Graduate Faculty who has retired from active service may be considered for appointment as Major Advisor for a newly-admitted master's or doctoral student. Application is made to the Executive Committee of the Graduate Faculty Council and requires submission of a curriculum vita and letters of support as well as the endorsement of the appropriate department or program head. The retired faculty member must present substantial evidence of ongoing research and scholarly activity in the field. Separate application is required for each newly-admitted student for whom a retired faculty member wishes to serve as Major Advisor. Such appointments are made by the Dean with the advice of the Executive Committee.

A current graduate student may not serve as a member of another graduate student's advisory committee.

If deemed appropriate by a graduate student's major advisor, the major advisor may request that a suitably qualified external associate

advisor be appointed to the student's advisory committee by writing to the Graduate School. The request should be accompanied by a curriculum vita for the individual being recommended for appointment. Such appointments are made on the basis of advanced training and significant experience in the field of study. An appointment as external associate advisor is limited to an individual student's advisory committee and does not imply in any way membership on the Graduate Faculty of the University. Ordinarily, not more than one external associate advisor is appointed to any master's or doctoral student's advisory committee. The major advisor and at least one associate advisor on any doctoral student's advisory committee must be members of the University of Connecticut Graduate Faculty.

The major advisor is responsible for coordinating the supervisory work of the advisory committee. Therefore, when the major advisor is to be on leave or is not in residence, it is the major advisor's responsibility to appoint an acting major advisor. The acting major advisor must be a member of the Graduate Faculty or be fully eligible for such an appointment. The acting major advisor will assume all duties and responsibilities of the major advisor for the duration of the appointment. The major advisor will inform the Graduate School of the appointment and provide any information that may be required concerning the credentials of the acting major advisor.

Students' advisory committees are responsible directly to the Dean of the Graduate School. For advisory committees of doctoral students, it is required that the written consent be obtained from the Graduate School before any changes are made in the membership of an advisory committee which has been duly established.

FEES AND EXPENSES

The schedule of fees contained in this section is expected to prevail during the 2012-2013 academic year, but the Board of Trustees and the Board of Governors for Higher Education reserve the right, at any time, to authorize changes in fees and to establish new fees applicable to all currently enrolled students.

All fees are collected by the Office of the University Bursar in the Wilbur Cross Building. Fees pertaining to off-campus programs in social work and business administration are payable at those locations.

Fee bills, covering the semester's charges, are computed by and are payable to the Office of the University Bursar no later than the tenth day of the semester (see "Graduate School Calendar"). Failure to make payment on time will result in cancellation of registration and any residence hall assignment. A graduate student may apply for a limited deferment of the payment date for a semester fee bill at the Deferment Office in the Wilbur Cross Building. Partial payment of fees is not accepted by the Bursar. A receipt for payment or evidence of an approved deferment is necessary to complete registration.

Financial Responsibility

Graduate students are permitted to register, to modify their course registrations without penalty, and to pay their fee bills or obtain deferments through the tenth day of the semester. Graduate students become liable for payment of tuition and other required course-related fees, however, beginning with the first day of classes of the semester or session whether or not they have attended any classes or have paid their fee bills as of that date.

Failure to receive a bill does not relieve a student of responsibility for payment of fees by the specified due date. A student who fails to make timely payment of an outstanding balance may be barred from all privileges normally accorded to a student in good standing. These include but are not limited to: advance registration (which if already completed will be subject to cancellation), registration, class attendance, advisement, dormitory room (for which any assignment will be cancelled), dining hall, library, infirmary, certification-of-status, and academic transcript privileges. Additionally, any pending University of Connecticut employment authorization may not receive

approval or may be subject to cancellation. If there is a question concerning a bill, it is the student's responsibility to contact directly the Office of the University Bursar for clarification and resolution.

If a graduate student does not meet his or her financial obligations to the University by the tenth day of a given semester or by the expiration date of an approved deferment, cancellation of the student's registration and student privileges will result.

Application Processing Fee

A non-refundable fee of \$55 for electronic submission or \$75 for paper submission must accompany an application to the Graduate School. It may not be applied toward other charges. This fee must accompany every application submitted except for a doctoral degree program to follow immediately on a completed master's degree program in the same field at this University, or for re-application requested by the Dean.

In-State and Out-of-State Status

Each student must file an affidavit of residence with the application for admission to the Graduate School. A form for this purpose is provided as part of the application packet. On the basis of this information, each entering student is classified as either a Connecticut student or an out-of-state student. Failure to file the form will result in classification as out-of-state.

Questions concerning the classification of graduate students as resident (in-state) or non-resident (out-of-state) are resolved by the Graduate School. In the event that a student believes that he or she has been incorrectly classified, a request for a review, along with supporting documentary evidence, should be directed to the Graduate School.

Residents of other New England states enrolled in certain graduate degree programs may be eligible for special tuition rates through the New England Board of Higher Education Regional Student Program.

Bursar's Office Website

Graduate students should refer to the Bursar's Office Website at <http://www.bursar.uconn.edu/grad.html> for current fee information, procedures, and policies pertaining to graduate students and graduate programs. Explanations of many of the fees, procedures, and policies found there are provided below.

Tuition

All graduate students – except in Summer

Sessions programs and certain graduate programs conducted at centers away from Storrs – are subject to a tuition charge in addition to the other fees charged Connecticut, New England Regional Student Program, and out-of-state students.

Students who are classified as Connecticut residents pay tuition of \$6,633 per semester if registering for nine or more credits. Students who are classified as out-of-state students pay tuition of \$13,266 per semester for nine or more credits. Newly-entering students eligible for the New England Regional Student Program pay tuition at the rate of 175% of in-state tuition while continuing students eligible for the Regional Student Program who entered at the rate of 150% of in-state tuition pay that rate.

Tuition is pro-rated for students registering for fewer than nine credits per semester.

Tuition (but not the associated fees) is waived for graduate assistants. If an assistantship begins or terminates during the course of a semester, tuition will be prorated on a weekly schedule – charged for that portion of the semester when the assistantship is not in force, and waived when it is in force. This can result in either a partial tuition assessment (if the student is registered throughout the semester for tuition-bearing course work) or a partial refund (if tuition has been paid).

Additionally, tuition (but not the associated fees) is waived for certain groups of individuals. One of these groups includes any dependent child of a person whom the U.S. armed forces has declared either to be missing in action or to have been a prisoner of war while serving in the armed forces after January 1, 1960, provided that person was a resident of Connecticut at the time of entering the service of the armed forces of the United States or was a resident of Connecticut while so serving.

A second group includes any veteran having served in time of war, as defined in subsection (a) of section 27-103, or who served in either a combat or combat support role in the invasion of Grenada (from October 25, 1983 to December 15, 1983), the invasion of Panama (from December 20, 1989 to January 31, 1990), the peace-keeping mission in Lebanon (from September 29, 1982 to March 30, 1984), or Operation Earnest Will (escort of Kuwaiti oil tankers) (from February 1, 1987 to July 23, 1987), and is a resident of Connecticut at the time of acceptance for admission or readmission to the University. Eligible individuals should contact the Office of Student Financial Aid Services in the Wilbur Cross Building, Room

25, phone (860) 486-2819, for an application for the tuition waiver. Additional information on the Veterans Administration Educational Assistance and Training Waiver is located in the Financial Aid section of this Catalog.

The third group of individuals includes any person sixty-two years of age or older who has been admitted into a degree-granting program or who wishes to take courses on a space available basis as a non-degree student. If any person who receives a tuition waiver in accordance with the provisions of this subsection also receives educational reimbursement from an employer, the waiver is reduced by the amount of the educational reimbursement.

General University Fee

The General University Fee is assessed each semester on the basis of the student's course load status (part-time, half-time, or full-time) as determined by Graduate School policies. Students who are part-time are charged \$204, while students who are half-time are charged \$408, and full-time students are charged \$612 per semester. Students paying this fee at any level have access to the Student Health Service.

Graduate Matriculation Fee

Each degree-seeking student under the jurisdiction of the Graduate School pays a Graduate Matriculation Fee of \$42 per semester. This fee is payable regardless of the credit load or the campus of registration, and applies to students registering for Continuing Registration or other zero-credit courses as well. Graduate students who enter graduate school with more than six credits of advanced course work and apply it to their degree requirements are responsible for payment of the Graduate Matriculation Fee for those semester(s) in which the excess non-degree work was taken, unless the fee is waived by the Dean of the Graduate School.

Infrastructure Maintenance Fee

All full-time registered students are subject to an Infrastructure Maintenance Fee of \$213 each semester, used to defray the operating and maintenance costs related to new capital projects funded by the UConn 2000 and UConn 21st Century initiatives. This fee is prorated for half-time and part-time students, as presented in the accompanying chart.

Graduate Activity Fee

A non-refundable fee of \$13 per semester is charged all students taking courses at the Storrs campus. The proceeds from this fee are used by the Graduate Student Senate for its programs for graduate student welfare and recreation.

Student Transit Fee

Graduate students on the Storrs campus are charged a Transit Fee of \$35 per semester. This fee supports the campus shuttle bus service.

Student Union Building Fee

Students pay a nonrefundable fee of \$13 each semester to support the ongoing expansion and renovation of the Student Union.

Non-Credit Continuing Registration

Students not registering with the University for credit-bearing course work or other curricular offering in a given semester are required to maintain a continuing registration in the Graduate School by registering for one of the Graduate School's zero-credit Continuing Registration courses. These courses include GRAD 5998 for non-thesis master's degree students, GRAD 5999 for thesis master's degree students, GRAD 6998 for doctoral students not yet engaged in dissertation research or writing, and GRAD 6999 for doctoral students currently engaged in dissertation research or writing (see "Continuous Registration" under Registration). Students who register for the zero-credit Continuing Registration courses are considered to be part-time students. They pay the Graduate Matriculation Fee as well as the General University Fee and other fees at the part-time level, but they are ineligible for need-based or merit-based financial aid.

If a graduate student does not complete payment for his or her Continuing Registration course to the Office of the University Bursar by the first day of the semester, the registration is cancelled and a reinstatement fee of \$65 may be assessed when the student is reactivated.

Deposit Account

A deposit of \$50 must be maintained by every registered student. This deposit, less deductions for breakage, fines, medicines charged at the pharmacy of the Infirmary, and any other outstanding charges, will be refunded after the student leaves the University, either through graduation or other action.

Cooperative Bookstore Account

A one-time, refundable Cooperative Bookstore payment of \$25 is required of all students, with the exception of Health Center students at Farmington, M.B.A. students at Hartford or Stamford, students registered solely for Summer Sessions, non-degree students, and students engaged exclusively in non-credit extension work. When students terminate their association with the University, the \$25 Cooperative Bookstore Account will be refunded.

Off-Campus M.B.A. and M.S. in Accounting Course Fees

Students registering through the graduate programs offered by the School of Business at locations away from Storrs do not pay a tuition fee, but do pay a per-credit fee, with no maximum for the semester. Information concerning this fee is available from the program directors at each of the locations.

Stamford Educational Administration Graduate Program Fees

Students enrolled in graduate programs in Educational Administration at the Stamford Campus should obtain information concerning fees from the Bursar's web site: <<http://www.bursar.uconn.edu/html/grad.html>>.

Master of Engineering Program Fees

Students enrolled in the M.Engr. program should obtain information concerning required fees from the director of the program.

Doctor of Physical Therapy Program Fees

Students enrolled in the D.P.T. program should obtain information concerning required fees from the director of the program.

Residence Hall Fee and Room Deposit

In 2012-2013, the basic fee charged students living in a residence hall is \$3,401 per semester. Several on-campus options exist. Information about these options is available at <<http://www.reslife.uconn.edu/>>.

A room deposit of \$140 is required to reserve a room in a graduate residence hall for the fall semester. The room deposit will be applied toward the room fee or the room cancellation charge only. Failure to remit this payment will result in cancellation of the room assignment.

Newly entering students applying for a room

must pay the \$140 room deposit within fifteen days of the date stamped at the top of the room application form enclosed with the notification of admission.

Board Fee

Graduate students living in a graduate residence hall may purchase meals on a cash basis at many on-campus locations or at the guest rate in a University dining hall, or may choose to subscribe to a board plan in a University dining hall. The fee for the basic plan is \$2,504 per semester.

Failure to pay the board fee as billed does not relieve the student of the financial obligation. If a student gives notice of cancellation to the Department of Residential Life, the student will be held responsible for payment of the board fee as indicated under "Refunds and Cancellations of Charges."

Late Registration/Payment Fee

An accumulating penalty fee is charged students registering for credit courses through the University Registrar at the Storrs campus, the regional campus at Avery Point, and at the Health Center in Farmington who fail to complete initial course registration and to pay all due fees on or before the tenth day of classes of any semester (additions to and deletions from a student's initial registration and payment of the resulting adjusted fee bill can occur freely through the end of the tenth business day of the semester).

This fee is \$6 for each weekday (excluding Saturdays, Sundays, and legal State holidays) occurring after the tenth day of the semester that registration and payment have not been completed. Students granted a limited deferment by the Deferment Office (in the Wilbur Cross Building) are charged the late fee if they fail to meet any of the terms of the deferment. For these students, the fee begins to accumulate on the first business day following a deferment date. Students whose semester bills are only for Continuing Registration courses (GRAD 5998, 5999, 6998, or 6999) are not eligible for a deferment.

This fee will accumulate to a maximum of \$60, at which point the student's registration may be cancelled. To become reinstated, the student must apply for reinstatement and pay a reinstatement fee of \$65. The registration process has not been completed unless the student has either received a fee bill receipt from the Bursar or has been granted a

limited deferment of the payment date of the semester fee bill by the Deferment Office.

Reinstatement Fee

The Graduate School regulations require registration in each semester by all graduate degree program students. Students at the Storrs campus, at the Avery Point regional campus, the MBA programs in Hartford, Stamford and Waterbury, or at the Health Center in Farmington who fail to complete initial course registration by the end of the tenth day of classes of any semester will be dropped from active status and will be required to pay a penalty fee of \$65 for each semester. The reinstatement fee is added to a student's bill along with any registration fee that has accrued. Students who do not register for longer than a year will be required to reapply for admission. A letter from the major advisor is required to count previous course work towards the new enrollment.

Applied Music Fee

Information concerning non-refundable fees for applied music instruction can be obtained from the Department of Music.

Summer Sessions Fees

The bulletin published by the Center for Continuing Studies, One Bishop Circle, Unit 4056, Storrs, Connecticut 06269-4056, should be consulted for information on these fees and payment.

Extension Fees

The bulletin published each semester by the Center for Continuing Studies, One Bishop Circle, Unit 4056, Storrs, Connecticut 06269-4056, should be consulted regarding fees and payment.

Refunds and Cancellations of Charges

In order to be eligible for a refund or cancellation of charges, a student must officially drop all courses currently being taken.

The University grants a full refund of fees to any student dismissed for academic deficiency or other cause, provided that the dismissal takes place prior to the start of classes. In certain other instances, including illness, full refunds or cancellations of charges may be made at the discretion of the Dean of the Graduate School, provided that the interruption or termination of the student's program takes place prior to the start of classes.

A student inducted into military service will receive a prorated refund or cancellation of charges based on his or her date of separation. The student in this situation must furnish the Office of the University Bursar with a copy of the orders to active duty, showing this to be the reason for leaving the University.

Refunds or cancellations of charges are available on the following schedule for students whose programs are interrupted or terminated prior to or during a regular academic semester. When notice is received prior to the first day of classes of a semester, full refund (less nonrefundable fees) will be made if the fees have been paid in full. Thereafter, refunds or cancellations of refundable charges will be made according to the following schedule:

- | | | |
|----|----------------------------|-----|
| a) | 1st week* | 90% |
| b) | 2nd week* | 60% |
| c) | 3rd and 4th week* | 50% |
| d) | 5th week through 8th week* | 25% |

For graduate degree-seeking students who paid fees to the Center for Continuing Studies, refunds are governed by the above schedule.

Summary of Nonrefundable and Refundable Fees

Nonrefundable fees:

Application Processing
Late Registration/Payment
Reinstatement
Room Deposit
Student Union Building

Refundable fees:

Tuition
General University
Graduate Activities
Graduate Matriculation
Infrastructure Maintenance
Applied Music
Audit
Deposit Account balance
Cooperative Bookstore Account balance
Board
Residence Hall
Transit

Student Identification Card

Each newly entering student is furnished with a personal identification card which is revalidated each semester upon full payment of applicable fees. Should the student's card become lost or destroyed, a replacement fee of \$15 is charged.

Students Attending Under Public Laws

Students attending the University for the first time under the auspices of the Veterans Administration must have a Certificate of Eligibility, which must be presented at the Office of Student Affairs prior to registration.

Completion Fees

The Graduate School requires submission of two copies of a master's thesis or doctoral dissertation which become the property of the Homer Babbidge Library. Binding of these two copies is arranged by the Library. There is no charge to the student for the binding of the two final copies of a thesis or dissertation.

All doctoral dissertations are sent to ProQuest for microfilming. This is a requirement of the Graduate School. The student is required to pay ProQuest's charge for the service, which at press time was \$65 for traditional publishing or \$160 for open access publishing (subject to change without notice). The master's thesis is

not microfilmed.

There is an additional and separate charge (\$55 at press time; subject to change without notice) for the optional copyright of a doctoral dissertation.

Student Parking Fee

A parking fee is assessed to each student who has permission to park in University parking areas during the two semesters of the academic year. The fee is \$43 per semester for commuting students and \$55 per semester for students residing on-campus. (See "Parking of Student Cars") The fee for graduate assistants is \$44 per semester. In all cases, the parking fee is paid directly to Parking Services.

Bad Checks

A \$25 fee is charged on any check returned by

the bank for any reason.

Mandatory Student Health Insurance

All full-time students must have adequate insurance coverage for accidents and illnesses. Students who currently are covered by personal or family health insurance must present evidence of such coverage to the Student Health Service by filling out a waiver card. Students who fail to provide proof of coverage via submission of a waiver card will be enrolled automatically in the University sponsored plan and will be charged a premium on their student fee bills.

Full-time students should inform the Student Health Service whenever a change occurs in their health insurance coverage, including any termination of health insurance benefits provided to graduate assistants.

All non-immigrant international students will be required, at the time of registration, to show evidence of adequate insurance coverage for basic medical, major medical, and repatriation

Semester Tuition and Fee Schedule for Graduate Students

Tuition #		Fees					Totals #	
Course Credits	In-State	Out-of-State	General University	Infrastructure Maintenance	Graduate Matriculation	Activity, Transit, and Student Union	In-State	Out-of-State
Part-time								
0 *	\$ 0	\$ 0	\$ 210	\$ 55	\$ 42	\$ 13	\$ 320	\$ 320
1	568	1,474	210	55	42	61	936	1,842
2	1,136	2,948	210	55	42	61	1,504	3,316
3	1,704	4,422	210	55	42	61	2,072	4,790
4	2,272	5,896	210	55	42	61	2,640	6,264
Half-time								
5	2,840	7,370	420	110	42	61	3,473	8,003
6	3,408	8,844	420	110	42	61	4,041	9,477
7	3,976	10,318	420	110	42	61	4,609	10,951
8	4,544	11,792	420	110	42	61	5,177	12,425
Full-time								
9 or more	5112	13,266	630	22-	42	61	6,065	14,219

expenses. This requirement is a condition of admission and registration. International students should consult the Division of International Affairs, Department of International Services and Programs, regarding compliance with this requirement and assistance in enrolling in an approved insurance program, if necessary.

Study Abroad Supplemental Health Insurance

Students choosing to study abroad through the University's Office of Study Abroad may also be assessed an international health insurance premium that will cover them for the time period that they are abroad. This insurance is in addition to any other health insurance coverage that a student may have, including the university sponsored health insurance plan. Please call 486-5022 for further information or visit this website: <www.studyabroad.uconn.edu>.

Technology Fee

A technology fee of \$40 will be assessed to all student per semester.

Assistantships, Fellowships, and Other Aid

The University of Connecticut has agreed to abide by the following resolution of the Council of Graduate Schools:

Acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties.

Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15, and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer.

Support for graduate students engaged in full-time degree study at the University comes from a wide variety of sources. More than 1,500 graduate students hold graduate assistantships for teaching or research, and more than 1,000 fellowships and traineeships are available to properly qualified students. Any employment within the University is subject to terms of the funding source and to approval by the Dean.

All students holding fellowships awarded by the University are expected to maintain their enrollment in the program to which the fellowship applies. Transfer from one program to another or withdrawal from the University terminates the fellowship.

The general University fee and the graduate

matriculation fee as well as the Connecticut resident tuition fee or the nonresident tuition fee must be paid by holders of University Pre doctoral Fellowships, if applicable, but these fees are paid for holders of certain Federal fellowships and traineeships, according to the terms of the grant.

Types of Financial Aid

Two general types of financial aid are available: (1) aid based on academic merit and (2) aid based on demonstrated financial need.

Awards based on academic merit include: Graduate Assistantships (for teaching or research), University Pre doctoral Fellowships, Dissertation Fellowships, and Summer Fellowships. Application for merit aid should be made directly to the academic department. Continuing University of Connecticut graduate students should apply early in the spring semester. New applicants for admission to the Graduate School should apply as early as possible and not later than the deadline imposed by the appropriate academic department. (See the Graduate Application form for merit aid deadlines.)

Need-based financial aid includes: Federal Direct Stafford Loans (FDSL), Federal Work-Study (FWS), and University of Connecticut Tuition Remission Grants. Citizens or permanent residents of the United States apply for need-based financial aid by completing the Free Application for Federal Student Aid (FAFSA) on the web at <http://www.fafsa.ed.gov> each year. UConn's on time deadline each year is March 1 (May 1, for entering graduate students).

[Note: International students are not eligible to receive need-based financial aid.]

All need-based financial aid recipients and University funded and merit scholarship recipients must meet Satisfactory Academic Progress (SAP) requirements, which are based on federal regulations. These requirements include maintenance of an appropriate grade point average (3.00) and satisfactory completion of a percentage (75%) of the number of credit hours attempted in each award year, as well as not exceeding published credit maximums for the student's program plan. A warning is sent to students once they have reached their degree minimums. A complete text of this policy is available at <http://financialaid.uconn.edu/sap>.

Assistantships, fellowships and other awards from University sources are used in combination with need-based aid to calculate final financial aid amounts offered either for a semester or an academic year.

Additional information regarding need-based financial aid for Graduate students is available from the Office of Student Financial Aid Services at <http://financialaid.uconn.edu/index.php/Gradprocess>.

The following list of assistantships, fellowships, and other forms of aid includes only the major sources of support available to students at this University. Other sources may be available upon further inquiry.

Graduate Assistantships

Graduate School degree-seeking students and students in the program leading to the Sixth Year Diploma in Professional Education, who meet the criteria listed below, are eligible. Appointments ordinarily are made for the nine-month period, August 23 through May 22, but may be of shorter duration for a variety of reasons. Recipients usually serve the University as teaching assistants, readers, or laboratory and research assistants. They may take fewer than the usual number of courses per year because of this added workload. To be appointed, to retain an appointment, or to be reappointed, a student must have been accorded Regular (not Provisional) status, must have been maintaining a cumulative average of at least B (3.00) in any course work taken, must be eligible to register (i.e., must not have more than three viable grades of Incomplete on his or her academic record), must be enrolled in a graduate degree program scheduled to extend through the entire period of the appointment or reappointment, and must be a full-time student, counting course work and/or its equivalent together with assistantship duties (see "Course Loads"), throughout the period.

The holder of a full assistantship devotes one-half of available time to studies and one-half (approximately 20 hours per week) to assistantship duties, while the holder of a half assistantship ordinarily devotes three-quarters of available time to studies and one-quarter (approximately 10 hours per week) to assistantship duties. Assistantships are not available for less than 10 hours per week.

Ordinarily, a graduate student is not permitted to earn more in a given academic year than the applicable maximum stipend rate indicated below. With the written recommendation of the student's advisory committee and the consent of the Dean of the Graduate School, however, approval may be granted for a student's earnings from University sources to exceed the maximum stipend rate by a limited and specified amount.

Since graduate assistants divide their full-time efforts between their studies and their

assistantship responsibilities, ordinarily they may not hold concurrent employment outside the University.

Stipend rates for graduate assistants are graduated in terms of progress toward the advanced degree and experience. Ordinarily, a graduate assistant may not exclude any part of the stipend from U.S. taxable federal gross income. The rates for nine months in effect at press time follow:

- I. \$19,383 for graduate assistants with at least the baccalaureate.
- II. \$20,396 for experienced graduate assistants in a doctoral program with at least the master's degree or its equivalent in the field of graduate study. Equivalency consists of twenty-four credits of appropriate course work beyond the baccalaureate completed at the University of Connecticut, together with admission to a doctoral program.
- III. \$22,676 for students with experience as graduate assistants who have at least the master's degree or its equivalent and who have passed the doctoral general examination.

Tuition (but not the General University Fee, the Graduate Matriculation Fee, or other fees) is waived for Graduate Assistants. (See "Tuition," for possible proration.) If an assistantship begins or terminates during the course of a semester, tuition will be prorated on a weekly schedule – charged for that portion of the semester when the assistantship is not in force, waived when it is in force. This often results in an adjustment of the tuition charges, including partial assessment (if the student is registered throughout the semester for course work for which tuition is charged) or a partial refund (if tuition has been paid).

A graduate assistant is eligible for health insurance. Graduate assistants should be aware that it is necessary to complete the proper forms to activate the health insurance. The health insurance does not take effect automatically.

In exceptional cases a graduate assistant may be appointed on a twelve-month basis, with the stipend being increased proportionately. There are, however, no additional benefits or waiver of tuition in the summer months.

When students become eligible for the Level II or Level III stipend rate, it is the responsibility of their department to request such an increase promptly, by filing a new employment authorization effective the first day of the biweekly payroll period following the date on which the student completes master's degree requirements

(or satisfies master's degree equivalency) or the date on which the student passes the doctoral General Examination in its entirety. Students are responsible for ascertaining that any required documentation — such as a report of a master's final or doctoral general examination, a transcript, or a report of a pertinent Incomplete grade made up — is promptly filed with the Graduate School and that their current stipend conforms with their eligibility.

Program for Out-of-State Master's Degree Students

This program provides tuition assistance for selected students, who are classified as out-of-state for tuition purposes, in terminal master's degree tracks. A limited number of tuition grants are awarded each year on a competitive basis to out-of-state master's students. These grants permit the selected students, in effect, to pay tuition at the in-state rate. The selection criteria for these grants include: full-time matriculation in a master's degree program that ordinarily does not lead to the doctorate, absence of graduate assistantship support (which carries with it a tuition waiver), out-of-state residency status, evidence of academic excellence (based on grade point averages, test scores, etc.), and U.S. citizen or permanent resident status. Each student chosen for participation in this program is eligible for a maximum of four semesters of support. This program is administered by the Graduate School. Students are nominated by faculty members in terminal-track master's degree programs.

University Predoctoral Fellowships

These are awarded by the Graduate School on the recommendation of the graduate faculty in the degree program concerned. Students who intend to earn the D.M.A. or Ph.D. and who have demonstrated capability for completing a doctoral program may apply to their academic departments for such fellowships at any stage of their graduate career. Award amounts range from small amounts to full fellowships and/or tuition equivalency. Fellowship awards do not include the requirement of teaching, research, or any other service duties and are not considered to be employment. Predoctoral Fellows must be Regular (not Provisional), full-time students, regardless of the amount of the fellowship. Recipients must present evidence of such registration and payment or deferment of appropriate fees upon receipt of fellowship checks. The Dean of the Graduate School may cancel or reduce an individual award if the student fails to maintain satisfactory academic and financial standing.

Doctoral Dissertation Fellowships

Funding may be available during the academic year to support the Doctoral Dissertation Fellowship program, which is designed to assist advanced D.M.A. Ph.D. students to complete their dissertations. Minimum eligibility requirements include having passed the doctoral general examination, having a fully approved dissertation proposal on file with the Graduate School, and not exceeding certain annual income limits. The amount of the fellowship is \$2,000, and the fellowships are "one-time only" awards. Awards are made via announced competitions having specific application deadlines. The number of fellowships and the frequency of competitions are limited and contingent upon the availability of funding. Inquiries may be directed to Thomas Peters, Program Director, Unit 1006, Whetten Graduate Center, room 208, Storrs, Connecticut 06269-1006; telephone (860) 486-0977; e-mail <thomas.b.peters@uconn.edu>.

Doctoral Dissertation Extraordinary Expense Award

D.M.A. and Ph.D. students who have passed the general examination and whose dissertation proposal has been fully and officially approved may apply for up to \$500 for certain non-routine expenses directly related to data collection and analysis for the dissertation. Application may be made at any time. Awards are contingent upon the availability of funding. Inquiries may be directed to Thomas Peters, Program Director, Unit 1006, Whetten Graduate Center, room 208, Storrs, Connecticut 06269-1006; telephone (860) 486-0977; e-mail <thomas.b.peters@uconn.edu>.

Summer Fellowships for Doctoral and Pre-Doctoral Students

Students pursuing the D.M.A. or Ph.D. degree are eligible, upon nomination by department heads, for up to \$1,500 during the summer for the general examination or dissertation research. Information is available from department and program heads in March of each year.

Part-time Employment

Federal Work-Study (FWS) is a federally funded financial aid work program for students with a demonstrated financial need, as determined by information submitted on the FAFSA. Unlike other forms of aid, a Federal Work-Study award is not applied to a student's fee bill. Students receive bi-weekly paychecks for hours worked.

The Student Labor Program is a work program open to all University of Connecticut students and designed to supplement

regular staff with students seeking part-time employment.

The Office of Student Financial Aid Services advertises available positions on their website: <www.studentjobs.uconn.edu>. Students are prompted to select the category their job choice(s) and are provided with a list of supervisors seeking candidates for those jobs. Students then arrange interviews with prospective employers to discuss the details of the job.

Federal Loan Programs

Federal Stafford Loans (FSLs) are offered to students attending the University at least half-time. Subsidized FSLs are based on financial need; the interest on these loans is subsidized by the federal government. If a student does not qualify for a subsidized FSL, he or she may borrow an unsubsidized FSL. The student is responsible for the interest which accrues on the loan, and has the option to either pay the interest while in school or defer payment of the interest until repayment begins, six months following graduation.

Annual loan limits for eligible graduate students are: \$8,500 in Subsidized FSL and \$10,000 in Unsubsidized FSL per academic year. After July 1, 2007, the unsubsidized loan limit for graduate students was increased to \$12,000. The maximum aggregate FSL (Subsidized and Unsubsidized) amount a graduate student may hold is \$138,500.

An excellent, detailed source of information regarding federal aid programs and the financial aid process is The Student Guide, available at college and university financial aid offices.

An excellent, detailed source of information regarding federal aid programs and the financial aid process is The Student Guide, available at college and university financial aid offices.

Graduate Student Senate Short-Term Loan Fund

This fund is administered by the Graduate Student Senate (GSS), and is generated by graduate student activities fees. It provides loans of up to \$500 to assist graduate students in dealing with financial emergencies. Loans are issued for 60-day periods and are interest free. Borrowers are urged to repay these loans on time so that other students in need can be accommodated. Applications are available in the Graduate Student Senate Office, Room 318, Whetten Graduate Center and online at the GSS Web site <<http://www.grad.uconn.edu/~wwwgss>>.

International Students

Before their admission is complete and a

student visa can be issued, non-immigrant international students must present documentary evidence of their ability to meet all expenses for at least the first year of study, together with an acceptable plan for financing the remainder of their program. International applicants are not eligible for need-based financial aid.

Grants providing tuition and the general University fee are available to a small number of international students who are sponsored by certain organizations [e.g., ATLAS and LASPAU] recognized by the Graduate School as being devoted to the promotion of advanced education programs and with which the University has a standing agreement.

Veterans Administration Educational Assistance & Tuition Waiver Program

The Office of Student Financial Aid Services provides information concerning benefits under the various educational assistance programs provided by the Veterans Administration. Students who attend the University and receive educational assistance under the following chapters must contact the Office of Student Financial Aid Services prior to the beginning of each semester: Chapter 31 (Vocational Rehabilitation Training Act for Disabled Veterans); Chapter 32 (Post-Vietnam Veterans Educational Assistance); Chapter 35 (Dependents Educational Assistance Act: children, wives, and widows of totally disabled and deceased veterans - service connected deaths); Chapter 1606 (Montgomery G.I. Bill - Selected Reserve); Chapter 30 (Montgomery G.I. Bill - Active Duty). Veterans must notify the University every semester of their registration for certification of enrollment. Any changes in veteran status (credit load, withdrawal, etc.) must also be reported promptly to the University.

Additionally, veterans may qualify for a tuition waiver under the State of Connecticut tuition waiver program. Veterans must provide a form DD214 (separation of service) and must be recognized as a resident of Connecticut at the time of admission or readmission to the University. Please see the tuition waiver criteria in the "Fees and Expenses" section of the catalog.

Veterans seeking tuition waiver applications or assistance should contact the Office of Student Financial Aid Services, 233 Glenbrook Rd., U-4116, Wilbur Cross Building room 102, Storrs, Connecticut 06269-4116 or call (860) 486-2442

Named Graduate School Fellowships

The Graduate School offers two fellowships, in cooperation with participating academic

departments, which are available to eligible students.

These fellowships are supported jointly by Special Graduate Student Fellowship funds from the Graduate School and a 50% Graduate Assistantship from the department with which the recipient is affiliated. Only one student holds each fellowship at any given time, renewable annually, and the fellowship may not be held by the same person for more than two years. Candidates for these fellowships may be recommended to the Dean of the Graduate School by any graduate faculty member. These recommendations must be endorsed by the appropriate department head.

1) The Prudence Crandall Graduate School Fellowship honors Miss Crandall's contributions to the education of African-American youth in nineteenth century America.

2) The Rafael Cordero Graduate School Fellowship honors Maestro Cordero's contributions to education in nineteenth century Puerto Rico.

Multicultural Scholars Program

The Graduate School and the Provost's Office have established a fund for the promotion of diversity within graduate education. This program functions to promote the recruitment and retention of diverse populations of graduate students by matching the funding support provided by schools, departments, or fields of study. Students are nominated by the graduate program to which they are applying. There is no application form. Eligibility for support is based on the student's academic qualifications, U.S. citizen or permanent resident status, and the demonstrated need for increased cultural diversity within the field of study.

Outstanding Scholars Program

The Graduate School and participating academic departments and programs offer a number of fellowships for new outstanding graduate students pursuing study at (or through) the doctoral level. Each award includes a stipend of \$9,500 for the academic year plus \$2,000 for summer support, provided by The Graduate School, and a half graduate assistantship for each of the fall and spring semesters, which is provided by the department or program. The award is renewable for two additional years (a total period of three years). There is no application form. Each doctoral field of study should recommend as early in the recruiting year as possible applicants who intend to commence graduate study in the following Fall semester.

The Thomas G. Giolas Fellowship Fund

The Thomas G. Giolas Fellowship Fund was established as a permanent endowment fund held by the University of Connecticut Foundation in honor of father and husband, Thomas G. Giolas, Dean Emeritus of the Graduate School. This fund will provide scholarship support for an incoming or continuing graduate student enrolled full-time at the University of Connecticut's Graduate School. The award shall be given annually to a student who demonstrates high academic achievement in their field of study. The scholarship(s) may be renewed annually to the recipient(s) provided satisfactory academic progress is achieved.

Awards are available in the areas of study listed alphabetically below. Availability and terms of the following awards are subject to change at any time without notice.

Aid for Graduate Students in Specific Disciplines or Areas

Awards are available in the areas of study listed alphabetically below. Availability and terms of the following awards are subject to change at any time without notice.

Agricultural and Resource Economics

Several graduate research assistantships in food marketing, resource economics, and international agricultural development are available. Application is made to the Department of Agricultural and Resource Economics, Unit 4021, Storrs, Connecticut 06269-4021.

Allied Health

The Frederick G. Adams Scholarship was established by the faculty of the Department of Allied Health Sciences to honor their first Dean, Frederick G. Adams, D.D.S., with continuing support from his family and friends as a memorial. Awards in varying amounts are made to undergraduate and graduate students enrolled in the School of Allied Health who have emergency needs which can be met in no other way. Application is made to the College of Agriculture and Natural Resources at <www.myagrn.uconn.edu>.

The Dr. James P. Cornish Scholarship was established by the Cornish family in memory of the late Dr. Cornish. The \$500 scholarship is awarded annually to a graduate student in the Department of Allied Health Sciences who demonstrates leadership potential, warmth and humor, creativity and innovation, commitment to lifelong learning and service, and dedication to the values of multiculturalism and diversity. Application is made to the College of Agriculture and Natural Resources at <www.myagrn.uconn.edu>.

Animal Science

Graduate research assistantships from various sources, including federal grants as well as business and industry, are available. Applications are processed through the Graduate School. Requests for financial aid upon admission are considered during the review of applications. Ordinarily, students are nominated for support by their major advisors. Assistantships and scholarships are awarded competitively on the basis of academic and scholarly achievement as well as the potential for future academic and professional accomplishments.

Art

(See "Fine Arts.")

Biomedical Sciences

Graduate assistantship awards for qualified incoming and current students are available. Recipients must be full-time students and work with faculty advisors at the Health Center. Awards include assistantship stipend, waiver of tuition, and health insurance (additional funds are available for travel to scientific conferences). Current students apply to the Graduate Programs Committee at the Health Center. Incoming students are recommended for this award by the Biomedical Admissions Committee. Students applying for admission and assistantship consideration to commence study in the following fall semester should apply by December 15

Business Administration

The T. K. Lindsay Scholarship is an annual award established by the Connecticut Bank and Trust Company in honor of Professor Tamlin K. Lindsay to be given to an outstanding undergraduate or graduate student in the School of Business. Criteria for selection include high scholastic achievement, professional promise, participation in University activities, and financial need. Candidates are chosen by a Scholarship Committee chaired by the dean of the School of Business.

Chemistry

The Charles E. Waring Memorial Scholarship is awarded each year to an outstanding graduate student in chemistry. The recipient is selected from among those students who have completed two or three semesters of graduate study and who have qualified for admission to the Ph.D. program. This \$250 award is given on the basis of progress in course work and research. There is no application.

Civil Engineering

The Narasimha Rao Adidam Memorial

Scholarship was established by Dr. and Mrs. Adidam S. R. Sai of Kanpur, India in memory of their son, Naren. The award is presented annually to a full-time graduate student in Civil Engineering who is pursuing studies related to structures/applied mechanics. Preference is given to students with financial need who best exhibit the qualities of personal integrity and intelligence, the research aptitude, the academic performance and the understanding of multicultural values as personified by Narasimha Rao Adidam. Nominations are solicited from faculty members by the Civil Engineering Awards Committee in March.

The Edson B. Gerks Award recognizes an undergraduate or graduate student interested in Transportation Engineering who shows outstanding promise. The award is administered through the Department of Civil and Environmental Engineering.

The New England University Transportation Center Fellowship for Transportation Studies offers a stipend of up to \$5,000 per semester (in addition to a 50%-time graduate assistantship) for full-time graduate study in Civil Engineering with emphasis in one or more of the following areas: transportation management, policy, or operations. Expressions of interest should be forwarded to Unit 2037, Storrs, Connecticut 06269-2037 as soon as possible after admission to graduate study.

Communication Sciences

The Department of Communication Sciences has a number of stipends available to qualified graduate students enrolling in the Master's programs in Communication. In addition, aid is available to students enrolling in the Ph.D. programs in Communication Processes and Marketing Communication and in Speech, Language, and Hearing.

Computer Applications and Research

The Taylor L. Booth Engineering Center for Advanced Technology (BECAT) provides a limited number of graduate assistantships. The major responsibilities for these positions are: assisting the technical staff in setting up and maintaining networked research laboratories and supercomputing facilities with PCs and workstations; providing support for technical seminars and short courses on available facilities and software systems; and assisting users with system usage and software problems. Application is made to the BECAT, Unit 2031, Storrs, Connecticut 06269-2031.

Computer Science and Engineering

The Taylor L. Booth Graduate Fellowship is awarded on the basis of annual competitions

to qualified graduate students in Computer Science and Engineering who intend to pursue a faculty career at an American university upon completion of the Ph.D. at the University of Connecticut. Interested students should submit a letter of application which details career goals and emphasizes experience and contributions as a teacher. Additionally, letters of support, including one from the applicant's major advisor, should be sent to the Chair of the Graduate Admissions Committee, Department of Computer Science and Engineering, Unit 2155, Storrs, Connecticut 06269-2155. Application deadlines and information can be obtained by writing to the same address.

Dental Science

A limited number of graduate assistantships are available to students in the Master of Dental Science and the combined Ph.D. /resident programs and are awarded on a competitive basis. Training fellowships for research and clinical programs also are available. Application is made to the Office of Dental Academic Affairs, Room AG036, University of Connecticut Health Center, Farmington, Connecticut 06030-3905.

Dramatic Arts

(See also "Fine Arts."). Information, including application procedures, can be obtained from the Department of Dramatic Arts, Unit 1127, Storrs, Connecticut 06269-1127.

The Ballard Institute and Museum of Puppetry Award is given to an undergraduate or to a graduate student in puppetry who has maintained an excellent scholastic record and who has demonstrated exceptional talent in puppetry.

The Frank W. Ballard – UConn League Scholarship is awarded annually to an undergraduate and/or to a graduate student majoring in Puppetry in the Department of Dramatic Arts. The award is given on the basis of demonstrated talent, contribution to department productions, and professional promise.

The Victor Borge Scholarship is awarded to a current or to an incoming M.F.A. student in acting.

The Connecticut Repertory Theatre Patrons' Award was established through the generosity of patrons of the Connecticut Repertory Theatre. The award is made to undergraduate or graduate students in Dramatic Arts on the basis of outstanding academic and artistic accomplishment.

The Cecil E. Hinkel Department of Theatre Award is given to a graduate student who preferably has excelled in either dramatic form and structure or in the history of theatre. Secondary preference would be given to an outstanding graduate student in directing.

The Nafe E. Katter-Ron Palillo Scholarship in Acting is awarded to an undergraduate or to a

graduate student majoring in acting. The award is made on the basis of demonstrated talent, contributions to departmental productions, and professional promise.

The Valerie M. Schor Memorial Scholarship is in memory of Professor Schor, who taught Dramatic Arts from 1970-1993. Awarded annually to undergraduate or graduate students majoring in acting.

The Special Dramatic Arts Award for Excellence is given to an undergraduate or graduate student in Dramatic Arts on the basis of outstanding academic and artistic accomplishment.

The United Bank and Trust Company Scholarship is awarded on the recommendation of the faculty of the department to a talented student in either the design/technical or performance areas.

The George B. Wallis III Award is presented at the end of the theatre season to a student judged by the faculty of the department to be the best actor or actress, with emphasis on talent and dramatic ability.

Ecology and Evolutionary Biology

The Ronald Bamford Fund provides a small research grant in the area of botany to be awarded to graduate students in the Department of Ecology and Evolutionary Biology for visits to collections, field work, supplies, or other expenses directly related to research. Application is made to the Department Head, Ecology and Evolutionary Biology, Unit 3043, Storrs, Connecticut 06269-3043.

Several endowed funds provide small research grants in various research areas that are awarded to graduate students in the Department of Ecology and Evolutionary Biology for travel to scientific meetings, visits to collections, field work, supplies, or other expenses directly related to research. The endowed funds and research areas are: Henry N. Andrews Fund (botany), Alfred Hunyadi Fund (forestry), Jerauld Manter Fund (ornithology), Lawrence R. Penner Fund (parasitology and invertebrate zoology), James A. Slater Fund (entomology), Francis R. Trainor Fund (aquatic ecology), and the Ralph M. Wetzel Fund (vertebrate biology). Application is made to the Department Head, Ecology and Evolutionary Biology, Unit 3043, Storrs, Connecticut 06269-3043. Deadlines are variable but often have been February 15.

Economics

The Audrey P. Beck Scholarship is shared between Economics and Political Science. A stipend of \$500 (or more, depending on endowment return) is awarded to a student with an interest in a career in public

policy. Criteria for the award include career potential, academic achievement, character, breadth of interests, and need.

The W. Harrison Carter Award is given each fall to a graduate student judged to be the best teaching assistant in the Department of Economics. The award was established in memory of W. Harrison Carter, Professor of Economics from 1931 to 1966 and former Dean of the College of Liberal Arts and Sciences.

The Abraham Ribicoff Graduate Fellowship for the Study of Economic Policy is awarded to an outstanding graduate student in Economics. The student must be a Connecticut resident with a strong academic record and must have a primary interest in the application of economic analysis to the formulation and implementation of state and national economic policies. Students are nominated by members of the faculty.

The Albert E. Waugh Scholarship in Economics provides an annual award to a graduate student interested in pursuing a career in teaching economics. This award was established in memory of a former professor of economics, Dean and Provost at the University from 1924 to 1965.

Education

The Neag School of Education has numerous scholarships available. Information regarding these scholarships can be found on the Internet at the following website: <www.education.uconn.edu/students/scholarships>.

Engineering

The Al Geib Graduate Fellowship is a supplemental fellowship to encourage top entering graduate students to conduct research on an environmental, sustained development topic. Preference is given to University of Connecticut graduates and to Connecticut residents. One or two awards may be given each year. Nominations are made through department heads and graduate field of study coordinators to the Dean of Engineering. The deadline for nominations is mid-February.

The Harold Torgersen Fellowship provides financial assistance to a graduate student in the engineering fields. Preference is given to B.S. graduates of the University of Connecticut. Nominations are made to the Dean of Engineering by the appropriate Engineering Department Head.

English

The Aetna Graduate Creative Nonfiction Prize provides one or more cash awards from the Aetna Foundation for an outstanding nonfiction essay.

The Aetna Graduate Critical Essay Prize is a \$400 award from the Aetna Foundation. Second, third, and honorable mentions may be awarded. Any essay or dissertation chapter which has not yet been accepted for publication is eligible.

The Wallace Stevens Award for Poetry is offered in the spring semester. There are three prize awards. Undergraduate and graduate students are eligible. The award involves a brochure publication and a public reading.

Finance

The Stephen D. Messner/School of Business Administration Scholarship and Fund provide support for undergraduate and graduate students in the areas of real estate and finance. Application is made either through the Real Estate Center or the Head of the Finance Department. There is no application deadline.

The Hartford Society of Financial Analysts' Scholarship is awarded under the auspices of the University of Connecticut Foundation. One or more scholarships of \$200 to \$500 are awarded each Spring semester to outstanding students enrolled in the master's degree program in the School of Business Administration. This scholarship is made available by the Hartford Society of Financial Analysts. Application is made to The Department of Finance, Unit 1041F, Storrs, Connecticut 06269-1041. The application deadline is March 1.

Fine Arts

The Dean Jerome M. Birdman Scholarship is awarded annually to an undergraduate or graduate student in each of the departments of the School of Fine Arts. Criteria include academic distinction and professional promise. Awards are made by the dean of the school in consultation with department heads.

The William Brand Scholarship is awarded to an undergraduate or graduate student in the School of Fine Arts. The scholarship committee selects recipients based on past academic achievement and demonstration of potential for future academic and professional accomplishments. The scholarship is presented alternately to a student from each department.

The Jan Keiley Scottron Scholarship is awarded to an undergraduate or graduate student in the School of Fine Arts. The Scholarship Committee selects recipients who meet the following criteria: (1) senior student or graduate student standing with a major in puppetry or musical stage (e.g., opera), (2) demonstrated financial need, and (3) demonstrated academic achievement.

The Rhoda Shivers Memorial Award in the Arts is awarded to an undergraduate or graduate student in the School of Fine Arts. Departmental Scholarship Committees select recipients based on past academic achievement, demonstration of potential for future academic and professional accomplishments, and on financial need. The scholarship is presented alternately to a student from each department (Art, Dramatic Arts, and Music).

Geography

Graduate teaching and research assistantship awards for qualified incoming and current students are available. Recipients must be full-time students and work with faculty advisors. Awards include assistantship stipend, tuition waiver, and health insurance options. Incoming and current full-time students who request graduate assistantships are considered for the research assistantship awards based on their academic standing and research skills. Several of the research assistantships are based at the University of Connecticut Center for Geographic Information and Analysis housed in the Homer Babbidge Library.

A graduate research assistantship is also supported by the Connecticut Geographic Alliance based in the Department of Geography. The Connecticut Geographic Alliance is an organization designed to advance the status of geography in primary and secondary education in Connecticut. The award includes assistantship stipend, tuition waiver, and health insurance options. Incoming and current full-time students who request graduate assistantships are considered for this award based on their academic standing and interest in geographic education.

A departmental fund provides small grants to graduate students in the Department of Geography for presentations at scholarly meetings. Students in good academic standing who are participating in a scholarly meeting may apply to the Department Head for funding.

Geological Sciences

The Andrew J. Nalwalk Memorial Award is given to a continuing graduate student demonstrating independent scholarship in geology, marine geology, or physical oceanography. Selection of the recipient is coordinated by the Department of Geological Sciences and the Department of Marine Sciences. The award was established by family and friends of the former professor of geology at the Marine Sciences Institute.

Health Care Management

The Programs in Health Care Management and Insurance Studies offers a number of scholarships on an annual basis to qualified M.B.A. students concentrating in healthcare management and insurance studies. Graduate assistantships also are offered, contingent upon the availability of funding .

Please check with the Health Care Management Program at <healthcare@business.uconn.edu> or call (860) 486-4122 to obtain additional information.

History

The James M. Bozzuto Fellowship has been established in association with the Emiliana Pasca Noether Chair in Modern Italian History. It is named in memory of Mr. Bozzuto, whose family generously contributed to the Chair's endowment. The Fellowship is awarded to a graduate student of exceptional promise to undertake advanced study leading to the Ph.D. with an emphasis in Italian political, social, economic or cultural history since 1750 or with an emphasis in comparative European history in the same period that bears substantially on Italy (including emigration). Recipients of this fellowship shall be selected by the Admissions and Financial Aid Committee of the Department of History in conjunction with the holder of the Noether Chair. The Fellowship normally is awarded on a triennial rotation. Information is available from the holder of the Noether Chair, Department of History.

The Aldo De Dominicis Graduate Fellowship in Italian American history is attached to the Emiliana Pasca Noether Chair in Modern Italian History and has been established to promote research into all aspects of Italian American history. The Fellowship, normally tenable for up to three years, is awarded to a graduate student of exceptional promise to undertake advanced study leading to a Ph.D. in an aspect of Italian American history. Recipients are selected by the Admissions and Financial Aid Committee of the Department of History in conjunction with the holder of the Noether Chair.

The department annually awards the James L. and Shirley A. Draper Dissertation Fellowship in Early American History to an outstanding qualified Ph.D. student. The fellowship allows for a full-year of dissertation research in the student's fourth year of study provided the student has passed the Ph.D. General Examination. The recipient is selected by the Department of History Admissions and Financial Aid Committee in conjunction with the holder of

the James L. and Shirley A. Draper Chair in American History.

The Michael Dunphy Award is given annually to a graduate student with a strong interest in American government, society, history, or culture. Outstanding intellectual ability and financial need must be demonstrated. The History Department shares this award with Sociology and Political Science. The Department of History will name the winner in 2010, 2013, etc. Students are nominated by faculty members.

The Harry J. Marks Fellowship is awarded to a superior graduate student and, when appropriate, with priority given to one with a special interest in European social and intellectual history and who is returning to pursue an advanced degree while, or after, working as a high school teacher. The fellowship is named in honor of a late colleague who was esteemed for his teaching and intellectual vitality. Recipients of this fellowship shall be selected by the Department of History Prize Committee.

The Albert E. and Wilda E. Van Dusen Scholarship has been established through the generous gift of the late Professor Van Dusen and his wife, Wilda. An annual scholarship is awarded to a graduate student in history who has completed at least nine credits of work, has demonstrated financial need, and ranks in the top one-quarter of graduate students in history. The selection of the recipient is made by the Department of History Prize Committee.

Also awarded annually are the James L. and Shirley A. Draper Summer Fellowship in Early American History, the Hugh M. Hamill Graduate Fellowship in Latin American History, the Thomas G. Paterson Graduate Fellowship in the History of U.S. Foreign Relations, and the Bruce M. and Sondra Astor Stave Prize in Recent American History to an outstanding graduate student in each of the four areas. Recipients are selected by the Department of History Admissions and Financial Aid Committee or its Prize Committee.

Home Economics Education

The Marilyn Niederwerfer '68 Cummings Award in Home Economics Graduate Education is granted to a graduate student in home economics education who is dedicated to a career in extension, secondary, or university education and who has shown promise and leadership in these fields. The \$400 award is made available by the Frank Niederwerfer Family Fund. For more information contact Dr. Mary Anne Doyle,

Unit 2033, 249 Glenbrook Road, Storrs, Connecticut 06269-2033.

Judaic Studies.

Students interested in obtaining further scholarship information should contact the Center for Judaic Studies and Contemporary Jewish Life, Unit 1205, (860) 486-2271.

The Harold J. Arkava Scholarship is named in honor of Harold J. Arkava. Awarded to student(s) in the Center for Judaic Studies and Contemporary Jewish Life, with preference given to those students studying the Holocaust. Priority is given to graduate students but undergraduates may apply. Number of awards and amounts to vary.

The Cohen and Henes Scholarship was established by Stephen I. Cohen, Class of 1965, and Robert L. Cohen, Class of 1967, in honor of their late grandparents, Isadore and Dora Cohen, and Samuel and Rebecca Henes of Waterbury, who came to the United States from Czarist Russia in the 1890's and who valued highly the qualities represented by this scholarship. Awarded to one or more students with an academic concentration in Judaic Studies on the basis of scholarship, financial need, high moral and ethical character, demonstrated commitment to community service. Number of awards and amounts to vary.

The Winkler Israel Study Award is awarded to a student attending a college or a university in Israel in a program administered by the Study Abroad Office. Number of awards and amounts to vary.

Latin American and Caribbean Studies

The Center for Latin American and Caribbean Studies has a limited number of graduate assistantships and predoctoral fellowships to award to qualified master's students planning to enter doctoral programs. The Nathan L. Whetten Fellowship (which carries a small stipend) is awarded to the most outstanding doctoral student in any discipline with a concentration in Latin American Studies.

The Center also awards the Robert G. Mead, Jr. Fellowship to the best first-year M.A. student specializing in Latin America.

All fellowships are awarded on the basis of merit. Deadline for application is February 1st. Financial aid decisions are made only in the spring

Application forms and further information are available from the Center for Latin American and Caribbean Studies, 2006 Hillside Road, Unit 1161, Storrs, Connecticut 06269-1161; telephone (860) 486-4964; Web <www.clacs.uconn.edu>.

Marine Science

The S.Y. Feng Marine Sciences Student Activities Fund provides small research grants that are awarded to graduate students in the Department of Marine Sciences for travel to scientific meetings, field work, supplies and other expenses directly related to research. The Fund was established by family and friends of the founding Head of Marine Sciences. Selection of recipients is made throughout the year by a committee of faculty members in the department.

The S.Y. Feng Memorial Scholarship Fund provides financial support for graduate students in the field of Oceanography. Awards to support coursework associated with the student's degree program are made throughout the year; recipients are selected by a committee of department of faculty members.

The William A. Lund, Jr. Fellowship provides support to graduate students enrolled full-time or part-time in the Department of Marine Sciences. Selection of recipients is made throughout the year by a committee of faculty members in marine sciences. Priority consideration is given to students demonstrating potential to submit work for publication.

The Northeast Utilities Marine Sciences Fund provides support for development of programs to encourage participation and retention of women and under-represented groups in environmental marine sciences. The Northeast Utilities Predoctoral Scholarship in Marine Sciences provides a Graduate Research Assistantship and summer stipend for one year to incoming or enrolled eligible students in Marine Sciences. One award is made each academic year, with the recipient to be selected by a committee of department faculty members.

The Marine Sciences Research & Outreach Fund provides support for graduate student research activities using the R/V Lowell Weicker, a 36-foot research vessel in the department's fleet. Recipients are selected based on short proposals reviewed by a committee of department faculty members.

(See also "Andrew J. Nalwalk Memorial Award" under Geological Sciences.)

Mathematics

A certain proportion of graduate students receive financial support as teaching assistants. International applicants must have matriculated from an English-speaking university or have taken the IELTS with a score of at least 6.5 or have taken the TOEFL

with a score of at least 600 to be eligible for financial aid for the first year of graduate study. In addition, there are some computer support and math Q Center tutoring positions available. Supplemental fellowships are available to qualified applicants. Summer teaching opportunities are sometimes available, and advanced students are given research fellowships for one summer

Under an agreement with Aetna and Hartford Life Insurance Companies, actuarial graduate students are eligible for internships that emphasize both practical experience and more theoretical research.

The Louis J. DeLuca Award was established in memory of the former Associate Dean of the College of Liberal Arts and Sciences and Professor of Mathematics, who was a recipient of the University of Connecticut Alumni Association's Award for Excellence in Teaching. The fellowship is awarded each year to an outstanding graduate teaching assistant on the basis of teaching performance and academic achievement.

Medieval Studies

The Fred Cazal Fellowship is an annual award open to graduate students in Medieval Studies, especially those whose primary field is history.

Modern and Classical Languages

Most graduate students receive financial support in the form of graduate teaching assistantships and graduate fellowships. In addition, research stipends of \$500-\$1,000 sometimes are available to qualified applicants during the summer, along with summer teaching opportunities.

The Jaime Homero Arjona Memorial Fund makes available non-interest-bearing, short-term loans to graduate students in the Department of Modern and Classical Languages. Application forms may be obtained in Room 228, J.H. Arjona Building.

The David Luckey Memorial Fund makes available non-interest-bearing, short-term loans (usually 60-90 days), with a maximum of \$200, to graduate students in the Department of Modern and Classical Languages. Application forms may be obtained in Room 228, J.H. Arjona Building.

The Josefina Romo-Arregui Memorial Scholarship consists of one or two scholarships of \$500 each to master's or doctoral students of Spanish or Spanish American Poetry or the Golden Age Theater in Spain. Application forms may be obtained in Room 228, J.H. Arjona Building.

Music

(See also "Fine Arts.") The Victor Borge Scholarships are awarded in varying amounts to deserving School of Fine Arts students.

The Annie and Wilma Elias Memorial Scholarship was established through the generosity of Julius Elias in memory of his wife Wilma and his mother Annie. The scholarship is awarded annually to students who have been accepted into a program of study leading to a degree in music. Recipients are chosen based on past academic achievement and demonstration of future academic and professional accomplishments. Financial need may be a criterion but is not a determining factor. Two or more scholarships of a minimum of \$500 are available.

The Herbert A. France Music Scholarship is awarded under the auspices of the University of Connecticut Foundation to a junior, senior, or graduate student whose primary interest is conducting. This fund was established by a gift from Mrs. Olive France.

The Alice Murray Heilig Graduate Assistantship in Piano is offered. To be eligible for this assistantship, candidates must meet the following criteria: (1) full-time enrollment in the M.M., M.A., D.M.A. or Ph.D. program in the Department, (2) demonstrated promise as a pianist, and (3) demonstrated academic excellence. Recipients are selected by the Head of the Department in consultation with the Department's faculty.

The Charles, Alice (Murray), and Cheryl A. Heilig Scholarship is awarded annually. Priority is given to undergraduates, but the scholarship may be awarded to a graduate student who meets the standards set by the Scholarship Committee of the Department of Music.

The Minnie Helen Hicks Scholarship is awarded annually to one or more students in Music. Preference is given to residents of Connecticut. The basis for selection includes financial need and musical ability.

The Mae K. Kaplitz Memorial Scholarship Fund was established by Paul Kaplitz in memory of his wife, Mae K. Kaplitz. Awarded annually to students with financial need who are majoring in vocal performance and are outstanding contributors to University choral organizations.

The Musical Club of Hartford, Inc. – Evelyn Bonar Storrs Piano Scholarship is awarded to a talented graduate student of outstanding commitment pursuing study in piano. Student financial need is considered. If no graduate student meets these criteria, the scholarship

may be awarded to an undergraduate.

The Walter H. and Rowena R. Tinker Scholarship was established in memory of Walter and Rowena Tinker, devotees of opera and other vocal music. The award is made to a sophomore, junior, senior, or graduate voice student for outstanding progress.

The Alexander-Hewitt Trust, Vera Jean Berg, Edward Evans, Eugene List/Carrol Glenn, Zara Nelsova, John Poellein, Nadja Salerno-Sonnenberg, Henryk Szeryng, J. Louis von der Mehden, and the Friends of Music Scholarships also are offered. Priority is given to undergraduate students, but graduate students who meet the standards established by the Department of Music Scholarship Committee also are eligible.

Students should contact the Department of Music, Unit 1012, Storrs, Connecticut 06269-1012 for information and application forms.

Natural Resources

Several graduate research assistantships, graduate teaching assistantships, Bishop Carder Scholarships, and scholarships related to natural resources and the environment generally are available. For additional information concerning the graduate program, visit the website: <www.canr.uconn.edu/nrme/>.

Neurosciences

The Neurosciences Area of Concentration Fellowships up to \$2,000 are awarded periodically to students (selected from those currently enrolled in the Neurosciences area of concentration) who have demonstrated the potential for excellence in research. Application is made to Chair, Neurosciences Committee, Unit 4156, Storrs, Connecticut 06269-4156.

Nursing

In the spring semester, students may apply for funding from several scholarship funds and the Advanced Education Nurse Traineeship Grant

The Ralph and Ruby Gilman Scholarship honors the Gilmans' 50 years of service to the Mansfield and university communities. Dr. Gilman was hired in 1931 as the University's first full-time physician. Mrs. Gilman helped to establish the Public Health Nursing Association. Undergraduate and graduate students in Nursing are eligible. The scholarship is to be used for tuition and fees.

Newly established funds that can support graduate students include the School of Nursing Endowment Fund for Excellence, and the Mary and Katherine Connelly Nursing Scholarship

Professional Nurse Traineeships are available for qualified full-time graduate students in Nursing. Based on the availability of funds, traineeships cover student tuition and fees. Interested students should request application materials and information concerning deadlines from the School of Nursing Academic Advising Services, Unit 2026, Storrs, Connecticut 06269-2026 or at <<http://www.nursing.uconn.edu/>>

Graduate assistantships in research and/or teaching are also available to full-time students. Graduate assistantships cover tuition and include a bi-weekly stipend and benefits.

Nutritional Science

The Janina M. Czajkowski Community Nutrition Scholarship is awarded each year to a graduate student in nutritional sciences. The recipient receives a certificate and a monetary award. The award is based on academic excellence in community nutrition, potential for scholarly achievement, and need. The scholarship was established by the friends of Dr. Janina M. Czajkowski Esselen, a Professor Emerita, who established the department's community nutrition program. The scholarship is awarded by the faculty of the department. There is no application.

The Elna E. Daniels Loan Fund makes available short-term, non-interest-bearing, small loans to graduate students in nutritional science. Application is made to Head of the Department, Department of Nutritional Sciences, Unit 4017, Storrs, Connecticut 06269-4017.

The Kirvin Knox and Hamilton D. Eaton Scholarships are awarded each year to graduate students in nutritional science. The student receives a certificate and a monetary award. The award is based on research accomplishment and potential for scholarly achievement in an area of nutritional science for students in the final phase of completing the degree program. The scholarship is awarded by the nutritional sciences faculty. No application is made.

Pharmaceutical Science

The American Foundation for Pharmaceutical Education (AFPE) Fellowships are annual awards of approximately \$6,000-\$10,000 for students currently enrolled in graduate study leading to the Ph.D. degree in pharmaceutical science. Application is made to the American Foundation for Pharmaceutical Education, One Church Street, Suite 202, Rockville, Maryland 20850

The Boehringer Ingelheim Fellowship in Pharmaceutical Sciences supports

advanced graduate students in the areas of medicinal and natural products chemistry, pharmaceuticals, or pharmacology (but not toxicology). The recipient must be in at least the third year of graduate study in the department. Application is made to the Pharmaceutical Sciences Graduate Affairs Committee early in the Spring semester. The fellowship is for one year and may be renewed for one additional year.

Boehringer Ingelheim Pharmaceuticals, Inc. makes available a graduate fellowship in toxicology. Application is made to the director of the toxicology program in the School of Pharmacy.

The Gerald J. Jackson Memorial Fellowship in pharmaceuticals is awarded to a deserving graduate student who holds an undergraduate degree in Pharmacy. Application is made to the Graduate Affairs Committee in the School of Pharmacy.

The Richardson-Vicks/A. Francis Summa Memorial Award supports research activity in the School of Pharmacy. Application is made to the Graduate Affairs Committee in the School of Pharmacy.

Physical Therapy

The Leslie Finney Laughlin Scholarship provides support for students in Physical Therapy.

Physics

Virtually all graduate students accepted into the Ph.D. program, and many accepted into the M.S. program, receive financial support in the form of teaching and research assistantships and fellowships. Special scholarship and fellowship support is available for exceptionally qualified graduate students. The Physics Department has substantial external support for research programs, and funded programs generally provide research assistantships (most with supplementary summer support). Ph.D. students who perform satisfactorily and make good progress receive financial support until they complete requirements for the Ph.D. degree.

The Physics Department annually awards the Marshall J. Walker Outstanding Teaching Assistant Award to the graduate student judged to be the most effective teaching assistant. Outstanding Scholar Awards also are available for very exceptional applicants to the Ph.D. program.

Further information about the Physics Department's academic and research programs is available at the Physics Department website at www.phys.uconn.edu and from a brochure that can be found on

the website or requested by mail or e-mail at gradphysics@uconn.edu.

Plant Science

Sources of support for graduate students in all areas of concentration include: (1) Graduate research assistantships, from various sources including government and industry. (2) Teaching assistantships. (3) C. R. Burr Memorial Scholarships. (4) Bishop-Carrier Scholarships. (Eligibility for these is restricted to graduate students who are residents of Connecticut.) There is no application for any of these awards. Requests for financial aid on admission are considered during the review of applications. Students are nominated for scholarships generally by the major advisor. Assistantships and scholarships are awarded upon the recommendation of the faculty of the department, on the basis of academic and scholarly achievement, and the potential for future academic and professional accomplishments.

Political Science

The Fund for Legal Studies Fellowship is awarded annually to a graduate student in Political Science who specializes in public law. The recipient is selected by the Department of Political Science.

The George F. Cole Dissertation Fellowship in Public Law is awarded to a graduate student pursuing a dissertation in Public Law.

The Michael Dunphy Award is given annually to a graduate student with a strong interest in American government, society, history, or culture. Outstanding intellectual ability and financial need must be demonstrated. The Political Science Department shares this award with History and Sociology. The Department of Political Science will name the winner in 2008, 2011, etc. Students are nominated by faculty members.

The Ilpyong Kim Fellowship is awarded annually to a graduate student in political science who is conducting dissertation research related to Asia. The recipient is selected by the Department of Political Science.

The Norman Kogan Fellowship in Western European Politics is given annually to a graduate student in political science who specializes in the study of Western European politics.

The Everett Ladd Fellowship in American Politics is awarded annually to the graduate student with the highest scholastic standing who intends to pursue American Politics as a doctoral area of study.

The Governor Abraham Ribicoff Fellowship in American Politics is awarded annually to a graduate student in political science who specializes in the study of American politics. Preference is given to residents of Connecticut.

Polymer Science

Financial aid is usually offered to those students who are admitted for a Ph.D. Nearly all PhD students receive full financial support. Financial aid may come from one or more of the following sources: graduate assistantships from the program and University Pre-doctoral Fellowships. Truly outstanding applicants may also be considered for Outstanding Scholars Program Awards. In addition, the Polymer Program offers several special fellowships for exceptional students. These include: the Stephanie H. Shaw Scholarship, the Andrew Garton Scholarship, and the James P. Bell Scholarship. All scholarship awards are made upon the recommendation of the Polymer faculty. For further information, please contact polymer@ims.uconn.edu.

Psychology

The Farber Fellowships, established by a bequest from Emeritus Professor Maurice Farber, provide up to five "Farber Fellowships" each year, awarded to entering or continuing graduate students who are doing, or show the promise of doing, applied research in psychology. Farber Fellowships, when combined with a 10hr TA, are expected to provide an award of \$25,000 per year for up to five years of graduate work in the Department of Psychology.

The Isabelle Liberman Scholarship Fund, established by friends and colleagues of the late Professor of educational psychology, provides an annual award given to a graduate student for outstanding research in the psychology of language.

Scharz Fellowships, established by Carolina Herfkens and the estate of Emeritus Professor Conrad Schwarz, are intended to support graduate students working in the department's Psychological Services Clinic. Schwarz Fellowships provide an award of \$10,000 per year.

Public Administration

The Karl A. Bosworth Award and the Morton J. Tenzer, the Albert Ilg, the Catherine E. Pardee, and the Phi Alpha Alpha Fellowships are awarded to students in the Master of Public Administration Program. Recipients are selected by the M.P.A. Program. For more information, contact the MPA Program Office at (860) 570-9343.

Public Health

A small number of awards are available for qualified full-time students that provide a stipend of up to \$25,000 per year (with the possibility of renewal for a second year), a tuition waiver, and health insurance.

Real Estate

Information concerning each of the scholarships listed below is available from: The Center for Real Estate and Urban Economic Studies ("Real Estate Center"), School of Business, Room 401, 2100 Hillside Road, Unit 1041RE, Storrs, Connecticut 06269-1041. Scholarship applications are taken at the beginning of the fall and spring semesters. All scholarships are administered through the Real Estate Center.

Byrl N. Boyce Valuation Scholarship is given to a student interested in pursuing careers in real estate valuation and who have demonstrated potential for future academic and professional accomplishments.

The William N. Kinnard, Jr./CREUES Alumni Scholarship is awarded to students having a strong interest in careers in real estate. Criteria include past academic achievements and demonstrated potential for future academic and professional accomplishments.

The Stephen D. Messner/School of Business Administration Scholarship and Fund provides support for graduate students interested in real estate and finance.

Society of Industrial and Office Realtors/Samuel F. Pierson Scholarship offers a number of awards given to students interested in careers in real estate, preferably sales.

Social Work

The Albert Brown, Jr. Scholarship Fund provides a major award in the form of a graduate assistantship to one or more students in the School of Social Work who undertake a field placement at the University Health Service on the Storrs campus. Field placement is determined by committee. Further information is available from the Director of the Student Mental Health Service at the Storrs campus, (860) 486-4705.

Sociology

The Michael Dunphy Award is given annually to a graduate student with a strong interest in American government, society, history, or culture. Outstanding intellectual ability and financial need must be demonstrated. The Sociology Department shares this award with History and Political Science. The Department of Sociology will name the winner in 2009, 2012, etc. Students

are nominated by the Sociology Graduate Admissions and Financial Aid Committee.

The Ronald L. Taylor Award of \$100 is given annually for the best graduate student paper in Sociology. Students are notified by course instructors to apply. The award is available during the spring semester.

Statistics

Graduate student support is available in the form of teaching assistantships, research assistantships, lectureships, and graduate fellowships. Advanced students can apply for summer teaching and research support. Internships with Connecticut firms can often be arranged for graduate students who have completed one year of study. In all cases, application is to the department's director of graduate studies.

Additional Sources of External Support

The Office for Sponsored Programs, located in the Whetten Graduate Center, subscribes to InfoEd, a leading online funding database, offering over 50,000 potential funding opportunities from Federal government, private foundations, and corporate giving programs. This database is accessible through the OSP home page (www.osp.uconn.edu) and can be searched from any University computer. Students are encouraged to become familiar with these resources, which can be accessed to locate external sources of support for doctoral dissertation research, as well as general graduate student support.

Students can also consult the Peterson's Grants for Graduate Study, a compilation of federal and nonfederal resources available at the Babbidge Library. For further information, contact the Office for Sponsored Programs, Unit 1133, Storrs, CT 06269-1133 or osp@uconn.edu.

University Programs and Services

Requests for Official University of Connecticut Transcripts

Students at Storrs and the regional campuses can request official transcripts of their academic records by writing to the University of Connecticut, Office of the Registrar, Unit 4077-T, Storrs, Connecticut 06269-4077.

Requests can also be transmitted by FAX to the Registrar at (860) 486-0062. All requests should include full name, date of birth, UConn ID (PeopleSoft empl ID) if known, dates of attendance, complete and accurate addresses of transcript recipients (including ZIP codes), as well as the requester's mailing and e-mail addresses and telephone number in the event that there is a problem with the request. Requests must be signed even if they are faxed or sent via e-mail. Students also may request official transcripts through the Student Administration System.

Request forms can be completed at the Registrar's Office in the Wilbur Cross Building on the Storrs campus. These forms are also available at the regional campus registrars' offices for mailing or faxing to the University Registrar at Storrs or on the Registrar's Website.

Students can request that their transcripts be sent to themselves. Note, however, that such transcripts are stamped "issued to student in a sealed envelope" and the envelope bears a similar stamp and a facsimile signature. Students are cautioned that some recipients will not accept transcripts that have not been sent directly to them.

Transcripts are sent out by U.S. Postal Service first class mail, Priority Mail, or Express Mail. For Priority, Express Mail, UPS, Federal Express, or DHL, the request must be accompanied by a pre-paid and pre-addressed company-specific envelope. Any and all arrangement must be made by the requestor.

There are other restrictions to this service. Official transcripts may be withheld by appropriate University officials if some financial or other obligation to the University remains unmet. Since official transcripts are issued on security bank paper they cannot be sent by FAX. Requests are processed in the order in which they are received in one to five business days. The University cannot honor telephone or e-mail requests for transcripts.

There is no service fee for official transcripts.

Students can obtain an unofficial transcript via a computer that has internet access by logging on to the Student Administration System using the unique USER ID and password or by presenting a photo I.D. in person at the Registrar's Office at Storrs or at any of the regional campuses; however, students should call the regional campus registrar in advance to make arrangements for transcript pickup.

Housing

In order to reserve graduate housing for the academic year 2012-2013, applicants must submit the Application for Housing Assignment for New Graduate Students with a non-refundable \$140 room deposit payment within 15 days of receipt of the application. The final deadline for accepting all applications is June 15, 2012. Information is included in the graduate school admissions packet. Housing will be assigned on a priority basis within the limits of available space.

Graduate students have two options for on-campus housing at the University of Connecticut. These options include a building in Hilltop Apartments and Northwood Apartments.

Hilltop Apartments.

Hilltop Apartments is an apartment community built for graduate and undergraduate students. Every apartment is fully furnished, carpeted, and has air conditioning. A complete kitchen and amenities such as a full-size bed, washer and dryer, microwave, and dishwasher are standard. All utilities plus cable, local phone, and internet access are included in a competitively-priced housing package.

Northwood Apartments (Single Applicants or Family Housing).

Northwood Apartments is a community that houses graduate students and students with families. Every apartment is fully furnished and has access to laundry facilities in the complex. All utilities plus cable and internet access are included. Air conditioning is not available in this complex. Single graduate students or students with families can live in designated two-bedroom apartments.

Application Deadline.

Early application for a room is advisable since housing assignments fill quickly for the fall semester and applications are due within 15 days of receipt. The final deadline for accepting fall applications is June 15, 2011. The housing contract is binding for both the fall and spring semesters. Students

should be aware that only extreme situations will warrant a contract release during the academic year so students should plan accordingly.

New students that are not familiar with the Storrs area should realize that Storrs is located in a rural area. There is limited public transportation. Students coming to Storrs from a considerable distance are well advised to seek housing on campus, at least for the first year of residence.

For students that would like to investigate off-campus options, they are advised to seek and secure accommodations for off-campus housing prior to their arrival to campus. Off-campus housing within walking distance is limited due to the rural location of the campus.

Students may access the UConn Department of Residential Life site at <<http://www.reslife.uconn.edu>> for additional information, and off-campus students services at <<http://www.offcampus.uconn.edu>>.

Health Services

The Department of Health Services, located in the Hilda M. Williams Building on Glenbrook Road, Storrs, provides primary level health care (medical and mental health). The Department of Health Services is a fully accredited ambulatory health care facility. Students are offered both in- and out-patient services. Health care treatment for non-life-threatening conditions is available. Because of certain limitations, some medical or psychological problems may be referred to the private sector for diagnosis and/or treatment.

In- and out-patient medical services are provided by the department. These services include outpatient nurse practitioner service, outpatient gynecological service, and outpatient mental health service. Supportive services include laboratory, x-ray, and pharmacy. Nutritional counseling also is available on an appointment basis. Health promotion, alcohol and drug education outreach programs are offered through the wellness and prevention program. Confidential HIV testing also is available

The Department of Health Services is open continuously (24 hours a day) from 8:00 A.M. Monday through 4:00 P.M. on Saturday. Hours on Sunday are 8:00 A.M. to 4:00 P.M. There is an on-call telephone advice nurse service and on-call mental health clinician on Saturday and Sunday nights. There is reduced coverage during the semester breaks and the summer sessions. Services are available through appointment clinics and through daily walk-in clinics. The Women's

Health Clinic specializes in all aspects of female sexuality and health care. The Women's Clinic also sponsors assault crisis intervention for sexual and physical abuse. Certain supportive services may be restricted when the University is not in full session.

Students who enter the University for the first time must furnish a detailed health history form for medical records purposes as well as documentary proof of adequate immunization against Measles and Rubella prior to registering for classes. Students living in University housing must present evidence of meningitis vaccination. Additionally, students must provide evidence of TB testing and appropriate medical intervention (or complete an assessment form, if applicable). All medical records are held in strict confidence and can be released only with a signed consent form.

Services are available to all properly registered Storrs students and are billed on a fee for service basis. Charges may be placed on the student's university fee bill. Such bills may be submitted to insurance companies for reimbursement, but remain the financial responsibility of the student. The Health Service is a participating provider with several major insurance plans and will bill these companies directly for services and hold the student responsible for deductible and copayment amounts. All full-time students must provide for their own accident and illness insurance to cover medical care not provided through the Department of Health Services. Students may opt to be covered for accidents and illnesses through a personal insurance policy, a parental insurance policy, or a group policy sponsored by the University. Supplemental Student Health Insurance for accident and sickness is available from a private student medical insurance program. Full-time students who fail to provide proof of health insurance by filing an on-line insurance waiver through the PeopleSoft Student Administration System may be charged and automatically enrolled in the university sponsored plan. Insurance information and enrollment for the student insurance program is available at the Department of Health Services. Further information is available at <www.shs.uconn.edu>.

Center for Students with Disabilities

A complete Statement of the University's Policies and Procedures Regarding Students with Disabilities can be accessed at this website: <www.csd.uconn.edu>.

Through the integration of teaching, research and service, it is the mission of the University of Connecticut to provide an outstanding

educational experience for each student. The mission of the Center for Students with Disabilities (CSD) is to enhance this experience for students with disabilities. Our goal is to ensure a comprehensively accessible university experience where individuals with disabilities have the same access to programs, opportunities, and activities as all others. The Center is also committed to promoting access and awareness as a resource to all members of the community. While complying with the letter of the law, the CSD also embraces its spirit by providing services to all students with permanent or temporary disabilities to ensure that all University programs and activities are accessible.

Services offered include:

- Pre-admission counseling and new student orientation
- Academic accommodations and counseling
- Assistive technology training
- Residential accommodations and counseling
- Financial aid counseling
- Personal Assistant referral and training
- Transportation and parking services
- Referral and liaison services to other agencies such as the Commission on the Deaf and Hearing Impaired, Board of Education Services for the Blind, and Recordings for the Blind and Dyslexic

Information and referral source to all University and community programs and services

For more information, contact Donna M. Korbel, Director, CSD, Wilbur Cross Building, Room 204, Unit 4174, Storrs, Connecticut 06269-4174; Voice (860) 486-2020, TDD (860) 486-2077, FAX (860) 486-4412.

Career Services

The needs of graduate students as soon-to-be professionals are unique. The Department of Career Services provides a variety of resources to help graduate students (masters and doctoral) achieve professional career goals. Listed below is an overview of the resources provided for graduate students.

Career Consultation - Professional career consultants are available to discuss your unique plans for the future. During the fall and spring academic semesters, no appointment is required; come to our office during scheduled Walk-In Hours. Visit our

website or call the office for available times. During breaks, please call our office to schedule an appointment.

Resume/CV Assistance - If you need assistance getting started, would like to see examples, or want a professional to review your document, please call our office to schedule an appointment.

Career Resource Library - This collection in the Department of Career Services houses many publications and other media of interest to graduate students. Occupational information; graduate school guides; tips for doctoral students; job postings and other career-related information are available.

Practice Interviews - If you seek employment in Industry, you can participate in a Mock Interview. These sessions are recorded and a DVD is provided to each participant to take home and view. For more information visit our web site. These interviews are not provided for those seeking academic/faculty positions.

Ph.D and the Job Search DVD - A free DVD is available for Ph.D. candidates. This resource contains information about writing a CV, the Job Search, and Interviewing. Faculty and Industry professionals provide insight for Ph.D. students regarding these topics. A great resource for the Academic or Industry job search.

Workshops/Presentations - Each semester, Career Services offers workshops on various career-related topics. Check the web site or stop in to the office for a listing of events.

Annual Career Fair - During the Fall semester, a career fair takes place on campus bringing over 100 employers. This is a great opportunity to make contact with companies and organizations seeking to hire UConn graduates. Check the web site for exact date and location.

Career Services is located in room 217 of the Center for Undergraduate Education at 368 Fairfield Road (across from Babbidge Library). Please visit <www.career.uconn.edu> or call 486-3013 for additional information.

Graduate Student Senate

The Graduate Student Senate (GSS) was founded in 1966 for the purpose of enriching the lives of graduate students and acting on behalf of their needs and interests. Composed of students who represent all graduate fields of study, the Senate serves as

the liaison between graduate students and the university administration and non-university organizations.

The Senate is recognized as one of the five deliberative bodies on campus (the others are the University's Board of Trustees, the University Senate, the Graduate Faculty Council, and the Undergraduate Student Government). The Senate has voting representatives on some of these bodies as well as other university standing committees.

The Senate engages in student advocacy, service, academic, and social activities. Areas of student advocacy in recent years have included:

- cost-of-living adjustment for graduate assistant stipends;
- an earlier issuance of initial graduate assistant pay checks;
- increased graduate student residential options;
- fostering and supporting cooperation between the town and the University, including membership and active participation in the Mansfield Downtown Partnership; and
- the adoption of new guidelines concerning duration and level of support for graduate assistants.

Examples of recent service involvements include:

- the Senate short-term emergency loans for graduate students;
 - annual publication of the Graduate Student Handbook and Newsletter;
 - grants to departments and groups planning programs which contribute to the academic and professional development of graduate students;
 - the dissemination of information to graduate students concerning university initiatives and policy changes;
 - the Graduate Resource Fair, an annual orientation and resources fair for new graduate students; and
 - representation on University-wide committees such as the Vice Chancellor's Leadership Committee, University Senate, the Graduate Faculty Council, and the Chancellor's Library Advisory Committee.
- Recent academic and social activities have included:
- co-sponsorship of the 2004 Northeast Ecology and Evolution Conference;
 - lunches with key university administrators
 - sponsorship and co-

sponsorship of departmental lecture series; and

- social events such as weekly coffee nights, theme dinners, trivia tournaments and seasonal gatherings.

Programs and activities such as those listed above are funded largely by the graduate student Activity Fee with additional program support provided by the Graduate School. The Senate encourages all graduate students to participate in campus as well as university and student governance activities. Additional information concerning Senate programs and meetings is available from the Senate office, room 213 in the Student Union [phone (860) 486-3907, e-mail <gss@huskymail.uconn.edu>, Web <<http://www.gss.uconn.edu>>].

Parking and Transportation

Parking on campus is in high demand and it is suggested that students who can avoid bringing a vehicle to campus should do so. The number of parking spaces available makes it impossible to give all students permission to register motor vehicles at the University. It is therefore necessary to establish guidelines for the allotment of motor vehicle permits. Those guidelines are as follows:

- All Graduate Assistants are eligible for a parking permit
- Commuter students may purchase parking, regardless of semester standing.
- Resident students living on campus must have successfully completed 54 or more credits to be eligible for parking.

Student permits are issued in August for the entire academic year. Registration cards are mailed to eligible students in June for the upcoming year. A completed registration card and payment are to be returned to the Parking Services Office (PSO). Permits are also sold at the PSO throughout the year. To purchase a permit at the PSO, an eligible student must bring a photo driver's license and the motor vehicle registration for the vehicle being registered. The vehicle must be registered to the student or to a member of his or her immediate family. Students may not register vehicles belonging to other students.

Further information about parking on the Storrs campus can be obtained by calling Parking Services at (860) 486-4930, by visiting the website at <<http://www.park.uconn.edu>>, or by stopping by the Parking Services Office at 3 North Hillside Road on the Storrs Campus.

Bus Service.

The University offers an extensive shuttle bus and

AVS van service on campus while classes are in session. Busses and AVS vans are also operated during break periods but at much reduced service levels. Routes, schedules, and hours of operation can be found on the Transportation website at www.park.uconn.edu. AVS vans can be scheduled for passengers with permanent and temporary disabilities by calling (860) 486-4991.

Office of International Affairs

The Office of International Affairs (OIA) and the Area Studies Programs (on Latin America and the Caribbean, Europe, India, and the Middle East) are located in the Ray Ryan Building (2006 Hillside Road).

The activities of the Office of International Affairs also include technical assistance and training projects (especially in developing countries), international exchange of faculty, coordination of research, and assistance with grant proposals.

The Center for Latin American and Caribbean Studies coordinates both undergraduate and graduate study of Latin America

International Center -- Department of International Services and Programs

The Department of International Services and Programs (DISP) is responsible for the immigration advising of all international undergraduate and graduate students. In addition, this office handles all requests for the J exchange visitor program which includes J exchange students and J visiting researchers and professors. DISP is the only authorized UConn department that processes the employment of H-1B petitions and other non-immigrant employments. DISP not only provides personal advising to immigration issues but also conducts monthly programs/workshops covering a wide range of topics from orientation programs to cultural adjustment to life in the U.S. to weekly coffee hours. DISP sponsors cultural events such as the World Fest and arranges various trips throughout the semester.

DISP is located in the International Center in the Student Union, suite 307, 2110 Hillside Road and is an ideal place for international students to meet and discuss their concerns. Full-time staff is available to assist any international student or visiting scholar.

UConn American English Language Institute (UCAELI)

UCAELI, in the Center for Continuing Studies, offers a full service intensive English program for students of English as a second language. Courses are designed to prepare students for academic work and professional pursuits. Fifteen-week sessions

are offered each fall and spring and eight- and four-week sessions are offered in the summer. A TOEFL preparation course is offered each session, as is the Institution TOEFL exam. An English Proficiency Certificate, accepted by the Admissions Office in lieu of the TOEFL score of 550, can be issued to qualified students. The majority of students in the program study full-time (22 hours per week); however, individual courses are also open to UCONN degree-seeking students. With permission, advanced students may elect to take UCONN credit-bearing courses in combination with their UCAELI courses. Tutoring and customized courses can be arranged.

International Proposal Development/ Fulbright Program Advisement

The Coordinator of International Proposal Development seeks sources for funding for proposals to enhance area studies programs and internationalize the curriculum, and assists faculty, staff, and students in developing internationally-oriented grant and contract proposals.

The Fulbright Program Advisor publicizes and recruits applicants for Fulbright Scholarships and Fellowships and Fulbright-Hays Training Grants. Applicants are assisted in preparing competitive applications. The Fulbright Program Advisor chairs the University's Fulbright Scholarship Committee, a standing committee of the University.

Registration

Applicants admitted on the basis of an expected baccalaureate or graduate degree must have completed all requirements for that degree prior to the start of classes. University of Connecticut seniors must have completed the baccalaureate prior to the start of classes. Otherwise they must continue to register as undergraduates, even though admitted to the Graduate School and registering for graduate courses.

Occasionally, a University of Connecticut senior planning to enter the Graduate School has less than a full course load remaining to complete for graduation. Such a student may take advanced courses along with the remaining undergraduate courses and may count those advanced courses toward the graduate degree. Inclusion of up to six credits of such course work is permissible under the following conditions: (a) the work is completed with grades of B or above; (b) the student is later admitted to Regular status in the Graduate School; (c) the work is approved as part of the graduate plan of study; and (d) the student presents a written statement from the University Registrar certifying that the work was not counted toward the baccalaureate degree.

Advance registration and fee payments are accepted on the assumption that students will remain eligible to continue, having met the scholastic standards of the Graduate School and by having complied with its regulations.

The following instructions apply to students registering for most courses conducted on the Storrs campus. Information on registering for courses offered through the Center for Continuing Studies, courses offered by the School of Social Work, or courses offered by the Master of Business Administration programs conducted at centers other than Storrs will be found in brochures published by those programs. All degree-seeking students must register for courses using one of the available methods of registration and pay all fees at the Office of the University Bursar. All course charges (applicable tuition and fees) are due and payable by the close of business on the tenth day of the semester. Late fees and the reinstatement fee are assessed after that time. Part-time students who are not degree-seeking students must register through the Division of Continuing Studies.

Both new and continuing students should make appointments with their major advisors to determine the courses in which they plan to enroll. Instructions for registration are posted at <www.grad.uconn.edu>. Early registration

will avoid confusion and increase the likelihood of obtaining the desired course(s). Ordinarily, there are two advance registration periods for the fall semester, one beginning in early April and the other beginning in mid-August. Similar periods for spring occur in late October and early January. Dates for registration are contained in the Academic Calendar. Depending upon course selections, most students should be able to register entirely over the World Wide Web. Problems encountered during registration (including enrollment in restricted courses) may be brought to the Graduate School in the Whetten Graduate Center. In all cases, registration is not complete until all tuition and fees are paid at the Office of the University Bursar or a limited deferment of payment is obtained from the Deferment Office. Graduate students are permitted to register, to modify their course registrations without penalty, and to pay their fee bills or obtain deferments through the tenth day of the semester. Graduate students become liable for payment of tuition and other required course-related fees, however, beginning with the first day of classes of the semester or session whether or not they have attended any classes or have paid their fee bills as of that date.

Continuing Registration

Master's, doctoral, sixth year in education, and graduate certificate students must begin their programs with course work and must maintain registration continuously each semester thereafter (except summer sessions) until all requirements for the degree have been completed. Registration may be maintained either by taking course work for credit or by registering for one of the four non-credit Continuing Registration courses. These include Special Readings at the master's (GRAD 5998) or doctoral (GRAD 6998) level, Master's Thesis Preparation (GRAD 5999), and Doctoral Dissertation Preparation (GRAD 6999). Other zero-credit courses may be substituted, if appropriate. Non-credit registration requires payment of the Graduate Matriculation Fee as well as the appropriate level of the General University Fee (see "General University Fee," "Graduate Matriculation Fee," and "Continuing Registration" under "Fees and Expenses").

International students should consult with the Graduate School prior to registering for zero-credit courses. Per SEVIS guideline 8 C.F.R. 214.2 (f) (6) (iii), students are permitted to register for zero credits for a maximum of one academic year. Continuous registration is

granted on a semester-by-semester basis with the consent of the student's major advisor and the Graduate School.

Failure to maintain continuous registration during any semester results in the student's inactivation. Reinstatement is possible within a year of last registration and payment of all fees. (See "Reinstatement Fee.") The consequences associated with matriculation via Continuing Registration rather than credit courses are addressed in the "Course Loads" section.

Neither enrollment for Continuing Registration nor payment for it is required for any semester, during the first ten class days of which the student completes all requirements for a degree, if it is the only degree the student is pursuing.

Any currently matriculated student taking course work at another institution, either for transfer to a University of Connecticut graduate degree program or for any other reason, must register for Continuing Registration as specified above in any affected semester.

Enrollment in Continuing Registration is not required during the summer except as follows. A degree student, if not otherwise registered for the summer, must register for Continuing Registration and pay the Graduate Matriculation Fee if the student is fulfilling in part the doctoral residence requirement during the summer. To receive most forms of summer financial aid for study or research, a student must register for either 5 credits of coursework in each of two summer sessions or one of the full-time research courses, GRAD 5960 (Full-time Master's Research) or GRAD 6960 (Full-time Doctoral Research). For summer registration, permission numbers for GRAD 5960 and 6960 are issued by the Graduate School Office.

Registration Deadlines

All graduate students registering with the University must have their initial registration in place no later than the close of business of the tenth day of classes each semester. Additions to and deletions from a student's class schedule may occur freely throughout the first ten business days of the term. Students who do not complete an initial registration by the close of business of the first day of classes are subject to a late registration fee and a reinstatement fee.

Course Loads

The number of credits and choice of courses for which a student registers is a matter to be discussed by the student and the major

advisor. A student may be classified as a full-time student in one of three ways: (1) enroll in 9 or more credits of course work; (2) enroll in 6 or more credits of course work while holding a graduate assistantship (50% or greater); or (3) enroll in one of the four special purpose 3-credit courses. These courses include GRAD 5960 (Full-time Master's Research), GRAD 6960 (Full-time Doctoral Research), GRAD 5930 (Master's Level Directed Studies), and GRAD 6930 (Doctoral Level Directed Studies). The former two courses may be taken by students who have completed all requirements for the respective degree except the research component and who have no other obligations at the University (i.e., no other course work and no graduate assistantship). The latter two courses denote a full-time off-campus directed project, such as an internship, field work, or other special activity. Students in GRAD 5930 or GRAD 6930 may hold graduate assistantships if those assistantships are in direct support of their studies. Such an assistantship may not be a standard teaching assistantship.

To be classified as half-time, the student's course credit load must be between 5 and 8 credits/semester. A credit load of fewer than 5 credits/semester is a part-time load. These criteria apply to all registered students at the University. The currently defined Continuing Registration courses (GRAD 5998, 5999, 6998, and 6999) are zero-credit "placeholder" courses denoting part-time study and do not count toward the credit load requirement for half-time or full-time enrollment status. Degree-seeking students who do not need to be certified by the University as holding at least half-time enrollment status may use these courses to maintain registration on a part-time basis.

Students holding graduate assistantships must register for 6 or more credits/semester. Such students are considered to be full-time students.

In addition to courses offered by each department, a student's credit load may include GRAD 5950 (Thesis Research), GRAD 6950 (Dissertation Research), and other equivalent research courses defined by the Graduate School, including seminar and other "colloquium" courses that are not part of the plan of study. These variable credit courses carry S/U grading, with the student's major advisor as the instructor of record.

No full-time member of the professional staff or faculty may take for credit academic work at this institution or elsewhere which conflicts with the staff or faculty member's assigned working hours. To take courses at all, staff

and faculty members must have the approval of their department head and dean. (See “Admission,” for regulations affecting staff or faculty members holding tenure or rank above instructor.)

Auditing Courses

Students who do not wish to register for credit may be permitted to register as auditors under the following conditions: (1) they pay the appropriate tuition and fees for courses; (2) they obtain the consent of the instructor; (3) they audit only courses for which there are adequate classroom or laboratory facilities; and (4) in the case of students in degree programs, they obtain consent from their major advisors. All permissions and registrations for auditing courses must be filed in the Graduate School. Courses audited are entered on the student’s permanent record, but such courses cannot be used toward fulfilling requirements for a graduate degree at the University.

The privileges of an auditor in a course are limited specifically to attending and listening. Auditors must attend class regularly. The auditor assumes no obligation to do any of the work required of the course and is not expected to take any of the instructor’s time. In addition, the auditor does not submit any work, and is neither eligible to take any tests or examinations nor able to receive grades on all or any part of the course.

Students should not “sit-in” on classes for which they do not register as auditors.

Adding a Course

After the beginning of a semester or summer session, a student may not add a course if the instructor feels that elapsed time might preclude its successful completion. For degree-seeking students, courses added after the tenth day of a semester or after the fifth day of a summer-session term must be submitted to the Graduate School. Certain exceptions to this policy exist. Students in the Sixth-Year Program must obtain permission from the Associate Dean of the School of Education. Students in part-time M.B.A. programs conducted at locations other than Storrs must obtain permission from the director of the program at their location. Students in Social Work must follow the procedures in effect at the School of Social Work.

Dropping a Course

Discontinuance of attendance or notice to an instructor or to an advisor does not constitute cancellation of course registration, and may result in a failing grade on the student’s permanent record. Before terminating class attendance, the student should ensure that the course has been dropped officially. Until

this has been done, the student is obligated to complete all work. No grade is recorded for courses officially dropped, but a mark of W is recorded to signify withdrawal from a course after the tenth day of the semester or after the first week of a summer-session course. Cancellation of course registration does not automatically drop a course from a plan of study, nor does approved deletion of a course from a plan of study cause cancellation of course registration. The procedures are separate and unrelated.

During the first nine weeks of a semester or prior to the midpoint of a summer-session course, a course may be dropped by the following procedure. Students registered directly by the Graduate School at Storrs must file properly completed and signed schedule revision request card with the Graduate School. Non-degree students registered during either semester through the Center for Continuing Studies must notify that office in writing. Students in part-time M.B.A. programs conducted at locations other than Storrs must notify the director of the program in writing. Students in Social Work must follow procedures in force at the School of Social Work.

After the first nine weeks of a semester or the midpoint of a summer-session course, students ordinarily are not allowed to drop a course. If, however, a student must drop a course because of illness or other compelling reason beyond the student’s control, the student must request special permission as early as possible and well before the last day of classes. Permission to drop a course or to change from participant to auditor is granted only for good cause. All students – except those in the Sixth-Year Program, part-time M.B.A. programs conducted at locations other than Storrs, or the Social Work program – whether enrolled in daytime or evening classes, at Storrs or elsewhere, must obtain permission from the Graduate School. Permission is granted only on the major advisor’s written recommendation, which must be convincing and sufficiently specific regarding reasons beyond the control of the student. The recommendation should be accompanied by properly completed and signed schedule revision request card for the course(s) to be dropped. Students in the Sixth-Year Program must obtain permission from the Associate Dean of the School of Education. Students in part-time M.B.A. programs conducted at locations other than Storrs must obtain permission from the director of the program. Students in Social Work must follow procedures in force at the School of Social Work. Under no circumstances is a student at any location or

in any program permitted to drop a course after the course has officially ended.

Dropping all Courses; Withdrawal from the Program

The general policies and procedures regarding dropping a course (above) apply to dropping all courses, whether the student wishes to remain active in the graduate degree program or to withdraw permanently from it. Permission from the Graduate School is needed for the student either to remain active in the program or to leave in good standing.

If a refund is due to a student (See “Refunds and Cancellations of Charges”), the schedule-revision-request card must be signed by the appropriate Graduate School officer, regardless of the week of the semester. This signature is required so that the refund process may be initiated. No refund is possible unless all course work for credit is dropped. All course work for credit is dropped.

STANDARDS AND DEGREE REQUIREMENTS

These represent general academic standards and requirements of the Graduate School as they apply to graduate students in degree programs. Some programs have special regulations more detailed or stringent. Students should acquaint themselves with their own program's requirements as set forth in this Catalog and subsequent ones, as appropriate. Undergraduate and non-degree students taking a graduate course should consult the appropriate bulletin for regulations which apply to them.

Course Grades

Instructors are required to file with the University Registrar grades for all courses that a student takes for credit. While instructors are free to set the standard of performance they expect in their courses, a uniform scale is published to encourage general agreement on the meaning of grades.

The letter A signifies work of distinction. The letter B represents work of good quality, such as is expected of any successful graduate student. The letter C represents work below the standard expected of graduate students in their area of study. It is recognized that work of C quality in a supporting area may be of benefit to students and that they should not be discouraged by the grading system from including some supporting work in their programs. Such work shall be identified on the plan of study. Plus and minus values may be assigned to all but failing grades, are entered on the permanent record, and are computed into the student's grade point average.

A grade of D+, D, or D- signifies work of unsatisfactory quality. If a graduate student receives any form of a D grade, the course may not remain on the plan of study and the student's eligibility to continue in the degree program is reviewed by the student's advisory committee.

The grade of F or U signifies failure in the course and necessitates a recommendation by the advisory committee to the Graduate School as to whether or not the student shall be permitted to continue graduate study.

Final grades of S (Satisfactory) or U (Unsatisfactory) are associated only with certain courses designated as such by the Executive Committee of the Graduate Faculty Council. Certain foreign language courses designed under method (2) for fulfillment of a doctoral language requirement also may carry the S/U grading option, if chosen by the student. (See "Foreign Language; Related or Supporting Area of Study.") All but the foreign language courses are identified in this bulletin by the symbol † preceding the course number. This type of grading is designed for courses or sections of courses in which student performance cannot readily be evaluated due to the nature of the course as conducted at the time. An S is not computed into the student's grade point average, while a U is viewed as an F (except that no computation is made for 1000's level courses).

Graduate students are not permitted to take any regular course, undergraduate or graduate, on a Pass/Fail basis.

A mark of I (Incomplete) is assigned if a student has been doing work of acceptable quality but, for some reason satisfactory to the instructor, has not completed all of the work required to earn credit for a course by the end of the semester or session.

The letter W signifies withdrawal from a course after either the tenth day of a semester course or the first week of a summer-session course. Except in extraordinary cases where academic factors or extreme or unusual circumstances warrant it, this mark is not deleted from the permanent academic record.

If a student whose work in a course throughout the semester has been of satisfactory quality fails to take a required final examination in the course because of illness or other serious cause, the instructor is permitted to give a mark of X (Absent) and may, with the permission of the Graduate School, reschedule the examination. If the student's work up to the time of the examination was not clearly of passing quality, the instructor is to enter a mark of F or U if a required final examination is missed.

The letters L, N, and Y are administrative symbols signifying that a letter grade had not been reported by the instructor when grades were processed. The letter L signifies lateness in reporting grades for an entire section of a course. The letter N signifies that no grade was reported for an individual student duly registered for a course. The letter Y signifies that no grades were due to be reported for an entire section of a course (because of the scheduling of the course) when grades were processed.

Beginning with the Fall 2004 semester, the symbol I or X is replaced by the final course grade on the permanent academic record when the student completes all required work for the course and the instructor reports the final grade to the Registrar. Prior to the Fall 2004 semester, the symbols I and X appear together with final course grades on students' permanent academic records.

The letter T indicates that course credit has been accepted in transfer from another institution.

The letter R is an administrative symbol signifying that a student is registered. Any zero-credit course (e.g., GRAD 5998, 5999, 6998, or 6999) for which a student registers appears on the permanent academic record with the letter R as the grade.

Scholastic Standards

Students are required to maintain in their course program at least a B (3.00) average, for which a grade point average will be computed on a scale where:

A + = 4.3 B - = 2.7 D + = 1.3

A = 4.0 C + = 2.3 D = 1.0

A - = 3.7 C = 2.0 D - = 0.7

B + = 3.3 C - = 1.7 F = 0

B = 3.0

Maintenance of good academic standing in the Graduate School requires at all times a cumulative grade point average of 3.00 or higher in course work completed while enrolled in a graduate program. An official transcript of an individual's graduate academic career, however, includes grade point average calculations based on all course work completed during the student's graduate career (including any 1000's level courses). Credits completed elsewhere and accepted in transfer by the Graduate School do not affect the student's University of Connecticut grade point average in any way.

Whenever a student's cumulative average falls below 3.00, the program is reviewed by the student's advisory committee to determine whether or not the student shall be permitted to continue graduate study.

If all work required to change a mark of I or X is not submitted to the University Registrar

within twelve months following the end of the semester or session for which the mark was recorded, or within a shorter period of time specifically designated by the instructor, no credit is allowed for the course, and the indicated I or X becomes a part of the permanent record. The instructor has the option of changing such a mark to a grade of F or U within thirteen months following the end of the original semester or session. For grades of I, it is the student's responsibility to reach and to maintain an understanding with the instructor concerning the timely completion of the work. For grades of X, it is the student's responsibility to seek the required permission to take the final examination from the Graduate School as soon as possible after it has been missed.

Upon the recommendation of the instructor to the Graduate School, a limited extension of an Incomplete may be granted. The Graduate School is not obligated to approve an extension if the instructor of the course no longer is a faculty member at the University of Connecticut.

If more than three courses have been left incomplete, the student may be required to complete those still viable before being allowed to register for additional course work. Too many permanent Incompletes on the record may be grounds for the student's termination or dismissal. An employment authorization for a graduate assistantship appointment may not be approved for a student who has four or more viable incomplete courses on his or her academic record.

For further information the reader is referred to the document, "Key to the Transcript," available from the Office of the University Registrar.

Termination of Status

To remain in good standing, a student at all times must have a major advisor as well as a viable terminal date (the date by which all degree requirements must be completed). A viable terminal date may be the result of an extension of a student's expired original terminal date. Once the plan of study has been approved by the Executive Committee of the Graduate Faculty Council, a student at all times must have a duly constituted advisory committee with at least two associate advisors in addition to the major advisor.

In the event that a student's major advisor determines that resignation from the advisory committee is necessary, the student is provided

with a reasonable opportunity to arrange for a new major advisor. If a new major advisor is not identified within six weeks of the resignation of the former major advisor, the student's graduate degree program status is terminated.

A graduate student and his or her major advisor should always be cognizant of the student's terminal date or terminal date extension, the date by which the Graduate School expects that all degree requirements will have been completed. The student and the major advisor are notified of the student's terminal date when the Graduate School sends approved copies of the student's plan of study. Any written recommendation to extend the terminal date must be submitted in a timely manner by the major advisor to the Graduate School. In the event that the major advisor determines that he or she cannot support a recommendation to extend an expiring terminal date or terminal date extension further, the Graduate School must be notified by the major advisor in writing at the earliest possible opportunity. Limited extensions of the terminal date are granted by the Graduate School only on the basis of substantial evidence that the student is making consistent and satisfactory progress toward the completion of degree requirements. In the absence of a timely recommendation to extend an expired terminal date, or in the event that a recommended extension has been denied by the Graduate School, the student's graduate degree program status is terminated.

Whenever a student's graduate degree program status is terminated, a letter is sent to the student by the Associate Dean. If the student wishes to request a hearing, the provisions outlined under "Hearing and Appeal Procedures" apply

Academic Dismissal

A graduate student's progress in a degree program is monitored regularly by the student's advisory committee. If at any time, a student's academic performance, progress in a graduate degree program, or professional development and/or suitability is judged by his or her advisory committee to be unsatisfactory, and if the advisory committee determines that dismissal on any of these grounds is warranted, the advisory committee must submit its written recommendation that the student be dismissed on such grounds to the Dean of the Graduate School. A student may be subject to academic dismissal if he or she: (1) fails to maintain the minimum cumulative grade point average required by the Graduate School (3.00); (2) receives a grade of D+, D, D-, F, or U in any course; (3) fails to satisfy a foreign language requirement for a degree; (4) fails

the doctoral general examination; (5) fails to produce an acceptable doctoral dissertation proposal; (6) performs unsatisfactorily in any aspect of the research or writing for a master's thesis or doctoral dissertation; (7) fails the final examination for the master's or doctoral degree; or (8) fails to satisfy any other academic requirement of the student's graduate degree program. The specific judgment on which the advisory committee's recommendation is based must be stated. The recommendation must bear the signature of each member of the advisory committee. For a student whose advisory committee has not yet been established, the major advisor alone submits the recommendation. If the student is to be dismissed on any of the above grounds, a letter of dismissal is issued by the Associate Dean. If the student wishes to request a hearing, the provisions outlined below under "Hearing and Appeal Procedures".

Hearing and Appeal Procedures

If a student's graduate degree program status is to be terminated or if a student is to be dismissed on academic grounds, the Associate Dean issues a letter to the student stating this intent. If a student wishes to request a hearing before the Associate Dean, the student must submit a written request within 30 days of receipt of the letter. Following the hearing, the student may appeal the decision of the Associate Dean to the Dean. This appeal does not constitute a new hearing. Rather, it is a review of the record of the original hearing and is entertained only on one or both of two grounds: (1) the claim of an error in the hearing procedure, and (2) the claim of new evidence or information that was not available at the time of the hearing. If the student's termination or dismissal is upheld by the Dean, the student may appeal further to the Provost on only the same grounds as the appeal to the Dean. In any event, the decision of the Provost is final.

GRADUATE CERTIFICATE PROGRAMS

Graduate certificate programs may be offered within the structure of the Graduate School. Students may be awarded these certificates upon completion of a well-defined program of course work. The graduate certificate is not defined as a degree by the Graduate School; rather, it is simply a focused collection of courses that, when completed, affords the student some record of coherent academic accomplishment in a given discipline or set

of related disciplines. Moreover, the graduate certificate is not viewed as a guaranteed means of entry into a graduate degree program. While the courses comprising a graduate certificate may be used as evidence in support of a student's application for admission to a graduate degree program, the certificate itself is not considered to be a prerequisite. The didactic material contained within a graduate certificate program may represent a more practice-oriented subset of an existing graduate discipline. Detailed information concerning admissions criteria and procedures can be obtained from graduate certificate program coordinators.

An appropriate number of academic credits must comprise the certificate program. The number of graduate (5000- or 6000-level) credits may not be fewer than nine nor more than one-half of the credits necessary for a related Master's degree from the Graduate School. Ordinarily, the credit requirement ranges from 12 to 15 graduate semester credits. When there exists no related Master's program, the number of credits required for a graduate certificate is limited to 12.

A certificate student may enroll on either a part-time or a full-time basis, as determined by the certificate program coordinator and the number of credits taken by the student. Students enrolled on a full-time basis have access to many of the same campus services as other full-time graduate students. They may live in on-campus graduate student housing and they may be granted student library access and campus parking privileges, among others. They also may be considered for merit-based financial aid by the department or program, as well as for need-based financial aid by the Student Financial Aid Office, but at a reduced priority compared to degree-seeking students.

Graduate School Certificate programs currently approved for offering include but are not limited to the following:

- Adult Learning
- Biomedical Science Research Experience
- Culture, Health, and Human Development
- Cognitive Science
- College Instruction
- Disability Services
- Geographic Information Systems
- Health Promotion/Health Education
- Human Rights
- International Studies

- Music Performance
- Public and Nonprofit Management
- Graduate Certificate in Nursing
- Occupational Health Psychological Certificate
- Positive Behavior Support
- Program Evaluation
- Public Financial Management
- Quantitative Research Methods
- Biomedical Science Research Experience
- Survey Research Certificates
- Feminist Studies

MASTER'S DEGREE PROGRAMS

Master's degree programs are offered in approximately 70 fields of study in the Graduate School. The Master of Arts degree usually is awarded to properly qualified candidates in the humanities, the social sciences, education, and all non-scientific fields except art, business administration, public affairs, and social work. The Master of Science degree is awarded to candidates in the natural, physical, mathematical, pharmaceutical, nutritional, and agricultural sciences, as well as Accounting, Nursing, and Engineering. Other Master's degrees awarded are the Master of Business Administration, the Master of Dental Science, the Master of Engineering, the Master of Fine Arts, the Master of Music, the Master of Professional Studies, the Master of Public Administration, the Master of Public Health, and the Master of Social Work. A master's degree program represents the equivalent of at least one year of full-time study beyond the baccalaureate (or its equivalent).

Since the Master's degree is the only intermediate degree offered by this University, it should be emphasized that the education it provides may prepare students for a variety of goals. The advisory committee should take into consideration the student's objectives and insist on the student's giving sufficient time to the program so that they may be fulfilled. Those students who are committed to doctoral study generally need less time to complete a Master's degree than those for whom the master's program provides the only opportunity to prepare for various professions. Recognizing the difference between a research degree and a terminal Master's degree, the committee should determine the student's goals and potential as early as possible, so as to help the student develop an appropriate predoctoral or terminal

plan of study.

In most fields of study, work for the Master's degree is offered mostly, if not exclusively, on the main campus at Storrs. There are some exceptions. The Master of Business Administration is offered on a part-time basis at the downtown Hartford, Stamford, and Waterbury campuses and on a full-time basis at the Storrs campus. The Master of Dental Science program and the Master of Public Health program are offered primarily at the Health Center in Farmington. The Master of Social Work program is offered at the West Hartford campus. Certain courses in education, engineering, geological sciences, and oceanography are offered at locations other than Storrs. With the exception of the programs listed above, at least nine credits at the graduate level must be earned on the Storrs campus.

Time Limits

The student is expected to register for course work with reasonable regularity and to complete all requirements for the degree within a moderate span of time to assure continuity and adequate familiarity with developments in the field of study. (See "Continuous Registration.") Ordinarily, the Master's degree should be completed within two years or so. In any event, all work for the Master's degree must be completed within a maximum period of six years from the beginning of the student's matriculation in the degree program. Failure to complete the work within this period or failure to maintain continuous registration (see "Continuous Registration") will require re-evaluation of the student's entire program and may result in termination.

An extension of a student's terminal date is considered only when there is substantial evidence that the student has attempted to make regular and consistent progress toward completion of degree requirements. A written recommendation to extend the terminal date must bear the signature of the student's major advisor, and it must be submitted in a timely manner to the Graduate School. Approval is granted by the Dean. Each subsequent request to extend a student's terminal date requires greater justification and more extraordinary circumstances. Third requests for extension are rarely, if ever, granted.

Plan A and Plan B Master's Degrees

Master's degrees may be earned under either of two plans, as determined by the advisory

committee. The first plan (Plan A) emphasizes research, while the second (Plan B) requires comprehensive understanding of a more general character. Plan A requires not fewer than fifteen credits of advanced course work and for students entering Fall 1998 or later, not fewer than nine additional credits of Master's Thesis Research (GRAD 5950 or GRAD 5960), as well as the writing of a thesis. Plan B requires not fewer than twenty-four credits of advanced course work, a final examination, but no thesis. In either case, advisory committees may require more than the minimum number of credits.

Up to six credits of advanced course work taken on a non-degree basis at the University of Connecticut may be included on a Master's degree plan of study provided the following conditions are met: (1) the grades earned in such course work are B (not B-) or higher; (2) such course work is within the six-year limit for completion of Master's degree requirements; and (3) such credits have not been applied toward any other degree, here or elsewhere (already completed or to be completed in the future). In any event, inclusion of non-degree course work on the plan of study requires the consent of the advisory committee and is subject to the approval of the Executive Committee.

Up to six credits of advanced course work completed or to be completed at other institutions may be approved for transfer to the student's Master's degree program at the University of Connecticut. Such credits are to be listed "below the line" on the plan of study. The following conditions must be met before final approval of any transfer of credit is granted: (1) the advisory committee must indicate its approval of the transfer of credit by signing the plan of study; (2) the courses must be at a level appropriate for a graduate degree and offered by an accredited institution; and (3) the grades earned in any courses to be transferred must be B (not B-) or higher. Official transcripts of any course work to be transferred must be on file in the Graduate School. When the student's plan of study has gained the approval of the Executive Committee and official transcripts indicating satisfactory completion of the course work to be transferred are received, the transfer of credit is noted on the student's permanent academic record. Any credits transferred to a graduate degree program at the University of Connecticut must not have been used toward a degree elsewhere (already completed or to be completed in the future).

Students admitted to study for the degree of Doctor of Philosophy may earn a Master's degree, if one is offered specifically in their field, under either Plan A or Plan B. They

also may apply for this degree if they have on file a fully approved doctoral plan of study including at least twenty-four completed credits of suitable content course work taken at this University and have passed a master's final examination. They also may apply for this degree if they have completed at least 24 credits on an approved Ph.D. plan of study, have passed the doctoral general examination, and have been recommended by their major advisor or by the Dean of the Graduate School for award of the Master's degree.

More than one Master's degree may not be awarded at this institution to an individual student unless the degree titles are different or unless the degrees are earned in different fields of study. The same course may not be offered for credit toward more than one degree, except in the case of officially approved dual degree programs.

Candidacy and Plan of Study

To become a candidate for a Master's degree, the student must have on file with the Graduate School a plan of study prepared with the aid and approval of an advisory committee and approved by the Executive Committee of the Graduate Faculty Council. To be eligible for degree conferral, a Master's degree student must have been granted Regular status. The student may not take the final examination for the degree before the plan of study has been fully approved. The plan of study must be prepared in triplicate, signed by the student and the members of the advisory committee, and submitted to the Graduate School for approval by the Executive Committee when the student has completed not more than twelve credits of course work to be applied to the degree. Failure to present the plan on time may prolong the period of study for the degree. Before drawing up and approving the plan, the major advisor should have on file and should consult for guidance a set of transcripts of all undergraduate and graduate work the student has taken. The advisory committee may require that the student take an exploratory examination to guide the committee in formulating the plan of study.

Courses elected shall be consistent with the student's objectives and related to the field in which the degree will be taken. Plans of study shall consist largely of courses at the 5000's level or above. A limited number of credits at the 4000's level (not more than six) may be accepted. Specially-approved courses at the 3000's level may also be considered for inclusion in certain cases. In addition to the minimum number of course credits required for the degree, the advisory committee may

require the student to take other courses with or without graduate credit, depending on the student's objectives and previous preparation. Course credit by examination is not allowed as a means of accumulating credits to meet the requirements for advanced degrees at this institution.

After approval of the plan by the Executive Committee, any request for change must be submitted to the Graduate School on the official form bearing the signatures of the advisory committee and the student for approval by the Executive Committee. Successful completion of all work indicated on the approved plan of study is a fundamental prerequisite to the conferral of the degree.

Once the plan of study is approved, the student and the advisory committee should reevaluate it regularly and modify it, following the established procedure, if appropriate.

The Master's Thesis

The advisory committee must approve the topic and scope of the thesis required under Plan A and upon its completion, ascertain that it represents an independent investigation of a significant topic and is an important contribution to ongoing research in the candidate's field. The thesis must be acceptable in literary style and organization. The thesis is regarded as an important part of the student's program. Specifications for preparation of the thesis can be obtained at the Graduate School or from the Graduate School's website. It is the student's responsibility to be certain that the thesis conforms exactly to the specifications prescribed by the Graduate School.

No restrictions that limit or delay the accessibility, use, or distribution of the results of any student's research are acceptable, if such delays interfere with the timely completion of a student's academic program.

The thesis must be dated as of the calendar year in which all requirements for the degree are completed. Two high quality copies of the thesis must be deposited in the Graduate School by the conferral period deadline in August, December, or May. Each copy must contain an approval page bearing original signatures of all members of the advisory committee. At least 25% cotton-content bond paper of at least 20-pound weight must be used for both copies. Only one side of the paper is to be used for printing. After binding, both copies become the property of the Homer Babbidge Library, and the identical second copy is made available for faculty and student use. If the thesis is lengthy, the Babbidge Library may require that it be bound as more than one volume. If a program requires one or more extra copies, it is the

student's responsibility to supply them directly to the program.

Final Examination

Near the close of the candidate's period of study – not later than one year after the completion of course work or the thesis – the student must pass a final examination under the jurisdiction of the advisory committee. The student may not take the final examination before the plan of study has been approved by the Executive Committee or before Regular status has been granted. The advisory committee has discretion to determine whether the examination shall be written, oral, or both. Invitation to participate in an oral examination is issued by the advisory committee, although any and all members of the faculty may attend. The examination must be completed by the published deadlines for the appropriate conferral period for the degree to have that conferral date

The decision as to whether a student has passed or failed the examination rests solely with the advisory committee, which shall take into account the opinions of other participating faculty members. The vote of the advisory committee must be unanimous. Immediately following the examination, the major advisor shall communicate the results to the student and send a report on the official form to the Graduate School. If the student has failed the examination or if the advisory committee considers the result of the examination inconclusive, the committee has the option of requiring the student to retake it. In such cases, the recommendation must reach the Graduate School promptly, and any re-examination must take place within twelve months from the date of the original examination.

Under Plan A the examination may center on the candidate's research and its relation to the field of study as a whole, but may have a wider scope. Under Plan B the examination shall be comprehensive and designed to assess the candidate's mastery of the field and ability to integrate the knowledge acquired. The Master's final examination often is used as a qualifying examination for doctoral study.

THE DOCTOR OF MUSICAL ARTS DEGREE

The D.M.A. degree is the highest practice-oriented degree offered by the Graduate School in the field of Music. The program leading to its attainment is intended to give persons of outstanding ability the opportunity to become

creative contributors in musical performance and scholarship. Award of the degree testifies to broad mastery of the art of music, an ability to practice that art on an exceptionally high level, and acquisition of appropriate research skills.

While certain minimum requirements are set by the Graduate School and the Music Department, it is important for students to realize that work toward this degree is not merely a matter of accumulating course credits or satisfying other requirements. The degree will be conferred only after the advisory committee and the Graduate Music Faculty are convinced that the student is able to demonstrate consummate artistry in a public forum, and has developed independence of judgment and mature scholarship.

Time Limits

The equivalent of at least two years of full-time study beyond the Master's degree is required. All work must be completed within seven years of the beginning of the student's matriculation in the degree program. The general examination shall be passed within four years of the beginning of doctoral study. Failure to complete the work within the periods specified or failure to maintain continuous registration (See "Continuous Registration") will require re-evaluation of the entire program and may result in a notice of termination. A five-year time limit applies to the acceptance of foreign-language courses. (See "Foreign Language.")

An extension of a student's terminal date is considered only when there is substantial evidence that the student has attempted to make regular and consistent progress toward completion of degree requirements. A written recommendation to extend the terminal date must bear the signature of the student's major advisor, and it must be submitted in a timely manner to the Graduate School. Approval is granted by the Dean. Each subsequent request to extend a student's terminal date requires greater justification and more extraordinary circumstances. Third requests for extension are rarely, if ever, granted.

Residence Requirement

A graduate student can fulfill the special demands of a doctoral program only by devoting a continuous period of time to concentrated study, practice, and research with a minimum of outside distraction or employment. The D.M.A. student must complete one year (two semesters) of full-time study in residence. This residence period must be completed through registration for

and completion of appropriate course loads or research at the Storrs campus. Students ordinarily must register for full-time student status during the residence period (see "Course Loads").

The principal criterion for full-time study as required for fulfillment of the doctoral residence requirement is whether the student is in fact devoting essentially full-time effort to studies, without undue distraction caused by outside employment. It is left to the advisory committee to determine whether a student's outside employment is a distraction that prevents the student from devoting essentially full-time effort to the planned program. The advisory committee will record this determination on the plan of study, along with a description of the nature, extent, and period(s) of outside employment during the residence period.

Plan of Study

The plan of study must be prepared; signed by the student, the members of the advisory committee, and the Director of Graduate Studies in Music; and then submitted to the Graduate School for approval by the Executive Committee of the Graduate Faculty Council. The student may not take the general examination before the plan of study has been fully approved. Failure to present the plan on time may prolong the period of study for the degree. Before formulating and signing the plan, the major advisor should have transcripts of all of the student's undergraduate and graduate work on file and should consult them for guidance. The advisory committee may require that the student take an exploratory examination to guide the committee in formulating the plan of study.

A limited number of credits at the 3000's or 4000's level (not more than six) may be accepted. The degree ordinarily requires at least 43 credits, depending on the area of concentration. The plan will designate any foreign language(s) in which the student is to be tested. Course credit by examination is not allowed as a means of accumulating credits to meet the requirements for advanced degrees at this institution. For students entering in Fall 1998 or later, at least fifteen credits of GRAD 6950 must appear on the plan of study. This effort represents the research for the D.M.A. Dissertation, which is an essential component of the student's program.

Advanced course work taken on a non-degree basis at the University of Connecticut may be included on a D.M.A. plan of study provided the following conditions are met: (1) the grades earned in such course work are B (not B-) or higher, (2) such course work is within

the seven year limit for completion of D.M.A. degree requirements, and (3) such credits have not been applied toward any other degree here or elsewhere (already completed or to be completed in the future). In any event, inclusion of non-degree course work on the plan of study requires the consent of the advisory committee and is subject to the approval of the Executive Committee.

After approval of the plan by the Executive Committee, any request for change must be submitted in advance to the Graduate School on an official form bearing the signatures of the members of the advisory committee and the student. Such changes are subject to approval by the Executive Committee. The successful completion of all work indicated on the approved plan of study is a fundamental prerequisite to conferral of the degree

Once the plan of study is approved, the student and the advisory committee should reevaluate it regularly and modify it, following the established procedure, if appropriate.

Foreign Language

Students in all areas of concentration shall be required to have a competent reading knowledge of at least one foreign language appropriate to the general area of study.

Students should plan to meet the language requirement early in their graduate career and well before they begin preparation for the general examination. Methods for establishing evidence of reading competence are the same as those for the Ph.D. (See explanation of the Foreign Language requirement under "The Doctor of Philosophy Degree.")

Transfer Credit

Transfer of credit for course work completed at other institutions is approved only after the student has demonstrated the ability to do acceptable graduate work at the University of Connecticut. Such ability must be demonstrated by successful completion of graduate level University of Connecticut course work. The maximum number of credits accepted from accredited institutions is six, provided it is of at least B (not B-) quality and contributes to the objectives of the proposed doctoral program. Such graduate work may be approved for transfer provided that the general examination is to be passed and all degree requirements are to be completed within the prescribed period – seven years – from the beginning date of the earliest course, wherever taken, listed on the approved doctoral plan of study. (See "Time Limits.") Transfer credit is not

granted for individual courses used for a degree elsewhere (already completed or to be completed in the future). Instead, consideration is given to that degree program as an entity when the doctoral plan of study is being prepared.

Evaluation of Performance

The advisory committee shall evaluate continually the student's performance. Any graduate student whose scholastic performance does not meet the minimum requirements of the Graduate School may be subject to dismissal. The first recital for all D.M.A. students, except for those in conducting, is considered to be a qualifying recital, and must be presented during the first year of D.M.A. study. The hearing for this recital is evaluated by the full performance faculty. Any student who does not demonstrate an appropriate level of performance in this hearing and recital is subject to dismissal.

General Examination

The general examination shall be taken near the end of the course program but not later than eight months prior to the conferral of the degree. Before arrangements for the examination are made, the foreign language requirement(s) should have been met and the plan of study must have been approved by the Executive Committee of the Graduate Faculty Council. The examination is comprehensive in nature, and incorporates elements of music history and literature, music theory, performance practice, and practical application of these constituent components.

The examination is under the jurisdiction of the student's advisory committee and contains both written and oral components. Not fewer than five faculty members, including all members of the advisory committee, constitute the examining committee and participate in the examination. The final decision as to whether or not the student has passed the examination is determined solely by majority vote of the examining committee.

After the examination, the major advisor communicates the results to the candidate and sends the official report on the examination to the Graduate School.

D.M.A. Dissertation Proposal

Before preparation of the D.M.A. Dissertation is well under way, the student must file a proposal describing the intended research

with the Graduate Studies Committee of the Music Department. Failure to file the proposal early may result in wasted effort on a document if changes are required in the project. The proposal must be approved by the Graduate Studies Committee in Music at least four months before the filing of the D.M.A. Dissertation and it must be approved by the Executive Committee of the Graduate Faculty Council at least three months before the filing of the D.M.A. Dissertation.

Candidacy, Recitals, and D.M.A. Dissertation Preparation

Upon passing the general examination, the foreign language requirements, and (in the case of all students except conducting majors) the qualifying recital, the student becomes a candidate for the degree Doctor of Musical Arts. Students are notified of their advancement to candidacy.

Students in every D.M.A. area of concentration except conducting must present three full-length recitals during the course of study for the degree. The first of these is considered a qualifying recital, which must be preceded by a pre-recital hearing. This hearing must be presented on a designated date at least three weeks before the scheduled recital, and is adjudicated by the full performance faculty. Hearings for subsequent degree recitals may be held at the discretion of the major advisor or applied instructor. These recitals and concerts represent the culmination of the performance aspect of this degree, and will be judged according to the highest levels of musical artistry. Majors in conducting must appear in concert as conductors with the appropriate departmental major ensemble. Either two one-half concert appearances or one whole concert appearance is required. In addition, conducting majors must present one full-length recital during the course of study for the degree.

A written dissertation representing research into some aspect of music performance, repertoire, or pedagogy is an important requirement of this degree. The D.M.A. Dissertation is under the immediate supervision of a member of the music theory or music history faculty, and secondarily under the supervision of the advisory committee. It must be acceptable in literary style and organization. Specifications for its preparation are available in the Music Department office. It is the student's responsibility to be certain that the dissertation conforms exactly to the specifications prescribed by the Music Department. The D.M.A. Dissertation receives no academic credit, although the fifteen credits of GRAD 6950 (required of students

entering in Fall, 1998 or after) are associated with its preparation. It is intended that this document will uphold the highest standards of scholarship, identical to those required of Ph.D. dissertations.

The advisory committee will set a date for completion of the D.M.A. Dissertation, allowing time for each advisor to make suggestions for revisions, and then will set a date for the final examination, allowing time for the student to make those revisions. In some cases, further revision of the dissertation may be required by the advisory committee as a result of the final examination. Final approval of the dissertation following the examination is indicated by the original signatures of all members of the advisory committee on the dissertation's final approval page. This must be submitted to the Graduate School following the examination. Final approval pages must be received at the Graduate School by the conferral period deadline in August, December, or May. The technical specifications for the preparation of the D.M.A. Dissertation are identical to the specifications for the preparation of the Ph.D. dissertation (see "Candidacy and Dissertation Preparation").

No restrictions that limit or delay the accessibility, use, or distribution of the results of any student's research are acceptable, if such delays interfere with the timely completion of a student's academic program.

Final Examination

The final examination is oral and under the jurisdiction of the advisory committee. It deals mainly with the subject matter of the D.M.A. Dissertation. It is held by the conferral period deadline in August, December, or May. Invitation to participate in the examination is issued by the advisory committee, although any member of the faculty may attend. Not fewer than five members of the faculty, including all members of the candidate's advisory committee, must participate in the final examination unless written approval for a lesser number has been secured in advance from the Dean of the Graduate School. The decision as to whether a candidate has passed or failed the examination rests solely with the advisory committee, which will take into account the opinions of any other participating faculty members. The vote of the advisory committee must be unanimous. Following the examination, the major advisor communicates the results to the student and verifies that the official report has been completed and signed for submission to the Graduate School.

THE DOCTOR OF PHILOSOPHY DEGREE

The Ph.D. is the highest degree offered by the University and is offered in more than 60 fields of study. The program leading to its attainment is intended to give persons of outstanding ability the opportunity to become creative contributors in a scholarly field. Award of the degree testifies to broad mastery of an established subject area, acquisition of acceptable research skills, and a concentration of knowledge in a specific field.

While certain minimum requirements are set by the Graduate School, it is important for students to realize that work toward this degree is not merely a matter of accumulating course credits or of satisfying other requirements. The degree will be conferred only after the advisory committee and the Graduate Faculty are convinced that the student has developed independence of judgment and mature scholarship in the chosen field. An individual may not earn more than one Ph.D. degree in a single field of study at this institution.

Time Limits

The equivalent of at least three years of full-time study beyond the baccalaureate or two years beyond the master's degree (in the same or a closely-related field) is required. All work must be completed within a period of eight years of the beginning of the student's matriculation in the degree program, or, if the student entered with a master's degree in the same or a closely related field, the doctorate must be completed within seven years. The general examination must be passed within five years of the beginning of the student's matriculation in the degree program, or within four years if the student entered with a master's degree in the same or a closely-related field. Failure to complete the work within the periods specified or failure to maintain continuous registration (see "Continuous Registration") will require reevaluation of the student's entire program and may result in a notice of termination. A five-year time limit applies to the acceptability of foreign-language courses. (See "Foreign Language; Related or Supporting Area of Study.")

A one-time extension of the student's terminal date of no longer than two years is considered only when there is substantial evidence that the student has made regular and consistent progress toward completion of degree requirements. A detailed recommendation to extend the terminal date must be submitted

in a timely manner to the Graduate School. Approval is granted by the Dean.

Residence Requirement

The graduate student can fulfill the special demands of a doctoral program only by devoting a continuous period of time to concentrated study and patient research with a minimum of outside distraction or employment. During the second or subsequent years of graduate work in the field, at least two consecutive semesters must be completed in residence. Alternatively, this requirement may be met by combining one semester of residence plus a contiguous 12-week summer period made up of Summer Sessions I & II or Summer Session IV, if agreed upon by the advisory committee and the student. The residence period must be completed through registration for and completion of appropriate course loads or research at the Storrs campus or, if more appropriate, at one of the other sites of instruction and research within the University system. Students ordinarily must register for full-time student status during the residence period (see "Course Loads").

The essential criterion for full-time study as required for fulfillment of the doctoral residence requirement is whether the student is in fact devoting essentially full-time effort to studies, without undue distraction caused by outside employment. It is left to the advisory committee to determine whether a student's outside employment is a distraction that prevents the student from devoting essentially full-time effort to the planned program. The advisory committee will record this determination on the plan of study, along with a description of the nature, extent, and period(s) of outside employment during the residence period.

Plan of Study

The plan of study must be prepared, signed by the student and the members of the advisory committee, and submitted to the Graduate School for approval by the Executive Committee of the Graduate Faculty Council when the student has completed not more than twelve credits of course work to be applied to the degree. The student may not take the general examination before the plan of study has been fully approved. Failure to present the plan on time may prolong the period of study for the degree. Before formulating and signing the plan, the major advisor should review a set of transcripts of all undergraduate and graduate work the student has taken. The advisory committee may require that the student take an exploratory examination to guide it in formulating the plan of study.

articles submitted by the major advisor. The passage may be the same for a group of students in the same field or may be selected individually for each student. The examination must be supervised and have a reasonable time limit. The result of the examination, whether passed or failed, must be reported to the Graduate School on the official form bearing the signature of the examiner.

(3) A doctoral reading examination passed at another graduate school of approved standing may be accepted in transfer (subject to the above five-year limitation) provided the examination was taken prior to the student's enrollment in this Graduate School

(4) The student may establish evidence of competence in the language through an official transcript stating that the baccalaureate or a higher degree was earned with that language as the major.

(5) The student may establish evidence of competence in the language through documentation that it is the student's native language, learned in childhood and used primarily through at least secondary school.

Transfer Credit

Transfer of credit for course work completed at other institutions is approved only after the student has demonstrated the ability to do acceptable graduate work at the University of Connecticut. Such ability must be demonstrated by successful completion of graduate-level, University of Connecticut course work. The equivalent of two years of graduate work completed at accredited institutions may be accepted, provided it is of at least B (not B-) quality and it contributes to the objectives of the proposed doctoral program. Such graduate work may be approved for transfer provided that the general examination is to be passed and all degree requirements are to be completed within the prescribed periods – respectively, four or five years and seven or eight years – from the beginning date of the earliest course, wherever taken, listed on the approved doctoral plan of study. (See "Time Limits.") Transfer credit is not granted for individual courses used toward a degree elsewhere (already completed or to be completed in the future). Instead, consideration is given to that degree program as an entity when the doctoral plan of study is being prepared.

Evaluation of Performance

The advisory committee continually evaluates the student's performance. Any graduate student whose scholastic record does not meet the minimum requirements of the Graduate

School may be subject to dismissal. However, the committee may insist on more than the minimum scholastic requirements and may take other factors into consideration in deciding whether or not to recommend to the Dean that the student be permitted to continue in the degree program.

General Examination

The general examination is taken near the end of the course program, but not later than eight months prior to the date of completion of all degree requirements. In any event, the examination must be passed within five years of the beginning of doctoral study or within four years if the student entered with a master's degree in the same or a closely related field. The beginning of doctoral study is defined as the beginning date of the earliest course, wherever taken, listed on the approved doctoral plan of study. Foreign language requirements should have been met and the related or supporting area courses completed well in advance. The student may not take the general examination before the plan of study has been approved by the Executive Committee.

The general examination is under the jurisdiction of the student's advisory committee unless the members of the Graduate Faculty in a student's field of study have voted to assign jurisdiction for all or part of the examination to a differently constituted examining committee. The examination may be written, oral, or both. All members of the advisory committee must be present during any oral examination. A student is examined in the several facets of his or her field of study, not merely in the particular area of concentration. Advisory or examining committees may give a series of cumulative examinations, to be taken at intervals over the student's period of study. For practical purposes, the final part of such a series shall be regarded as "the general examination," and its scope may be limited as the advisory or examining committee may judge appropriate.

The examining committee includes at least one faculty member representing each of the major areas addressed in the examination. Not fewer than five faculty members, including all members of the student's advisory committee, must participate in the examination. All examiners are invited to submit questions and to evaluate answers, but the final decision as to whether or not the student has passed the examination shall rest solely with the advisory committee unless the members of the Graduate Faculty in a student's field of study have voted to assign this authority to a differently constituted examining committee

After the examination, the major advisor

communicates the results to the candidate and immediately sends the official report, bearing the signature of each member of the advisory committee, to the Graduate School. Should the committee permit the student to take the examination in several sections, only the final result should be reported.

Dissertation Proposal

Before dissertation research is undertaken, the student is required to prepare and submit for advisory committee and external review a dissertation proposal addressing the intended research, following the guidelines contained on the special approval form obtainable at the Graduate School or from the Graduate School website. Failure to file the dissertation proposal early may result in wasted effort on a dissertation if changes are required in the project.

Ordinarily, it is expected that a Dissertation Proposal will be prepared and fully approved before preparation of the dissertation is well underway. If human and/or animal subjects are involved in the dissertation research, approval must be secured before the research is undertaken from the Institutional Review Board (IRB) and/or the Institutional Animal Care and Use Committee (IACUC) respectively. Approval of the Embryonic Stem Cell Research Oversight Committee (ESCRO) must be obtained in advance for any use of human stem cells in dissertation research.

When the dissertation proposal has been completed and signed by the student and also has been approved by the members of the advisory committee, the proposal then is submitted to the head of the department or program to which the student was admitted. The head appoints reviewers from outside the advisory committee to conduct a critical evaluation of the dissertation proposal. The use of at least one reviewer from outside the University is encouraged. Reviewers may be appointed to evaluate an individual student's proposal, or they may be appointed to a committee responsible for reviewing all proposals in a particular field of study or group of related fields of study.

Dissertation proposals are reviewed with the following questions in mind: (1) Is the proposal well written, well organized, and well argued? (2) Does the proposal describe a project of appropriate scope? (3) Does the student demonstrate a knowledge of the subject and an understanding of the proposed method of investigation? (4) Does the student show awareness of the relevant research by others? and (5) Does the student consider how the proposed investigation, if successful, will contribute to knowledge?

The department or program head's signature on the proposal when the review is completed confirms that the results of the review were favorable. The evaluation may take the form of a reading of the proposal or attendance at an oral presentation and discussion of the proposal. A copy of the signed approval form and dissertation proposal must be received by the Graduate School when the review process been completed. Receipt by the Graduate School of the approved Dissertation Proposal and any required IRB, IACUC, or ESCRO approval is a basic requirement for eligibility to schedule the oral defense of the dissertation and for conferral of the doctoral degree.

Candidacy and Dissertation Preparation

Upon approval of the plan of study, passing the general examination, and having had the dissertation proposal fully approved by the Executive Committee of the Graduate Faculty Council, the student becomes a candidate for the degree of Doctor of Philosophy. Students are notified of their advancement to Candidacy.

A dissertation representing a significant contribution to ongoing research in the candidate's field is a primary requirement. The preparation of the dissertation is under the immediate and continuous supervision of the advisory committee and it must meet all standards prescribed by the committee and by the Graduate School. It must be acceptable in literary style and organization. Specifications for its preparation may be obtained at the Graduate School or from the Graduate School website. It is the student's responsibility to be certain that the dissertation conforms exactly to the specifications prescribed by the Graduate School.

No restrictions that limit or delay the accessibility, use, or distribution of the results of any student's research are acceptable, if such delays interfere with the timely completion of a student's academic program.

The dissertation is dated as of the calendar year in which all requirements for the degree are met. The advisory committee will set a date for completion of the dissertation, allowing time for each advisor to make suggestions for revision, and will set a date for the final examination, allowing time for the student to make revisions and to submit a complete preliminary or "working" copy of the abstract and dissertation at the Graduate School (or, if more appropriate, at a central office at the Health Center in Farmington) at least seven days before the dissertation defense. When submitted to the Graduate School (or to the Health Center), the complete preliminary or "working" copy of the

abstract and dissertation must be accompanied by a tentative-approval form signed by all members of the advisory committee.

Following the examination, the student must submit the final, fully-revised copies of the dissertation to the Graduate School (also another copy if submitted to the Health Center). The final copies of the dissertation should be printed with a laser printer or they may be high quality photocopies. In any event, at least 25% cotton-content bond paper of at least 20-pound weight must be used for any copy of the dissertation submitted to the Graduate School (or to the Health Center). Only one side of the paper is to be used for printing.

In some cases, revision of the dissertation is required by the advisory committee as a result of the final examination. Final approval of the dissertation following the examination is indicated by the presence of original signatures of all members of the advisory committee on the final-approval page, which must be submitted to the Graduate School soon after the student has been examined if no revisions are necessary. In any case, final-approval pages (and the revised dissertation, if changes are required) must be received at the Graduate School by the conferral period deadline in August, December, or May. After binding, two copies of the dissertation become the property of the Homer Babbidge Library. If a department or program requires extra copies, it is the student's responsibility to supply them directly to the department or program.

Abstract, Microfilming, and Other Completion Requirements

At the time the dissertation is submitted, four copies of the abstract (five if the dissertation is submitted to the Health Center) must be submitted to the Graduate School (or with the dissertation at the Health Center). The body of the abstract may not exceed 350 words in length, and it is published in Dissertation Abstracts.

Microfilming of the dissertation by PQIL is required. Agreement forms for this process must be completed by doctoral candidates when submitting the dissertation to the Graduate School (or the Health Center). This form also may be used to arrange for optional copyrighting of the dissertation.

The student is required to pay a fee for the microfilming of the dissertation. There also is a fee for copyrighting the dissertation, if this is desired. There is no charge to the student, however, for the binding of the two final copies of the dissertation. Both final copies become the property of the Homer Babbidge Library.

All doctoral students are required to complete

the "Survey of Earned Doctorates," a federal form available at the Graduate School.

Final Examination

The final examination or dissertation defense deals mainly with the subject matter of the dissertation. The examination is oral, it is under the jurisdiction of the advisory committee, and it is held at the appropriate campus of the University (Storrs, Avery Point, Health Center, or School of Social Work). The examination may not be held sooner than seven days after a working copy of the complete dissertation and tentative advisory committee approval have been submitted to the Graduate School (or the Health Center) and by the conferral period deadline in August, December, or May. Invitation to participate in the examination is issued by the advisory committee, although any member of the faculty may attend. Not fewer than five members of the faculty, including all members of the candidate's advisory committee, must participate in the final examination, unless written approval for a lesser number has been secured in advance from the Dean of the Graduate School.

It is required that notification of the time, date, and place of the examination be posted at least two weeks prior to the examination on the University's Web-based events calendar. Instructions for posting the announcement are available at <http://www.grad.uconn.edu/announcing.html>. In addition, the examination should be advertised widely in the candidate's department and elsewhere throughout the University, as appropriate.

The decision regarding whether a candidate has passed, conditionally passed, or failed the examination rests solely with the advisory committee, which will take into account the opinions of other participating faculty members and other experts. The vote of the advisory committee must be unanimous. Following the examination, the major advisor communicates the results to the student and verifies that the official report has been completed and signed for submission to the Graduate School.

CONFERRAL OF DEGREES

Conferral

Degree conferral requires that the student be in good academic standing and that all requirements

for the degree have been completed satisfactorily on or before the last day of the conferral period. Degrees are conferred three times each year – in August, December, and May – although there is only one annual graduate Commencement ceremony at which graduate degrees are awarded (in May). Students who qualify for degree conferral receive their diplomas by mail, normally within three months following conferral.

Application for the Degree

Formal application for a degree to be conferred must be filed on-line by the degree candidate using the PeopleSoft system. Information and instructions are available at this website: <http://www.grad.uconn.edu/degree_completion.html>. If filing is not timely, conferral is delayed to the next conferral period, even though all other degree requirements may have been completed on time.

Commencement

The graduate Commencement ceremony is held once each year at the end of the spring semester. Individuals who have had degrees conferred at the end of the previous summer or the previous fall semester and candidates for degrees who complete degree requirements by the end of the spring semester may participate in the annual Commencement ceremony and are urged to do so. Academic regalia appropriate for the University of Connecticut degree being conferred is strictly required for all who participate in the ceremony. Information concerning the Commencement ceremony, including academic regalia and guest tickets, is made available by mid-February exclusively on the Graduate School's website: <<http://www.grad.uconn.edu/>>.

Fields of Study

Fields of study and areas of concentration officially recognized by the Graduate School are limited to those listed below. Graduate degrees are awarded in these fields of study. Each field of study is shown in conjunction with the degree or degrees that may be awarded. The final transcript also will record completion of the special requirements of one listed area of concentration, if appropriate. These requirements are determined by a student's advisory committee. The Graduate School does not require that a student select an area of concentration, although an advisory committee may require a student to do so.

Fields of Study

Accounting.....	M.S.
Adult Learning.....	M.A., Ph.D.
Agricultural and Resource Economics.....	M.S., Ph.D.
Animal Science.....	M.S., Ph.D.
Physiology of Reproduction	
Anthropology.....	M.A., Ph.D.
Social Science and Health Care (Ph.D. only)	
Applied Financial Mathematics.....	M.S.
Applied Genomics.....	M.S.
Applied Microbial Systems Analysis.....	M.S.
Art.....	M.F.A.
Art History.....	History
M.A.	
Biochemistry.....	M.S., Ph.D.
Biodiversity and Conservation Biology.....	M.S.
Biomedical Engineering.....	M.S., Ph.D.
Biomedical Science.....	Ph.D.
Cell Biology	
Cell Analysis and Modeling	
Cellular and Molecular Pharmacology	
Genetics and Developmental Biology	
Immunology	
Molecular Biology and Biochemistry	
Neuroscience	
Skeletal, Craniofacial and Oral Biology	
Biotechnology (not accepting new students at this time).....	M.S.
Business Administration.....	M.B.A., Ph.D.
Full - time M.B.A. program Areas of Concentration	
Finance	
Health Care Management	
Information Technology	
Venture Consulting	
Marketing Intelligence	
Real Estate	
Part - time M.B.A. program Areas of Concentration	
Accounting	
Finance	
General	
Health Care Management	
Human Resources (not accepting new students at this time)	
International Business	

Management	Economics..... M.A., Ph.D.
Management of Technology	Education Administration M.A., Ph.D. (not accepting new students at this time)
Marketing	Educational Leadership..... Ed.D.
Real Estate	
Ph.D. program Areas of Concentration	Educational Psychology..... M.A., Ph.D.
Accounting	Cognition/Instruction & Learning Technology
Finance	Counselor Education and Counseling Psychology (Ph.D. only)
Management	Gifted and Talented Education
Marketing	Measurement, Evaluation, and Assessment
Operations and Information Management	School Counseling (M.A. only)
Business Analytics & Project Management.....M.S.	School Psychology
Cell Biology..... M.S., Ph.D.	Special Education
Cytology	
Developmental Biology	Electrical Engineering M.S., Ph.D.
Plant Cell and Molecular Biology	Electronics, Photonics, and Biophotonics
Plant Physiology	Information, Communications, Decision, and Biosystems
Chemical Engineering..... M.S., Ph.D.	Engineering..... M.Engr.
Chemistry..... M.S., Ph.D.	Civil and Environmental Engineering
Civil Engineering..... M.S., Ph.D.	Chemical Engineering
Applied Mechanics (Ph.D. only)	Computer Science and Engineering
Environmental Engineering (M.S. only)	Electrical and Computer Engineering
Fluid Dynamics (Ph.D. only)	Materials Science and Engineering
Geotechnical Engineering	Mechanical Engineering
Structural Engineering	
Transportation and Urban Engineering	English..... M.A., Ph.D.
Clinical and Translational Research..... M.S.	American Studies (M.A. only)
Audiology (Au.D. only)	Environmental Engineering..... M.S., Ph.D.
Communication (M.A. only)	Feminist Studies.....(Grad Cert)
Communication Processes and Marketing Communication (Ph.D. only)	Financial Risk Management..... M.S.
Speech, Language, and Hearing (M.A. and Ph.D. only)	Genetics and Genomics..... M.S., Ph.D.
Comparative Literary & Cultural Studies..... M.A., Ph.D.	Geography..... M.A., Ph.D.
Computer Science and Engineering..... M.S., Ph.D.	Geological Sciences..... M.S., Ph.D.
Curriculum and Instruction..... M.A., Ph.D.	Geology
Agricultural Education (M.A. only)	Geophysics
Bi-lingual and Bi-cultural Education	Grad School Courses
Elementary Education	Graduate Certificate Programs
English Education	Health Promotion..... M.S.
Music Education (M.A. only)	Higher Education and Student Affairs..... M.A.
Mathematics Education	History..... M.A., Ph.D.
Reading Education	American Studies(M.A. only)
Science Education	Latin American (Ph.D. only)
Secondary Education	Medieval European (Ph.D. only)
Social Studies Education	Modern European (Ph.D. only)
World Language Education	United States (Ph.D. only)
Dental Science..... M.Dent.Sc.	Homeland Security Leadership M.P.S.
Dramatic Arts..... M.A., M.F.A.	Human Development and Family Studies..... M.A., Ph.D.
Acting	Human Resource Management M.P.S.
Design	Humanitarian Services Administration M.P.S.
Directing (not accepting new students at this time)	International Studies..... M.A.
Performance/Production (M.A. only -- not accepting new students at this time)	European Studies
Puppetry	Italian History and Culture
Technical Direction	Latin American Studies
Theater History and Criticism (M.A. only -- not accepting new students at this time)	
Ecology..... M.S., Ph.D.	Judaic Studies M.A.
	Kinesiology..... M.S., Ph.D.
	Exercise Science
	Sport Management

Linguistics..... M.A., Ph.D.
 Literatures, Cultures & Languages..... M.A., Ph.D.
 French and Francophone Studies
 German Studies
 Italian Cultural and Literary Studies
 Spanish Studies
 Comparative Literacy and Cultural Studies
 Materials Science M.S., Ph.D.
 Alloy Science
 Biomaterials
 Corrosion Science
 Crystal Science
 Dental Materials
 Metallurgy
 Polymer Science
 Materials Science and Engineering..... M.S., Ph.D.
 Mathematics..... M.S., Ph.D.
 Actuarial Science (M.S. only)
 Mechanical Engineering..... M.S., Ph.D.
 Applied Mechanics (Ph.D. only)
 Design
 Dynamics and Control
 Energy and Thermal Sciences
 Fluid Dynamics (Ph.D. only)
 Manufacturing
 Medieval Studies..... M.A., Ph.D.
 Microbiology M.S., Ph.D.
 Music..... M.Mus., M.A., D.M.A., Ph.D.
 Conducting (M.Mus. and D.M.A. only)
 Historical Musicology (M.A. only)
 Music Theory and History (Ph.D. only)
 Performance (M.Mus. and D.M.A. only)
 Theory (M.A. only)
 Natural Resources: Land, Water, and Air..... M.S., Ph.D.
 Nursing..... M.S., D.N.P., Ph.D.
 Adult/Gero Acute Care Nurse Practitioner
 Adult/Gero Primary Care Nurse Practitioner
 Clinical Nurse Leader
 Family Nurse Practitioner
 NeoNatal Nurse Practitioner
 Nutritional Science..... M.S., Ph.D.
 Occupational Safety and Health Management
 (not accepting new students at this time).....
 M.P.S.
 Oceanography..... M.S., Ph.D.
 Pathobiology..... M.S., Ph.D.
 Bacteriology
 Pathology
 Virology
 Pharmaceutical Science..... M.S., Ph.D.
 Medicinal and Natural Products Chemistry
 Neurosciences
 Pharmaceuticals

Pharmacology and Toxicology
 Philosophy M.A., Ph.D.
 Physical Therapy..... M.S.(no longer admitting master's
 students), D.P.T.
 Physics M.S., Ph.D.
 Physiology and Neurobiology M.S., Ph.D.
 Comparative Physiology
 Endocrinology
 Neurobiology
 Neurosciences
 Plant Science..... M.S., Ph.D.
 Agronomy
 Horticulture
 Landscape Architecture (M.S. only)
 Plant Breeding
 Plant Environment
 Soil Science
 Political Science..... M.A., Ph.D.
 American Studies (M.A. only)
 Survey Research (M.A. only)
 Polymer Science..... M.S., Ph.D.
 Health Care Genetics..... M.S.
 Psychology..... M.A., Ph.D.
 Behavioral Neuroscience
 Clinical
 Developmental
 Ecological Psychology
 Industrial/Organizational
 Language and Cognition
 Neurosciences
 Personality (not accepting new students at this time)
 Social
 Public Administration..... M.P.A.
 Public Health M.P.H., Ph.D.
 Occupational and Environmental Health Sciences (Ph.D. only) (No
 longer admitting Students)
 Social and Behavioral Health Sciences (Ph.D. only) (No longer
 admitting Students)
 Social Work..... M.S.W., Ph.D.
 Sociology..... M.A., Ph.D.
 Social Science and Health Care (Ph.D. only)
 Survey Research (M.A. only)
 Special Education..... M.A., Ph.D.
 Statistics..... M.S., Ph.D.
 Industrial Statistics (M.S. only)
 Structural Biology and Biophysics..... M.S., Ph.D.
 Survey Research..... M.A.

Health Center Programs

The following degree programs, also included in the preceding Field of Study list, are offered primarily at the University of Connecticut Health Center. Application to these programs should be made to the Graduate School Admissions Office, University of Connecticut Health Center, Farmington, Connecticut 06030-1827. In addition, some

interdisciplinary fields of study and areas of concentration involve Health Center fields as participants (see below).

Biomedical Science	Ph.D.
Cell Biology	
Cellular and Molecular Pharmacology	
Genetics and Developmental Biology	
Immunology	
Molecular Biology and Biochemistry	
Neuroscience	
Skeletal, Craniofacial and Oral Biology	
Clinical and Translational Research	M.S.
Dental Science	M.Dent.Sc.
Public Health	M.P.H.++, Ph.D.+
Occupational and Environmental Health Sciences	5
Social and Behavioral Health Sciences	5

INTERDISCIPLINARY PROGRAMS

An interdisciplinary program includes substantial course work in two or more existing fields of study. In some programs the degree is awarded in one of the fields of study involved while in other programs the degree is awarded in an interdisciplinary field of study. Where the degree is awarded in an interdisciplinary field of study, the Dean of the Graduate School may choose to appoint an advisory committee which represents the various fields of study involved in an interdisciplinary program. The following is a listing of approved interdisciplinary programs.

Interdisciplinary Fields of Study

Fields of Study	
Programs Participating	Degrees Offered
Biomedical Engineering	M.S., Ph.D.
Dental Science (Health Center), Electrical Engineering, Materials Science, Mechanical Engineering, and Psychology	
Comparative Literary and Cultural Studies	M.A., Ph.D.
English, French, German, Italian, and Spanish	
Environmental Engineering	M.S., Ph.D.
Chemical, Civil, and Mechanical Engineering	
International Studies	M.A.
Agricultural and Resource Economics, Anthropology, Comparative Literary and Cultural Studies, Economics, History, Philosophy, Political Science, and Sociology	
Judaic Studies	M.A.
History, Modern and Classical Languages, Sociology	
Materials Science	M.S., Ph.D.
Chemistry, Engineering, Physics, and others	
Medieval Studies	M.A., Ph.D.

Art, Dramatic Arts, English, History, Modern and Classical Languages, Music, and Philosophy

Polymer Science M.S., Ph.D.

Biochemistry, Biophysics, Chemical Engineering, Chemistry, and Physics

Public Health Ph.D.

Survey Research M.A.

Political Science, Sociology

Graduate Certificate Programs

Certificate programs currently approved for offering within the structure of the Graduate School include:

- Adult Learning
- Biomedical Science Research Experience
- Cognitive Science
- College Teaching
 - Culture, Health, and Human Development
- Disability Services
- Feminist Studies
 - Geographic Information Systems
 - Global Governance Studies
 - Health Promotion and Health Education
 - Health Psychology
 - Human Rights
 - Music Performance
 - Nonprofit Management
 - Nursing Practice
 - Occupational Health Psychology
 - Public Financial Management
 - Quantitative Research Methods
 - Sixth-Year Certificate Programs in Education
 - Adult Learning
 - Bi-lingual and Bi-cultural Education
 - Cognition/Instruction
 - Counselor Education and Counseling Psychology
 - Educational Administration
 - Educational Technology
 - Gifted and Talented Education
 - Professional Education
 - Reading and Language Arts Consultant
 - Remedial Reading and Remedial Language arts
 - School Psychology

Teacher

PROGRAMS AND COURSE OFFERINGS

Programs

All graduate degrees at the University of Connecticut except the M.D., D.M.D., Pharm.D., and J.D. are awarded through the Graduate School.

Only those Fields of Study and Areas of Concentration identified in the preceding list are recognized by the University and the Graduate School. Here, descriptions of degree programs appear under the titles of the approved fields of study, if possible. In some cases, it has been necessary to group the approved fields of study under a departmental or other title in order to facilitate location in the text. For many of the programs, special requirements (over and above those of the Graduate School) that are generally applied to all students in that program are outlined. However, each student's program is non-departmental in that the advisory committee alone, in supervising it, is directly responsible to the Dean of the Graduate School.

Course Offerings

The following lists include most of the graduate courses that the University has approved for offering. However, not all courses listed are offered every semester or every year. For actual current offerings, students should consult the appropriate schedule of classes which can be accessed from the Graduate School's registration Web site. Part-time, evening, and summer session students may wish to consult class schedules published by the Office of Credit Programs, Center for Continuing Education. Descriptions of undergraduate courses are contained in the Undergraduate Catalog. The University reserves the right to change announced offerings.

Course Numbering System

Undergraduate courses are numbered 1000-4999. Courses numbered 1000-1999 are primarily for freshmen, courses numbered 2000-2999 are primarily for sophomores, courses numbered 3000-3999 are primarily for juniors, and courses numbered 4000-4999 are primarily for seniors. A limited number of credits of course work completed at the 4000-level (usually not more than six) may be applied, with the approval of the student's advisory committee, toward a graduate degree program provided certain conditions are met (See "Standards and Degree Requirements.").

Graduate courses are numbered 5000-6999. This Catalog contains listings of graduate-level courses only. Courses numbered 5000- 5999 are primarily for master's students, and courses numbered 6000-

6999 are primarily for doctoral students.

The University of Connecticut changed its course numbering system from three-digit course numbers to four-digit course numbers following the 2007-2008 academic year. In this Catalog, the descriptions of courses which previously had a three-digit course number begin with that number in parentheses.

Satisfactory/Unsatisfactory Grading

Throughout the text, courses approved by the Executive Committee of the Graduate Faculty Council for Satisfactory (S)/Unsatisfactory (U) grading (*see* "Standards and Degree Requirements") are designated by the dagger symbol (†).

Course Semesters

Class schedules for each semester and session can be accessed from the University's PeopleSoft Web site. Not all courses are offered every semester or every year. Information concerning the availability of particular courses may be obtained also from departmental and program offices.

Courses carrying hyphenated numbers are full-year courses extending over two semesters. The first semester of such courses is always prerequisite to the second, but the student may receive credit for the first semester without continuing with the second.

Course Meeting Times

Information about the specific time(s) that a course will meet may be obtained from the appropriate departmental office at the time of registration or from appropriate class schedules.

Course Prerequisites

All course prerequisites must be met before a student is permitted to register for the particular course. If, however, the instructor of a course is convinced that the student has the equivalent of such a prerequisite, the instructor may admit the student by providing the student with a unique PeopleSoft permission number (which is valid only for that student to use in registering for the course in question).

Course Instructor

Students should consult the schedule of classes contained in the PeopleSoft database or contact the departmental office at the time of registration to obtain information concerning course instructor(s).

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Agriculture and Resource Economics

Department Head
Professor Rigoberto A Lopez

Professors
Bravo-Ureta, Cotterill, Hanink, Langlois,
L. Lee, T. Lee, Lopez, Pomeroy, Ray, and
Segerson

Associate Professor
Altobello, Minkler, Randolph, Shah, and
Tripathi, bobby joe

Assistant Professors
Huang and Matchke

M.S. and Ph.D. degrees in Agricultural and Resource Economics are offered. Study may be undertaken in three broad areas, namely Food Marketing and Industrial Organization, Environmental and Resource Economics, and International Agricultural and Economic Development. Examples of sub-areas of specialization include prices and market performance, production economics, applied econometrics and statistics, environmental economics, benefit-cost analysis, economics of recreation, natural resource economics, economics of fisheries and aquaculture, economic development, and agricultural and resource policies.

The graduate program includes courses designed to provide a foundation in theory, empirical methods, and policy. Ph. D. students take additional courses in their field of interest prior to carrying out dissertation research. For M.S. students, the opportunity of selecting a specialized study area is offered via a thesis (or a non-thesis research project and additional course work). Graduate students usually take courses from those listed below and, in addition, select complementary offerings from the Departments of Economics, Natural Resources Management and Engineering, and Statistics, as well as the School of Business. Further information regarding graduate program structures and course requirements is available in the Departmental Graduate Bulletin (which may be downloaded from the Agricultural and Resource Economics website).

Admission Requirements

The Department recommends that applicants for admission to the master's program have a background of basic courses in undergraduate level economics, mathematics, and statistics, although there are no fixed requirements. Applicants to the Ph.D. program are expected to have superior preparation in these subjects and are also required to submit scores from the GRE General Test.

Special Facilities and Opportunities

Graduate students have exclusive access to a computer lab with state-of-the-art equipment, software, and wireless internet. The Food Marketing Policy Center has extensive scanner data and a collection

of all major food industry trade publications. Several faculty members are engaged in international research, teaching, and policy projects that present numerous opportunities for graduate student participation. Prospective students are encouraged to visit the Department website for a more detailed description of program offerings and faculty interests.

Courses

ARE5201(3 Credits) Microeconomics I

Beginning graduate microeconomics covering consumer and producer theory, price determination, economic efficiency, and welfare analysis. Components:Lecture

Course Equivalents:ECON 5201

ARE5305(3 Credits) The Role of Agriculture and Natural Resources in Economic Development

The role of agriculture in the economic development of less developed economies. Microeconomic dimensions of agricultural development, economics of food consumption and nutrition, agricultural technology and productivity, agricultural supply, land tenure and agrarian reform, foreign assistance, trade agreements, and agricultural price policy. Components:Lecture

ARE5311(3 Credits) Econometrics I

Construction, estimation, and interpretation of economic behavioral and technical equations using data that are passively generated by a system of simultaneous, dynamic and stochastic relations. Components:Lecture
Course Equivalents:ECON 5311

ARE5315(3 Credits) Mathematical Programming for Economists

Procedures for formulating and applying mathematical optimizing techniques. Emphasis is on the use of linear and nonlinear programming models for researching economic problems. Components:Lecture

ARE5462(3 Credits) Environmental and Resource Economics

Natural resource use and environmental quality analysis using economic theory. Reviews of empirical research and relevant policy issues. Components:Lecture

ARE5464(3 Credits) Benefit-Cost Analysis and Resource Management

Theoretical foundations and applications of benefit-cost analysis in project appraisal and in evaluation of public policies regarding resource management and environmental protection. Components:Lecture

ARE5474(3 Credits) Industrial Organization: Empirical Analysis

Analysis of the structure, conduct, and performance of industries with examples from the food sector and other industries. Explains the development of testable hypotheses from theory, empirical methods, evidence on the level and type of competition, economies of size, product differentiation, entry barriers, and the impact of alternative organizational forms including cooperatives on economic performance. Components:Lecture

ARE5495(1 - 3) Special Topics

Topics and credits to be published prior to the registration period preceding the semester offerings. Components:Lecture

ARE5499(1 - 6)Instructor Consent Required Independent Study in Agricultural and Resource Economics

This course provides the opportunity for graduate students to carry on independent reading or research in the field of the student's needs and interests. Components:Independent Study

ARE6466(3 Credits) Environmental Economics

Economic analysis of environmental problems and corrective policy instruments. Theory of externalities and public goods, role of uncertainty and imperfect information in policy design, benefit-

cost analysis, and non-market valuation. Applications to environmental problems (such as air and water pollution, hazardous waste, and occupational health and safety). Components:Lecture
Course Equivalents:ECON 6466 Requirement
Group:Prerequisite: ARE 5201 or ECON 5201 (RG158).

ARE6468(3 Credits) Economics of Natural Resources

Economic concepts and issues related to the allocation of stock resources through time, the use and protection of flow resources, and the role of natural resources in economic growth. Components:Lecture

ARE6472(3 Credits) Microeconomic Applications to Food Markets

This course trains students in applied microeconomics, with particular emphasis on food markets and public policy. The course is divided into three broad areas: production economics, economics of consumer behavior, and market analysis. Particular emphasis is placed on quantitative tools using empirical models and welfare economics. Students design and undertake an individualized project in their area of interest. Components:Lecture
Requirement Group:Prerequisites: ARE 5201 (325) or ECON 5201 (308) and ARE 5311 (345) or ECON 5311 (310) (RG 3510).

ARE6474(3 Credits)Instructor Consent Required Industrial Organization: Advanced Empirical Analysis

Empirical Industrial Organization models that use simultaneous equations, discrete choice, and/or nonlinear econometric methods to analyze conduct and performance of brands and firms in non competitive industries. Includes static and dynamic modeling of pricing and advertising in differentiated product oligopolies. Antitrust policy applications in the U.S. and E.U. Components:Lecture

ARE6495(3 Credits) Graduate Research Seminar

Participation in research seminars presented by invited scholars and departmental faculty.

This course can be repeated to a maximum of 12 credits. Components:Seminar

ARE6695(1 - 3) Special Topics

May be repeated to a maximum of 12 credits with a change of topic. Topics and credits to be published prior to the registration period preceding the semester offerings.

Components:Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

Animal Science

Department Head: Professor Daniel L. Fletcher

Professors: Darre, Faustman, Hart, Hoagland, and Zinn

Associate Professor :Andrew, Dinger, Kazmer, Nadeau, Milvae, Rasmussen, Tian, and Venkitanarayanan

Assistant Professors: Carter, Govini, and Mancini

Master of Science and Doctor of Philosophy degrees are offered in Animal Science with supportive instruction in biochemistry, environmental health, food science, physiology, biology, nutrition, statistics and related fields. All prospective students should have a strong academic background in the biological sciences. In addition to the credit requirements indicated below, M.S. and Ph.D. students must complete one credit of ANSC 5693 (Graduate Presentation Skills). In addition, M.S. students must complete one credit of ANSC 5694 (Animal Science Seminar), while Ph.D. students must complete two credits of ANSC 5694. M.S. (Plan B) students are exempt from the ANSC 5694 requirement. All graduate students receiving assistantship support are required to assist with the teaching of 1 course per year of enrollment.

The M.S. degree offers students the opportunity to emphasize study in animal behavior, food science, nutrition, growth, physiology of lactation, physiology of reproduction, or production management within Animal Science. Master of Science students are required to conduct thesis research (Plan A) or attain a comprehensive understanding in one of the above outlined areas (Plan B). Plan A programs of study must include a minimum of 15 credits of formal course work exclusive of research. Plan B programs of study must include a minimum of 24 credits of formal course work of which at least two, but not more than four credits, shall be a special research project. Additional specialization may be attained by focusing on dairy and beef cattle, sheep, swine, poultry, horses, companion or aquatic animals or their products.

Admission.

In addition to the admission requirements of the Graduate School, all applicants are required to submit scores from the General Test of the Graduate Record Examinations,

three letters of recommendation, and a Personal Statement. Prospective students are strongly encouraged to read the Department of Animal Science Web pages before applying.

The Ph.D. Program.

The Doctor of Philosophy degree is offered in Animal Science with an area of concentration in Physiology of Reproduction. Dissertation research may also emphasize environmental health, immunobiology, animal behavior, animal breeding, food science, nutrition, growth, and physiology of lactation. The Ph.D. degree requires demonstrated capabilities for conducting independent research plus related scholarly attributes. Each Ph.D. plan of study must include 44 to 48 credits of course work beyond the baccalaureate degree, not including credits for foreign language or those substituted for foreign language requirements prescribed by the Graduate School.

Special Facilities.

Modern and extensive laboratory capabilities exist for the support of graduate student research in animal science, reproductive physiology, and animal food products. Special laboratory facilities include eight modern endocrinology, physiology, and molecular genetic laboratories; a modern abattoir; and numerous modern field laboratories.

Courses

ANSC5601(3 Credits)Instructor Consent Required Experimental Design in Animal Science

This course will discuss the basic principles of design and analysis for experiments in animal and food science. Both theory and practical application of designing experiments will be included. Emphasis is placed on data analysis using SAS, highlighting determination of the most appropriate analysis for an experiment and interpretation of output. Components:Lecture

ANSC5611(3 Credits) Physiology of Lactation

Anatomical, endocrine and metabolic aspects of lactation, emphasizing lactation in dairy cattle. Mastitis prevention and therapy are discussed. Components:Laboratory, Lecture

<p>ANSC5612(2)Instructor Consent Required Advancements in Ruminant Nutrition</p>	<p>texture, color, flavor, stability and nutritive qualities. Field trips may be required. Components:Lecture</p>	<p>†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.</p>
<p>Critical review of current literature on digestive physiology, metabolism, feed processing and management related to ruminant animals. Components:Lecture</p>	<p>ANSC5692(1 - 6)Instructor Consent Required Research</p>	<p>†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.</p>
<p>ANSC5613(3 Credits) Growth and Metabolism of Domestic Animals</p>	<p>Independent research in animal science, livestock production, meats, dairy production, animal nutrition, growth, reproductive physiology, animal breeding, or environmental health. Components:Independent Study</p>	<p>†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.</p>
<p>An assessment of animal growth and metabolism interrelated to nutrition, selection, environment, production and idiosyncrasies among species. Components:Lecture</p>	<p>ANSC5693(3 Credits)Instructor Consent Required Graduate Presentation Skills</p>	<p>GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.</p>
<p>ANSC5621(3 Credits) Frontiers in Animal Embryo Biotechnology</p>	<p>A discussion-based class which prepares students to make oral presentations. Components:Lecture</p>	<p>GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.</p>
<p>Focuses on the genetic aspects of embryology such as imprinting and X inactivation. Introduces the state of technology of numerous established and emerging embryo biotechnologies such as assisted reproductive technologies, transgenesis, cloning, gene targeting, embryonic stem cells, as well as induced pluripotent cells. Lab demonstrations of basic embryology techniques will be included. Components:Lecture</p>	<p>ANSC5694(3 Credits)Instructor Consent Required Animal Science Seminar</p>	
<p>ANSC5623(3 Credits)Instructor Consent Required Current Advances in Epigenetics</p>	<p>Students present a seminar on the topic of their thesis research. Components:Seminar</p>	
<p>Also offered as MCB 370. Epigenetics is a field of modern biological research that is concerned with influences on gene expression, developmental biology, and disease that are mediated by mechanisms independent of DNA sequence. This course is a literature review course in which each student will present and critically analyze primary literature in epigenetics. All students will present and participate in detailed technical evaluations of selected papers, and develop a written proposal for future research based on the paper(s) that they present individually. Topics will include imprinting, X chromosome inactivation, chromatin dynamics, and cloning (nuclear transfer). Components:Seminar</p>	<p>ANSC5695(1 - 6)Instructor Consent Required Special Topics in Animal Science</p>	
<p>ANSC5641(3 Credits)Instructor Consent Required Food Chemistry</p>	<p>May be repeated for credit with a change of topic. Components:Lecture</p>	
<p>Chemical, physical and biological changes in foods and food macromolecules that occur during processing and storage that affect</p>	<p>ANSC5699(1 - 3)Instructor Consent Required Independent Study</p>	
	<p>Components:Independent Study</p>	
	<p>ANSC6622(3 Credits) Fundamentals of Proteomics</p>	
	<p>Principles and practices of various methodologies of protein separation science will be covered. The course intends to serve as an introduction to methodologies such as 1-D and 2-D electrophoresis, mass spectrometry, peptide mass fingerprint, tandem MS, protein identification by MS/MS, post-translational modification characterization etc. A lab exercise on database search on the internet is included. Components:Lecture</p>	

Anthropology



Department Head : Professor Sally
McBrearty

Professors: Boster, Dussart, Erickson,
Handwerker, Linnekin, Singer, and Wilson

Associate Professor: Martínez, McBride, and
Sosis

Assistant Professors: Adler, Bruhac, Munro,
and Smith

The Department of Anthropology offers programs leading to the M.A. and Ph.D. degrees in anthropology. Selected study areas at the Ph.D. level include: applied medical anthropology, ecology and evolution, globalization and transnational studies, New England ethnology and ethnohistory, Old World prehistoric archaeology, and psychological and cognitive anthropology. Area strengths include Africa, Caribbean, Latin America, and North America, including both North American and other U.S. ethnic minorities. Interdisciplinary study in related fields may be pursued in consultation with the major advisor.

Admission Requirements.

Applicants must present results of the General Test of the Graduate Record Examinations and three letters of recommendation. These should be sent directly to the Graduate School, University of Connecticut, 438 Whitney Road Extension, Unit 1006, Storrs, CT 06269-1006. The application deadline is December 1st.

The M.A. Program.

An undergraduate major in anthropology is not required for admission to the M.A. program. Qualified students who hold a baccalaureate in various fields may be admitted provided that they meet the requirements of the Graduate School and the department.

The Ph.D. Program.

The department admits into the Ph.D. program only those students whose past work in anthropology on either the undergraduate or the graduate level shows promise of high scholastic ability and whose research interests are compatible with the areas of specialization represented among the faculty. Students are expected to define at the outset

the study area which they wish to emphasize. A period of field research normally precedes the writing of the dissertation.

Interdisciplinary Study

The medical anthropology area of emphasis involves course work and research in public health at the Health Center in Farmington

Courses

ANTH5305(1 - 6)Instructor Consent
Required Investigation of Special Topics
Special topic readings or investigations according to the needs of each student.
Components:Seminar

ANTH5306(3 Credits) Human Behavioral Ecology

This seminar will apply the theory of natural selection to the study of human behavior in an ecological setting, with particular focus on the adaptive features and biological design of human behavior. Components:Seminar

ANTH5308(3 Credits) Human Evolutionary Theory

Evolutionary concepts applied to human body size and shape, diet, disease, group composition, and reproductive behavior.
Components:Lecture

ANTH5309(3 Credits) Violence, Stress, and Social Support

This seminar surveys theory and observations bearing on the nature, sources and consequences of traumatic stress, stressors, and social support in human populations.
Components:Seminar

ANTH5311(3 Credits)Instructor Consent
Required History of Anthropological Theory

Development of theory from the nineteenth century through the 1970s. Required for graduate students in Cultural and Historical Anthropology. Components:Seminar

ANTH5312(3 Credits)Instructor Consent
Required Seminar: Contemporary Theory in Social and Cultural Anthropology

Selected current issues and debates in the discipline. Components:Seminar

ANTH5315(3 Credits)Instructor Consent
Required Gender and Culture

Anthropological perspectives on the analysis of gender with special focus on dynamics of gender, culture, and power. Components:Seminar Course Equivalents:WGSS 5315

ANTH5316(3 Credits) Globalization and Transnational Anthropology

Methods and theories in the study of cultural, social, political and economic phenomena spanning international frontiers; historical origins of transnational anthropology, theories of globalization, ethnographic case studies. Components:Seminar

ANTH5321(1 - 3)Instructor Consent
Required Ethnographic Methods I

Theoretical foundations and basic tools used to conduct professional field studies in anthropology. Research design; moral and ethical dimensions of field work; designing and conducting informal, semi-structured and structured interviews (one-on-one and in groups); managing field notes, questionnaires, and data; computer data management; summary statistics and graphics; identifying and interpreting random variation; modeling and testing explanations. Components:Seminar

ANTH5322(3 Credits)Instructor Consent
Required Research Methods and Design

Selected topics in ethnographic methods and research design. Components:Seminar

ANTH5332(3 Credits) Cognitive Anthropology

The study of how the content of thought or knowledge, is created, organized, and distributed in human communities. Topics include cultural models of the mind, emotions, personality, and relationships. Components:Seminar

ANTH5333(3 Credits) Evolution and Cognition

An introduction to recent work in evolutionary psychology, exploring the variety of ways in which we can understand human cognition as a product of evolution. Components:Seminar

ANTH5334(3 Credits)Instructor Consent
Required Culture and Religion

Theories and problems in the analysis of non-western religious systems.

Components:Seminar

ANTH5335(3 Credits)Instructor Consent
Required Psychological Anthropology

The seminar explores theoretical and empirical relationships between the individual and sociocultural systems, and it seeks to identify worldwide principles of human behavior. Components:Seminar

ANTH5336(3 Credits)Instructor Consent
Required Cultural Ecology

Interrelationships between population organization in contrasting preindustrial societies. Components:Seminar

ANTH5337(3 Credits)Instructor Consent
Required Economic Anthropology

Issues of scope, method and epistemology. Economic organization and performance in preindustrial societies. Economic development and underdevelopment. Components:Seminar

ANTH5339(3 Credits)Instructor Consent
Required Cultural Dynamics

An analysis and comparison of contemporary anthropological theories of sociocultural dynamics, with an investigation of selected problems in the study of change and persistence. Components:Seminar

ANTH5341(3 Credits) Analysis of Rituals

Examines various theoretical contributions to the anthropological study of ritual. Controversies and ambiguities surrounding the social and symbolic significance of the ritual act for both men's and women's experiences and participation are addressed. Components:Seminar Course Equivalents:WGSS 5341 Requirement Group:Prerequisite: Anthropology 5311 (RG170).

ANTH5345(3 Credits)Instructor Consent
Required The Neanderthals

The biological, cultural, technological, and behavioral evolution of Neanderthals as understood through the fields of genetics, physical anthropology, palaeolithic archaeology, human behavioral ecology, hunter-gatherer ethnography, palaeoclimatology, chronometric dating, and geology. Neanderthal-Modern Human interactions and the Middle-Upper Palaeolithic transition are also considered. Components:Seminar

ANTH5350(3 Credits)Instructor Consent
Required Physical Anthropology

Critical review of selected topics and current issues in the theory and practice of physical anthropology. Components:Seminar

ANTH5352(3 Credits)Instructor Consent
Required Medical Anthropology

An overview of current theory and practice in medical anthropology. Components:Seminar

ANTH5353(3 Credits) Applied Anthropology

An overview of various applications of anthropology to solve human problems both internationally and within the United States. Emphasis upon history of applied anthropology, ethical considerations, and specific roles of anthropologists in development. Components:Seminar

ANTH5354(3 Credits)Instructor Consent
Required Contemporary Issues in
Archaeology

A critical review of current trends and developments in archaeological method and theory. Components:Seminar

ANTH5356(3 Credits)Instructor Consent
Required History of Archaeological Theory

A critical review of the development of archaeology, with particular emphasis on the theoretical innovations of the 1960s and 1970s. Components:Seminar

ANTH5357(3 Credits)Instructor Consent
Required Settlement Systems

Approaches to human systems of settlement, including the applications of locational models and hierarchical analysis of settlement system data. Components:Seminar

ANTH5358(3 Credits)Instructor Consent
Required Analytical Methods in Archaeology

The use of qualitative and quantitative techniques in the analysis of archaeological data. Topics covered include seriation, sampling, data screening, statistical testing and numerical taxonomy. Components:Seminar

ANTH5359(3 Credits) Advanced Analysis in
Archaeology

An examination of recent developments in archaeological analysis, with particular

emphasis on multivariate techniques, new methods of spatial analysis, chronological seriation, and microcomputer applications. Components:Seminar Requirement Group:Prerequisite: ANTH 5358 (RG169).

ANTH5361(3 Credits) The Ecology of
Human Evolution

Early human ancestors as components of past ecosystems. Recovery of ecological information from fossil sites; reconstruction of ancient behavior; relevance of ethology and the study of contemporary foraging people for reconstruction of the past. Components:Seminar

ANTH5363(3 Credits) Archaeological Site
Formation Processes

The creation of archaeological sites by human behavior and geological forces. The characteristics of various formation processes and identification of them in the archaeological record. Components:Seminar

ANTH5364(3 Credits) New England
Prehistory

Topics in the prehistory of New England. Regional chronology and cultural history, early Holocene adaptation, ecology of hunter-gatherers, coastal adaptations, development of horticulture, and the evolution of tribal societies. Components:Seminar

ANTH5365(3 Credits) Northeast North
American Ethnohistory

Ethnohistory of northeastern North America from the Contact Period through the 20th century. Social and political organization, land use, subsistence, trade and exchange, mortuary ritual, native responses to Christianity and European trade and settlement. Contemporary issues of reburial and repatriation, federal recognition, and federal and state trust responsibilities for Indian tribes. Components:Seminar

ANTH5369(3 Credits) Culture and
Reproduction

A cross-cultural overview of human reproduction. Biological, social, cultural, and behavioral factors; cultural patterning of fertility and perinatal behavior; fertility control; gender and power in reproduction. Components:Seminar

ANTH5374(3 Credits) Culture, Power, and
Social Relations

Power, cultural evolution, and social change; law, global relations, identity and ethnicity, revolution and revitalization, the power of numbers, parents and children, women and men. Components:Seminar

ANTH5375(1 - 6)Instructor Consent
Required Ethnographic Methods Laboratory

Intensive study of selected tools for ethnographic data collection and analysis. Design and implementation of specialized ethnographic interviews; protocols, event histories, life histories, censuses, identity construction. OLS and logistic regression, demographic methods, triads tests, consensus analysis, ProFit analysis, multidimensional scaling, cluster and factor analysis, scale construction and validation, and text analysis. Components:Seminar

ANTH5376(3 Credits) Ethnomedicine

Medical systems in cultural context. Traditional healers, herbal medicine, culture bound systems, the meaning of illness, curing and disease. Impact of biomedicine on traditional and alternative medical systems. Components:Seminar

ANTH5377(3 Credits)Instructor Consent
Required International Health

The role of anthropology in international health, morbidity and mortality, population, maternal and child health, nutrition, infectious diseases and epidemiology, health care infrastructure and underdevelopment. Components:Seminar

ANTH5378(3 Credits)Instructor Consent
Required Anthropology of Infectious Diseases

Examination of medical anthropological research and insights on biosocial/biocultural factors in the spread of infectious diseases, including human understanding and responses across cultural groups and through time, anthropogenic factors in contagion, and the nature and pathways of adverse infectious disease interactions. Components:Seminar

ANTH5381(3 Credits) Sex and Gender

The historical, structural, and personal influences that shape the biocultural phenomena of sex and sexuality. Components:Seminar

ANTH5389(3 Credits)Instructor Consent
Required Population Ecology

This seminar surveys theory and observations bearing on the causes and consequences of changes in fertility and mortality rates, and in the configuration of causes of mortality and morbidity in human populations. Components:Seminar

ANTH5390(3 Credits)Instructor Consent
Required Cultural Rights

Politics of culture and cultural rights, minority rights, indigenous rights, multicultural policies, race, difference and law, cosmopolitanism, globalization and human rights. Components:Seminar

ANTH5391(3 Credits) Human Rights in a Diverse World

Basic issues, methods and theories in the anthropological study of human rights; cultural relativism, the international human rights system, social movements, transnational activist networks, media and representation are studied in their relationship to rights claims, adjudication, and outcomes. Components:Seminar

ANTH5510(3 Credits)Instructor Consent
Required The Neanderthals

Interdisciplinary understanding of the biological, cultural, technological and behavioral evolution of Neanderthals and their societies. Components:Seminar

ANTH5512(3 Credits)Instructor Consent
Required Modern Human Origins

The earliest modern people in Africa: their way of life seen from the archaeological, fossil, and genetic evidence. Components:Seminar

ANTH5513(3 Credits)Instructor Consent
Required Modern Human Dispersals

Interdisciplinary understanding of the tempo and mode of modern human dispersals across Europe, Asia, Australia, and the Americas. Components:Seminar

ANTH5515(3 Credits)Instructor Consent
Required Ancient Civilizations of the Old World

Examination of early civilizations in Mesopotamia, Egypt, the Indus Valley, and sub-Saharan Africa. Theories explaining the development and collapse of early state-level societies are critically considered. Components:Seminar

ANTH5517(3 Credits)Instructor Consent
Required Hunter-Gatherers Past and Present

Investigation of recent and prehistoric hunter-gatherer societies informed by human behavioral ecology, archaeology, and ethnoarchaeology. Components:Seminar

ANTH5522(3 Credits)Instructor Consent
Required Ecological Anthropology

Interdisciplinary study of human ecology integrating ecological and anthropological theory with archaeological, historical, and contemporary case studies. Components:Seminar

ANTH5609(3 Credits)Instructor Consent
Required Quantitative Zooarchaeology

Archaeological problem solving using zooarchaeological and taphonomic data; the evolutionary ecology of human economies; evaluation and quantification of zooarchaeological data; formation of faunal assemblages Components:Seminar

ANTH5706(3 Credits)Instructor Consent
Required Archaeobotany

Method and theory of studying archaeological plant remains in the laboratory, including sampling, identification, and interpretation of data. Components:Laboratory, Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Art & Art History

Department Head: Professor Judith Thorpe

Professors: Givens, Mazzocca, Muirhead, Myers, Oguibe, and Talvacchia

Associate Professor: Bock, D'Alleva, Deibler, Dennis, DiCapua, Greeley, Hagen, Hoyt, Machida, Noelker, Orwicz, Pritchard, Rosenberg, Sloan, Yegir, and Zurolo

The Master of Fine Arts.

The Master of Fine Arts degree, a terminal degree for studio artists, requires a minimum of two years study in residence. Graduate level studio work for the serious artist is desirable to enable intensive aesthetic experimentation assisted by the guidance of established professional artists. As a result of such experience, a student is expected to complete a body of art significant in content and of professional quality. Students develop a plan of study in consultation with a major advisor and advisory committee. While the program emphasizes individualized studies concentrating on and combining studio art areas such as ceramics, drawing, painting, performance art, photography, printmaking, and sculpture and video there also are courses which enable students to engage other resources of the Department of Art and Art History and the University community.

Admission.

Students are admitted to begin study in the fall semester only. Applicants for the M.F.A. degree must first meet the admission requirements of the Graduate School as specified in this Catalog. Consideration for admission also requires submission of the following to the Department of Art and Art History: (1) examples of recent original art presented digitally; (2) three letters of recommendation; (3) a personal letter of application also submitted online; (4) official transcripts of all undergraduate and graduate level studies. The principal criterion for admitting applicants into the M.F.A. program is the quality of the art work submitted and the potential for graduate level development it suggests. Applicants are not required to take the Graduate Record Examinations or the Miller Analogies Test.

Plan of Study.

Students establish their own direction and goals in consultation with a major advisor

and an advisory committee. After such consultation, the plan of study is completed for the approval of the student's advisory committee. Candidates for the M.F.A. are required to complete a minimum of 60 credits of graduate course work. This total typically includes 39 credits of graduate studio art distributed as follows: 21 credits in an area of major emphasis, 12 credits outside the area of major emphasis, and six credits of M.F.A. project. An additional 15 credits are to be taken in non-studio graduate art courses and are distributed as follows: nine credits of graduate art seminar, three credits in modern and contemporary issues in art, and three credits of special topics in art history. The remaining six credits are graduate electives. When deemed appropriate by the advisory committee, additional credits in advanced studio or art history may be required of students whose undergraduate backgrounds are deficient in these areas.

M.F.A. Project.

Reserved for the last semester of study after candidacy review, the M.F.A. project requires accomplishment of a body of studio work culminating in a substantial exhibition for public viewing, supported by a written statement, public presentation, and a digital photographic portfolio. Each candidate presents to the advisory committee an oral defense of the completed body of studio work and the written statement. The exhibition emphasizes work resulting from the M.F.A. project and courses taken in the final year of study. A public presentation is required in conjunction with the exhibition. The digital photographic portfolio, which is to include each work in the exhibition, and the candidate's written statement should be prepared in duplicate for retention in the Department of Art and Art History and in the Art and Design Division of the Homer Babbidge Library.

Scholastic Standards.

The advisory committee evaluates the student's program whenever a grade of C or lower is recorded for a graduate course. Progress in all courses is monitored by the advisory committee, particularly if a student's cumulative grade point average falls below 3.00 at any time during the course of study. The M.F.A. is not conferred unless the candidate maintains a cumulative grade point average of at least 3.00 in all course work.

The Master of Arts in Art History.

The M.A. emphasizes the application of a range of investigative methods to historical and contemporary visual practices,

exploring the ways they inform and organize our understanding of both Western and non-Western visual traditions. This interdisciplinary program provides students with a focused structure for advanced studies in the history, theory, and criticism of visual art. The program highlights the investigation of a range of theoretical and methodological approaches that engage art-making within its social, political and cultural contexts. The Master of Arts in Art History requires a minimum of two years study in residence.

Admission.

Applicants for the M. A. degree must meet the admission requirements of the Graduate School as specified in this Catalog. Three letters of recommendation, preferably from members of the academic profession, along with a writing sample and personal statement from the applicant are required. Students are admitted to begin study in the fall semester only.

Advisory Committee.

The advisory committee includes a major advisor and at least two associate advisors, one a member of the Art History faculty and one from outside the Department of Art and Art History. One associate advisor may be chosen from outside the University in accordance with Graduate School procedures.

Plan of Study.

Candidates for the M.A. are required to complete a minimum of 30 credits of graduate course work including 18 credits of required work and twelve elective credits. A plan of study listing the courses to be taken must be prepared by the student, and approved by the advisory committee and the Graduate School. Other requirements including specifics regarding the language requirement, the M.A. Thesis, and the Final Examination are described in the pamphlet, The Graduate Program in Art History, which may be obtained from the Department of Art and Art History.

Foreign Language Requirement.

A reading knowledge of one foreign language appropriate to scholarly research in art history is required. Mastery of French, Italian, Spanish, or German are accepted for this requirement; others will be considered by formal petition. Proficiency may be demonstrated by passing a departmental language exam or by passing a graduate-level literature course at the University of Connecticut in one of the accepted languages with a grade of B or above. The language

requirement must be completed before the student is eligible to take the M.A. Final Examination (Thesis Defense). Language proficiency is considered by the faculty in making graduate assistantship awards.

M.A. Thesis.

The required M.A. thesis is a research paper of approximately 50 pages that is intended to demonstrate the candidate's mastery of independent scholarly study and a professional understanding of the discipline of art history.

Final Examination.

The final examination or thesis defense is an oral examination under the jurisdiction of the advisory committee that deals primarily with the subject matter of the thesis. In addition to the final examination, the candidate publicly presents the research at a symposium organized by the Department.

Special Facilities.

Since graduate students are required to work in the immediate University vicinity, individual or shared studio space is available for students in the M.F.A. program. Technical facilities are available in photography, video, printmaking, sculpture, and ceramics. Located on the main campus is the William Benton Museum of Art and within two hours of driving time from Storrs are the Wadsworth Atheneum, New Britain Museum of American Art, Boston Museum of Fine Arts, Worcester Art Museum, Yale Art Galleries, Lyman Allyn Museum, Slater Museum, and other notable museums and public collections. New York City is just under three hours travel time from the University campus.

Courses

ART5301(3 - 6) Graduate Studio Art (Ceramics) Components:Laboratory

Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5303(3 - 6) Graduate Studio Art (Painting)

Components:Laboratory Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5304(3 - 6) Graduate Studio Art (Photography)

Components:Laboratory Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5305(3 - 6) Graduate Studio Art (Printmaking)

Components:Laboratory Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5306(3 - 6) Graduate Studio Art (Sculpture)

Components:Laboratory Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5307(3 - 6) Graduate Studio Art (Drawing)

Components:Laboratory Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5308(3 - 6)Instructor Consent Required Graduate Studio Art (Video)

Open to students in studio art, others with permission. Components:Laboratory

ART5309(3 - 6)Instructor Consent Required Graduate Studio Art (Performance)

Open to students in studio art, others with permission. Components:Laboratory

ART5310(3 Credits) Graduate Art Seminar

Discussions, readings, and analyses relating current studio work to contemporary trends in art. Components:Seminar Requirement Group:Open to students in Studio Art, others with permission (RG2793).

ART5320(3 Credits)Instructor Consent

<p>Required Issues in Art Criticism</p> <p>Seminar investigating selected critical and theoretical issues of significance to the visual arts, involving a core of general reading and discussion on historical and contemporary topics in art from the 20th century to the present day. An individual research project culminating in an oral presentation and a final paper on the research are required. Components:Seminar Requirement Group:Open to students in Studio Art, others with permission (RG2793).</p>	<p>photographic color-transparency portfolio. Components:Seminar Requirement Group:Open to students in Studio Art, others with permission (RG2793).</p>	<p>Group:Prerequisites: ARTH 5321 and ARTH 5322 (RG3506).</p>
<p>ART5330(3 - 6) Interdisciplinary Study</p>	<p>Art History Courses</p>	<p>ARTH5370(3 Credits)Instructor Consent Required Issues in Contemporary Art</p>
<p>Special course work that combines resources in art and/or areas outside of art. Components:Practicum Requirement Group:Open to students in Studio Art, others with permission (RG2793).</p>	<p>ARTH5319(3 Credits) Theories of Visual Representation</p>	<p>Art History 5370 Issues in Contemporary Art. Seminar. Three credits. . Critical and theoretical issues in twentieth and twenty-first century art production and reception including: modernism, postmodernism, feminism, technology, and globalization.Open to graduate students in Studio Art and Art History, others with instructor's permission. Components:Seminar Requirement Group:Prerequisite: Open to graduate students in Studio Art and Art History, others with instructor's permission (RG 4371).</p>
<p>ART5340(3 Credits) Studio Art Instruction and Curriculum Planning</p>	<p>Theoretical and interpretive practices that have shaped the field of art history, including: Marxism, psychoanalysis, semiology, and feminsm. Components:Seminar</p>	<p>ARTH5383(3 Credits)Instructor Consent Required Special Topics in Art History</p>
<p>Teaching methods, strategies, and curriculum planning in studio art instruction. Components:Lecture Requirement Group:Must be taken in the first semester in the initial program year by all graduate students with teaching appointments (RG171).</p>	<p>ARTH5320(3 Credits) Issues in Art Criticism</p> <p>Seminar investigating selected issues of significance to the criticism of the visual arts, involving a core of general reading and discussion on the history of art criticism from the eighteenth century to the present day. An individual research project culminating in an oral presentation and a final paper on the research are required. Components:Seminar Requirement Group:Open to students in Studio Art, others with permission (RG2793).</p>	<p>Seminar focusing upon a special, limited topic in the history of art. The content will vary from semester to semester. Components:Lecture</p>
<p>ART5383(3 Credits)Instructor Consent Required Special Topics in Studio Art</p>	<p>ARTH5321(3 Credits) Historiography of Art History</p>	<p>ARTH5392(3 Credits)Instructor Consent Required Independent Study</p>
<p>Seminar focused on special, limited topic relating to practices in studio art. The content will vary from semester to semester. May be repeated for credit with change in course content. Components:Seminar</p>	<p>Philosophical, theoretical, cultural and historical issues that underwrite art historical methods Components:Seminar</p>	<p>Independent study in Art History. May be repeated to a maximum of 6 credits with a change in course content. Components:Independent Study</p>
<p>ART5392(3 - 6) Independent Study</p>	<p>ARTH5322(3 Credits)Program Director Consent Reqd Theory in Art History</p>	<p>ARTH5397(3 Credits)Instructor Consent Required Museum Studies Internship</p>
<p>Components:Independent Study Requirement Group:Open to students in Studio Art, others with permission (RG2793).</p>	<p>Selected topics in theory and/or methodology. May be repeated to a maximum of 6 credits with a change in course content. Components:Seminar Requirement Group:Prerequisites: ARTH 5319 and ARTH 5321 (RG3505).</p>	<p>Internship practicum in museum, gallery, or other curatorial context. May be repeated †GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits. †GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.</p>
<p>ART5397(6) M.F.A. Project</p>	<p>ARTH5340(3 Credits)Program Director Consent Reqd Advanced Studies in Museum and Exhibition Practices</p>	<p>†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.</p>
<p>Seminar and studio work culminating in required exhibition, supported by a written statement, public presentation and</p>	<p>Contemporary and theoretical issues in museum and exhibition practices directed toward their application in various internship contexts. Components:Seminar Requirement</p>	<p>GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.</p>
		<p>GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.</p>

Biomedical Engineering

Department Head Assistant Professor
Donald R. Peterson

Biomedical Engineering (BME) is a profession involving engineering and the life sciences, physical sciences and medical science to understand problems in physiology and biology and improve human health. The BME Graduate Handbook at the website <http://www.bme.uconn.edu> further describes the program.

The goal of the biomedical engineering graduate program is to provide students the interdisciplinary training in biological and medical sciences, physical sciences, and engineering necessary to solve complex biomedical problems. Faculty members from engineering, biomedical sciences, materials sciences, chemistry, physics, medicine, and dental medicine form an interdisciplinary graduate degree program that spans the University of Connecticut campuses at Storrs and at the Health Center (UHC) in Farmington. Biomedical engineering can embrace the following diverse yet complementary research areas: biochemical engineering, bioinformatics, bioinstrumentation, biomaterials, biomechanics, biomedical imaging/biosignal processing, biosensors, biotechnology, cellular and tissue engineering, clinical engineering, ergonomics, medical informatics, physiological systems modeling, and rehabilitation engineering.

An entering student's primary undergraduate training may be in engineering, the physical sciences, medicine or biology. However, all students must demonstrate competence in mathematical analytical methods, certain basic and advanced skills in engineering and computer science, as well as knowledge of core fundamentals of biomedical engineering at the time of their graduation. Plans of study are developed in consultation with the student's advisory committee and are designed to meet individual needs and program requirements.

Application Procedure.

Applicants are required to submit three letters of recommendation (preferably from members of the academic profession), a personal letter from the student describing

their interest in biomedical engineering and the application to the Graduate School. The GRE and TOEFL (minimum score of 550) are required only for students with an undergraduate degree from a non-US institution.

The M.S. Program.

Students whose primary training is in engineering can prepare themselves for entrance into one of the biomedical fields by completing a program leading to the master's degree in biomedical engineering. The program also offers the biology and chemistry student a means of achieving the mathematical, engineering, and instrumentation skills necessary for a career in biomedical engineering after completing remedial coursework.

Both a Plan A (thesis option) and Plan B MS degree are offered. For the Plan A, eight graduate courses (24 credits), nine credits of Master's Thesis Research (GRAD 5950), and the writing and oral defense of a thesis are required. For the Plan B, a total of ten (10) graduate courses (30 credit hours) is required. Once a student begins a Plan A M.S. degree program and receives a graduate research assistantship, he or she can switch to a Plan B only if approved by the BME Graduate Program Director and Major Advisor. Courses required of all M.S. students may include: BME 5000, BME 5100, BME 5500 or BME 6500, and BME 5600. Other courses selected from the BME course offerings would be consistent with the student's background, interests, and career plans. Only Plan A Master's students are required to present and publish their M.S. research at a conference (or have their paper accepted before graduation). Exceptions to the specified MS course requirements must be approved by the BME Graduate Program Director.

The Ph.D. Program.

Applicants to the Ph.D. program are expected to demonstrate outstanding ability and to show, based on their record of previous scholarship and experience, that they are likely to do superior creative work in their respective fields. Holding a master's degree from this or any other institution does not render the applicant automatically admissible to a doctoral program. In general, doctoral applicants must meet all admission requirements for the BME M.S. degree and must present evidence that they are capable of doing independent work of distinction. Exceptional students with a B.S. degree may be directly admitted into the BME Ph.D. program. It is recommended, however, to first

earn a BME MS degree before starting Ph.D. studies.

Beyond the M.S., a minimum of 24 credit hours of BME course work is required for the Ph.D. Additionally, 15 credits of Doctoral Dissertation Research (GRAD 6950) are required. There is no language requirement for a Ph.D. in BME.

If a doctoral student has not taken the five suggested MS courses or their equivalents (see "The MS Program"), these courses may be required in addition to the course work and research credits otherwise required for the Ph.D. The BME Graduate Program Director must approve any exceptions to the course requirements.

The BME Ph.D. program requires the passing of two tests, the Qualifying Exam and the General Exam. Admitted Ph.D. students must pass the BME Qualifying Exam within their first year of study. The exam is given once a year in May. The objective of this exam is to determine the student's suitability to advance to candidacy for Ph.D. studies in Biomedical Engineering. This examination seeks to evaluate a candidate's competency in basic skills and knowledge essential to conducting research in Biomedical Engineering by examining the student's grasp of material covered in the BME core curriculum. The Ph.D. Qualifying Exam is a written test given by the BME program with several parts that are based on the candidate's in-depth grasp of the material in core areas that may include: BME 5000, BME 5500 or BME 6500, BME 5100, BME 5600, BME 5800 and BME 6420. Students who have passed any of these courses at the University of Connecticut with a grade of B or better may automatically pass the portion of the Qualifying exam related to that course, and therefore may not need to take that part of the exam.

All Ph.D. Candidates must take the BME General Exam no later than nine months before defending their dissertation at a time arranged between the Ph.D. Candidate and Advisory Committee. The objective of the General Exam is to evaluate a PhD candidate's competency in developing and formulating a research project and the student's ability to approach a new problem in ways appropriate for an independent scientist. The exam will consist of a research proposal based on the student's research project. At least two weeks prior to the exam, the student will submit a written research proposal (approximately 40 pages) to the advising committee. The general exam is mainly an oral defense of this research proposal by the student. The committee tries

to evaluate the candidate's competency in developing and formulating the research project, as well as the scientific merits of the project, research hypothesis, research methods, potential findings, implications and limitations. The General Exam must be conducted by at least five faculty (including the Ph.D. Candidate's Advisory Committee) in the fields related to the student's project. There are no exemptions from the General Exam.

Research required for the doctoral degree in biomedical engineering involves the use of advanced engineering techniques for the solution of a biological or medical problem. Ph.D. candidates must submit at least two journal papers to a leading BME journal before graduation, with at least one of them having gone through the review process favorably. Note that the journal submissions must be full papers, with two short papers the equivalent of a full paper.

Clinical Engineering Internship.

This is a hospital-based, two-year program supported by the clinical engineering departments of various hospitals including Hartford Hospital, The John Dempsey Hospital (UCHC), Baystate Medical Center, St. Francis Hospital, UMass Medical Center, Rhode Island Hospital, Middlesex Memorial Hospital, Providence V.A. Hospital, and West Haven V.A. Hospital. Applications should be received by January 1 for full consideration. As part of the selection process, applicants are invited to the hospital and campus in February and March for interviews. The interview is required to secure a graduate assistantship (paid internship). Final selections are made in April for Fall admission. Each intern is expected to spend 20 hours per week in a hospital's clinical engineering department. The primary objectives are to: (1) provide exposure to hospital organization and administrative structure; (2) provide an opportunity to apply engineering techniques to patient care and hospital-based research; and (3) provide substantial hands-on experience working with health care technology and hospital personnel, including administrators, nurses, technicians and medical staff. Clinical engineering trainees are supported by stipends contributed by the participating hospitals. Students accepted for the internship earn either a Plan A or Plan B Master's degree.

The following courses are required of all Clinical Engineering interns: BME 5000, BME 5500 or BME 6500, BME 5020, BME 5030, and BME 5050. The remaining courses are taken only from the BME course

offerings, and should be related to the student's background, interests and future career plans. The BME Graduate Program Director must approve any exceptions to the course requirements.

Industrial Engineering Internship.

The industrial internship offers an in-depth, vigorous, industrial experience that complements the engineering expertise gained in the classroom. Students in the industrial internship can earn an MS and Ph.D degree. Companies located throughout New England participate in the program. The primary objectives of this industrial internship program are to provide: exposure to the industrial workplace; the opportunity to apply engineering knowledge and expertise to a variety of industrial projects; and the opportunity to interact with a variety of industrial work groups, including administrators, engineers, and technicians.

Additional details are contained in the BME Graduate Handbook.

Research Facilities.

Because of the interdisciplinary nature of the Biomedical Engineering field of study, graduate research facilities in biomedical engineering are diverse, and can be found in the various academic departments of the biomedical engineering major advisors on the Storrs campus and at the University of Connecticut Health Center in Farmington. Graduate Advisors in Biomedical Engineering.

Courses

BME5000(3 Credits)Instructor Consent Required Physiological Systems I

Eleven major human organ systems are covered in this course, including: integumentary, endocrine, lymphatic, digestive, urinary, reproductive, circulatory, respiratory, nervous, skeletal, and muscular. Recommended preparation: BME 211 (or equivalent). Components:Lecture Course Equivalent:MEDS 6471

BME5010(3 Credits) Research Methods in Biomedical Engineering

“(Also offered as GPAH 306.) An inquiry into the nature of research with emphasis on the spirit, logic, and” components of the scientific methods. Health related research literature is used to aid the student in learning to read, understand, and critically analyze

published materials. The preparation of research proposals and reports is emphasized. Components:Lecture

BME5020(3 Credits)Instructor Consent Required Clinical Engineering Fundamentals

Provides the fundamental concepts involved in managing medical technology, establishing and operating a clinical engineering department, and the role of the clinical engineering designing facilities used in patient care. Topics covered include managing safety programs, technology assessment, technology acquisition, the design of clinical facilities, personnel management, budgeting and ethical issues of concern to the clinical engineer. Components:Lecture

BME5030(3 Credits) Human Error and Medical Device Accidents

This course teaches the basic principles needed to analyze medical devices, medical device users, medical device environments and medical device accidents. It particularly focuses on human factors engineering as an important step to minimizing human error. The role of medical device manufacturers, medical device regulators and medical device owners will be examined to identify their role in reducing medical device use errors and medical device accidents. The nature and types of human error as well as a taxonomy of medical device accidents will also be presented. Investigative techniques involving root cause analysis and failure modes and effects analysis will be taught and applied to industrial and medical device accidents. Operating room fires, electrosurgical and laser burns, anesthesia injuries, infusion device accidents, catheters and electrode failures and tissue injury in the medical environment will be discussed in detail. A semester project will require the student to employ these tools and techniques to analyze a medical device accident. Components:Lecture

BME5040(3 Credits) Medical Instrumentation in the Hospital

This course will examine 10-12 current major technologies in use by healthcare practitioners. It will review the physiological principles behind each technology, the principles of operation, major features, methods for testing and evaluating each technology and will highlight available versions of the devices on the market today. Technologies to be covered will be selected from anesthesia equipment, surgical and

ophthalmic lasers, cardiac assist devices, surgical & endoscopic video systems, radiographic and fluoroscopic devices, CT, MRI, ultrasound imaging equipment, radiation therapy, nuclear medicine, clinical chemistry analyzers, spectrophotometers and hematology analyzers. The course will be based on one text, selected manufacturers training documents as well as journal articles from current medical publications. Grading will be based on exams, quizzes, a semester project and class participation. Several classes will take place on site in Hartford area hospitals in order to observe and examine the equipment being discussed. Components:Lecture

BME5050(3 Credits)Instructor Consent Required Engineering Problems in the Hospital

This course will cover engineering solutions to problems that are found in the healthcare environment. This includes a wide variety of topics such as electrical power quality of and the reliable operation of high tech medical equipment; electrical safety in the patient care environment; electromagnetic compatibility of various medical devices and electromagnetic interference; radiation shielding and radiation protection; medical gas systems, medical ventilation systems and indoor air quality; fire protection systems required in the hospital; networking medical devices, patient information systems, digital imaging and image storage systems; telemedicine and medical image transmission; and finally, hospital architecture and the design of patient care facilities. Components:Lecture Course Equivalents:ECE 5301

BME5099(1 - 3)Instructor Consent Required Independent Study

Individual exploration of special topics as arranged by the student with an instructor of his or her choice. Components:Independent Study

BME5100(3 Credits)Instructor Consent Required Physiological Modeling

Unified study of engineering techniques and basic principles in modeling physiological systems. Focuses on membrane biophysics, biological modeling, and systems control theory. Significant engineering and software design is incorporated in homework assignments using MATLAB and SIMULINK. Recommended preparation: BME 211 and BME 251 (or equivalent). Components:Lecture

BME5302(3 Credits) Biochemical Engineering for Biomedical Engineers

Introduction to chemical reaction kinetics; enzyme and fermentation technology; microbiology, biochemistry, and cellular concepts; biomass production; organ analysis; viral dynamics. Components:Lecture Requirement Group:Not open to students who have passed BME 3300

BME5329(3 Credits) Advanced Ultrasonic Imaging Techniques

Introduction to advanced techniques of ultrasonic image formation for biomedical applications. Introduction to acoustic wave propagation. A, B, C, M and Doppler ultrasonic imaging modes. Interaction of ultrasound with biological tissue. Acoustical holography. Ultrasonic transducer design and calibration. Transducer arrays. Ultrasound detection modes. Laboratory demonstrations will include Schieren visualization of ultrasound fields and transducer calibration techniques. Assumes a background in linear systems. Components:Lecture Course Equivalents:ECE 6303 Requirement Group:Prerequisite: EE 6302 or BME 6400 (RG345).

BME5339(3 Credits) Introductory Ergonomics for Biomedical Scientists and Engineers

This problem-based course begins with a work-related overview of the design strengths and limitations of human anatomy and physiology (molecular, tissue and systems levels) and the contribution of work/worker mismatches to the development of disease. Measurement of the response of these biological tissues and systems to work-related stressors is examined, to define the mechanism and presentation of musculoskeletal disorders. The course addresses physiological and anatomical damage due to biomechanical, psychosocial and work organization stressors and explores the range of possible control strategies of interest to the engineer and public health practitioner. To measure presence and levels of risk factors, students will be introduced to the use of laboratory techniques (e.g., EMG, digital motion capture, force cells) as well as field methods used in ergonomic work-site assessment, ranging from simple check-lists (geared towards worker-based interventions), through detailed time/motion studies, self-report effort scales, epidemiological instruments, Components:Lecture Requirement Group:Prerequisite: BME 5600

(312) (RG3444).

BME5341(3 Credits) Exposure Assessment in Ergonomics

The goal of the course is to develop a broad understanding of ergonomic risk factors, knowledge of the measurement modalities available for characterizing workplace risk, and an appreciation of the advantages and disadvantages of each modality. Students will be introduced to the use of laboratory techniques (EMG, videotaping and digitization, digital motion capture, force cells, accelerometry and exercise physiology). They will also be instructed in methods used in ergonomic work-site assessment, ranging from simple check-lists (geared towards worker-based interventions), through detailed time/motion studies, self-report effort scales, epidemiological instruments, and psychosocial and organizational measurement tools. The grade will depend on completion of a laboratory-based, field or epidemiological project. Components:Lecture Requirement Group:Prerequisite: BME 5339 (RG3445).

BME5500(3 Credits) Clinical Instrumentation Systems

Analysis and design of transducers and signal processors; measurements of physical, chemical, biological, and physiological variables; special purpose medical instruments, systems design, storage and display, grounding, noise, and electrical safety. These concepts are considered in developing devices used in a clinical or biological environment. Recommended preparation: ECE 210W, BME 251, and 252 (or equivalent). Components:Lecture

BME5600(3 Credits)Instructor Consent Required Human Biomechanics

Instructor consent required. Recommended preparation: BME 261W (or equivalent). Applies principles of engineering mechanics in the examination of human physiological subsystems such as the musculoskeletal system and the cardiovascular system. Topics drawn for biosolid mechanics, biofluids, and biodynamics, the viscoelastic modeling of muscle and bone, non-Newtonian fluid rheology, blood flow dynamics, respiratory mechanics, biomechanics of normal and impaired gait, and sport biomechanics. Components:Lecture

BME5700(3 Credits)Instructor Consent Required Biomaterials and Tissue Engineering

Instructor consent required. Recommended preparation: BME 271W (or equivalent). Also offered as MEDS 313.

A broad introduction to the field of biomaterials and tissue engineering. Presents basic principles of biological, medical, and material science as applied to implantable medical devices, drug delivery systems and artificial organs. Also offered as MSE 5700. Components:Lecture Course Equivalents:MSE 5700

BME5800(3 Credits) Bioinformatics

Advanced mathematical models and computational techniques in bioinformatics. Topics covered include genome mapping and sequencing, sequence alignment, database search, gene prediction, genome rearrangements, phylogenetic trees, and computational proteomics. Recommended preparation: BME 280 (or equivalent). Components:Lecture Course Equivalents:CSE 5800

BME6020(3 Credits) Physiological Systems II

A problem based learning course that focuses on in-depth coverage of four human organ systems. Format: didactic session followed by group problem solving. Also offered as MEDS 472. Components:Lecture Course Equivalents:MEDS 6472 Requirement Group:Prerequisite: BME 5000 (310). Enrollment limited to BME students in the Ph.D. program (RG3474).

BME6086(1 - 6) Special Topics In Biomedical Engineering

Classroom and/or laboratory courses in special topics as announced in advance for each semester. Components:Lecture

BME6110(3 Credits)Instructor Consent Required Computational Neuroscience

Explores the function of single neurons and neural systems by the use of simulations on a computer. Combines lectures and classroom discussions with conducting computer simulations. The simulations include exercises and a term project. Components:Lecture Course Equivalents:MEDS 5378

BME6120(3 Credits) Neuronal Information Processing and Sensory Coding

Processing, transmission, and storage of

information in the central and peripheral nervous systems. Mechanisms of signal generation, transmission and coding by neurons and dendrites. Analysis of invertebrate and vertebrate visual and auditory systems, including: mechanisms of neurosensory transduction, coding, and signal-to-noise ratio enhancement. Neural spatio-temporal filters for feature extraction and pattern recognition. Information theoretic analysis of signal encoding and transmission in the nervous system. This course assumes a background in linear systems and feedback control systems. Components:Lecture Course Equivalents:ECE 6311 Requirement Group:Prerequisite: BME 5100 (315). This course and ECE 6311 (372) may not both be taken for credit (RG3473).

BME6130(3 Credits) Systems Identification of Physiological Systems

Overview of linear and nonlinear methods for determining the input-output relationship of sensory and other physiological systems. Topics include: white noise analysis using the Volterra and Wiener expansion of non-linear system, moving average and autoregressive models, transfer function method, parametric identification using least-squares method, multi-input systems, spectrotemporal and spatiotemporal reverse correlation, spectral estimation methods using coherence. Examples from a host of neuronal systems will be provided, including the mammalian and amphibian visual and auditory systems Components:Lecture Requirement Group:Prerequisite: BME 5100 (315) (RG3443).

BME6140(3 Credits) Cellular Systems Modeling

Cellular response to drugs and toxins, as well as normal cell processes such as proliferation, growth and motility often involve receptor-ligand binding and subsequent intracellular processes. Focuses on mathematical formulation of equations for key cellular events including binding of ligands with receptors on the cell surface, trafficking of the receptor-ligand complex within the cell and cell signaling by second messengers. Background material in molecular biology, cell physiology, estimation of parameters needed for the model equations from published literature and solution of the equations using available computer programs are included. Examples from the current literature of cell processes such as response to drugs and proliferation will be simulated with the model equations. Components:Lecture Requirement Group:Prerequisite: BME 5600

(RG654).

BME6150(3 Credits)Instructor Consent Required Computational Cell Biology for Biomedical Engineers

In the last decade, interdisciplinary science has established itself as a leading area of scientific investigation. The use of physics and mathematics to help understand biological systems hints at being one of the major scientific frontiers of this coming century. This course looks at biology at three separate length scales: molecular, cellular, and organismal/population. We will find that the math/physics of elasticity, hydrodynamics, statistical mechanics and reaction/diffusion can explain a broad range of phenomena throughout these size ranges. This course stresses the physical intuition of how to apply quantitative methods to the study of biology through the use of dimensional analysis, analytic calculation and computer modeling. Components:Lecture

BME6160(3 Credits) Computational Genomics

Advanced computational methods for genomic data analysis. Topics covered include motif finding, gene expression analysis, regulatory network inference, comparative genomics, genomic sequence variation and linkage analysis. Components:Lecture Course Equivalents:CSE 6800 Requirement Group:Prerequisite: CSE 5800 (377) or BME 5800 (380) (RG3878)

BME6400(3 Credits)Instructor Consent Required Biomedical Imaging

Fundamentals of detection, processing and display associated with imaging in medicine and biology. Topics include conventional and Fourier optics, optical and acoustic holography, thermography, isotope scans, and radiology. Laboratory demonstrations will include holography and optical image processing. Assumes a background in linear systems. Recommended preparation: BME 251 or ECE 232 (or equivalent). Components:Lecture Course Equivalents:ECE 6302

BME6420(3 Credits) Medical Imaging Systems

This course covers imaging principles and systems of x-ray, ultrasound, optical tomography, magnetic resonance imaging, positron emission tomography. Components:Lecture Requirement

Group:Prerequisite: BME 5500 (311) or BME 6500 (354) (RG3442).

BME6450(3 Credits) Optical Microscopy and Bio-imaging

The course presents the current state of the art of optical imaging techniques and their applications in biomedical research. The course materials cover both traditional microscopies (DIC, fluorescence etc.) that have been an integrated part of biologists' tool-box, as well as more advance topics, such as single-molecule imaging and laser tweezers. Four lab sessions are incorporated in the classes to help students to gain some hand-on experiences. Strong emphasis will be given on current research and experimental design. Also offered as MEDS 301. Components:Lecture Course Equivalents:MEDS 6450

BME6460(3 Credits) Advanced Optical Microscopy and Bio-imaging

This course will cover several aspects of state of the art biological and biophysical imaging. We will focus on advanced techniques including nonlinear optical processes (multi-photon excitation, second harmonic generation, and stimulated Raman processes), as well as optical coherence tomography. 3 lab projects will supplement the lectures, providing hands-on experience with nonlinear optical methods. Special emphasis will be given to current imaging literature and experimental design. Also offered as MEDS 302. Components:Laboratory, Lecture Course Equivalents:MEDS 6460 Requirement Group:Prerequisite: BME 6450 or MEDS 6450 (RG 4099).

BME6500(3 Credits)Instructor Consent Required Biomedical Instrumentation I

Origins of bioelectric signals; analysis and design of electrodes and low noise preamplifiers used in their measurement. Statistical techniques applied to the detection and processing of biological signals in noise, including the treatment of nerve impulse sequences as stochastic point processes. Methods of identifying the dynamic proper ties of biosystems. Assumes a background in linear systems and electronics. Components:Lecture Course Equivalents:ECE 6301 Requirement Group:Prerequisite: BME 5500 or consent of the instructor (RG653).

BME6510(3 Credits)Instructor Consent Required Biomedical Instrumentation Laboratory

Experimental investigation of electrodes, transducers, electronic circuits and instrumentation systems used in biomedical research and clinical medicine. Components:Lecture Course Equivalents:ECE 6304

BME6520(3 Credits) Biosensors

Principles and design of acoustic imaging transducers, and force, pressure and hearing sensors. Covers also optical biosensors including oxygen monitoring sensors, glucose sensors and optical sensors used in imaging. Components:Lecture Requirement Group:Prerequisite: BME 5500 or consent of the instructor (RG653).

BME6610(3 Credits) Biofluid Mechanics

Provides a foundation for continued studies of biofluid mechanical subjects. Topics covered include kinematic principles, the Navier-Stokes equations, the vorticity equation, unsteady fluid flows of physiologic relevance, turbulence and interfacial phenomena. Emphasis is placed on physical analysis of the cardiovascular and pulmonary systems, as well as of other biologic systems of interest. Components:Lecture Requirement Group:Prerequisite: BME 5600 (RG652).

BME6620(3 Credits) Biosolid Mechanics

Mechanical behavior of biological solids. Applications of the theories of elasticity, viscoelasticity, and poroelasticity to bones, ligaments and tendons, skeletal muscle, and articular cartilage. Axial, bending, shearing and torsional loadings. Bone morphology and growth. Biphasic theory. Failure theories. Research paper. Topics may be modified slightly to accommodate student interests. Recommended preparation: BME 261, CE 287, and BME 312 (or equivalent). Components:Lecture Requirement Group:Prerequisite: BME 5600 (312) (RG3444).

BME6630(3 Credits) Biodynamics

Dynamic modeling of biological systems using three-dimensional rigid body dynamics with a review of kinematics and kinetics and three-dimensional vector calculus. Applications of Newton's Laws and Lagrangian Equations presented. A critical review of various biodynamic assessment techniques and the principles of their operation will also be discussed. Biodynamic data analysis techniques will be shown along with fundamental

model construction. Components:Lecture Requirement Group:Prerequisite: BME 5600 (312) (RG3444).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Biomedical Science

The following programs leading to the Ph.D. degree in the various areas of the biomedical sciences are offered at the University of Connecticut Health Center at Farmington. Further information about these programs may be obtained from: The Graduate Admissions Office, PhD in Biomedical Science Program, University of Connecticut Health Center, 263 Farmington Ave, MC3906, Farmington, Connecticut 06030-3906.

Cell Biology

Program Director
Associate Professor Kevin Claffey

Professors

A. Arnold, Carmichael, A. Fein, Feinstein, Hansen, Hla, Jaffe, Koppel, Liang, Loew, Pachter, Pappano, Peluso, Pilbeam, Ressler, Rosenberg, Rowe, Schenkman, Watkins, White, C. Wu, and G. Wu

Associate Professors
Bansal, Claffey, R. Clark, Epstein, Furneaux, Graveley, Han, Hurley, S. King, Lambrecht, Levine, Maulik, Rodionov, Smilowitz, Terasaki, and Watras

Assistant Professors
Aeschilmann, Amerik, Brocke, Campagnola, Caron, Cowan, Delany, Dodge-Kafka, Dorsky, Fong, Huber, Jansson, Mehlmann, Menoret, Mohler, Nyholm, Rivera, Tirnauer, Wolgemuth, and Yue

The Cell Biology graduate program offers a program of study for the Ph.D. degree with comprehensive training in the modern molecular and cellular research. The program is composed of Health Center faculty from basic as well as clinical departments, all of whom are conducting state-of-the-art research. The fundamental philosophy of the Cell Biology program is to advance knowledge in basic and clinical problems from the cellular and molecular perspective.

The program is particularly strong in these research areas: angiogenesis, bioinformatics, phototonics, cancer biology, computational cell biology, cytoskeleton and molecular motors, gene expression, molecular medicine, molecular modeling, optical methods, reproductive biology, sensory transduction, signal transduction, tumor immunology, and vascular biology

Genetics and Developmental Biology

Program Director
Associate Professor William Mohler

Associate Program-Director
Assistant Professor James Li

Assistant Program Director
Associate Professor Arthur Gunzl

Professors
Arnold, Carmichael, Das, King, Hansen, Hla, Jaffe, Kosher, Kranzler, Kream, LaLande, Maxwell, Mina, Morest, Peluso, Radolf, Rossomando, Rowe, Sarfarazi, Upholt, White, and Wikel

Associate Professors
Clark, Covault, Dealy, Epstein, Graveley, Gunzl, Kuchel, Lichtler, Mayer, Mohler, Reenan, Rosenberg, and Xu

Assistant Professors
Aguila, Ben Mamoun, Blinov, Claffey, Fang, Fong, Kresch, Li, Nyholm, Rogina, and Yu

The Ph.D. program in the area of concentration of Genetics and Developmental Biology provides qualified students with fundamental interdisciplinary training in modern molecular genetics and developmental biology, emphasizing cellular and molecular aspects as well as tissue interactions. Primary emphasis is placed upon regulation of gene expression and molecular events in development. Areas of emphasis include the mapping and cloning of human genes responsible for disease, RNA processing (including RNA editing, alternative splicing, antisense regulation, and RNA interference), the molecular mechanisms of aging, signal transduction pathways, microbial pathogenesis, developmental neurobiology, cell differentiation, musculoskeletal development, morphogenesis and pattern formation, reproductive biology and endocrinology. Faculty members are from several basic science and clinical departments and study a wide range of organisms including yeast, worms, fruit flies, mice, and humans.

Immunology

Program Director
Associate Professor Anthony Vella

Professors
Cone, Goldschneider, Lefrançois, Lorenzo, Mukherji, J. O'Rourke, Radolf, Rajan, Srivastava, and Thrall

Associate Professors
Adler, Clark, Huang, Li, Puddington, Vella, and Zeff

Assistant Professors
Aguila, Cauley, and C. Wu

The Ph.D. program in the area of concentration of Immunology is focused on the cellular and molecular aspects of immune system structure and function in animal

models and in humans.

Areas of emphasis include:

- (1) Innate and adaptive immune responses to infectious agents including viruses, bacteria, or parasites;
- (2) Anti-tumor immunity and immunotherapy;
- (3) Hematopoiesis and development of cells of the adaptive (lymphocytes -- T or B cells) or the innate immune system (NK cells, dendritic cells, osteoclasts);
- (4) Organ-specific inflammatory diseases of the respiratory (asthma) or gastrointestinal tracts (inflammatory bowel disease); and
- (5) Autoimmunity including pathogenesis and prevention (tolerance and immunoregulation).

Molecular Biology and Biochemistry

Program Director
Associate Professor Henry Furneaux

Professors

Carmichael, Carson, Das, Eipper, Eisenberg, Hla, S. King, Klobutcher, Koppel, Osborn, Ozols, Rothfield, Setlow, Weller, and White
Associate Professors: Brewer, Cowan, Furneaux, Gunzl, Hoch, and Zou

Assistant Professors
Ben Mamoun, Dodge, Everson, Gryk, Heinen, Maciejewski, Schiller, Tirnauer, and Ton-That

The Ph.D. program in the area of concentration of Molecular Biology and Biochemistry explores biological phenomena at the molecular level with special emphasis on the genetic and biochemical mechanisms controlling biosynthesis, structure and function of macromolecules and their assembly into organized cellular structures. There are five major study areas: (1) relation of the structure of macromolecules to their function, with special emphasis on the structural base for the activity of enzymes and the interactions of macromolecules in biological systems; (2) biosynthesis of macromolecules, including nucleic acids, proteins, and polysaccharides; (3) control of gene expression in bacteria, viruses and eucaryotic cells; (4) assembly of macromolecules into complex cellular structures during the processes of cellular development and differentiation; and (5) genetic and molecular basis of complex cellular processes, such as cell division and cellular development and differentiation.

Neuroscience

Program Director
Assistant Professor James Hewett

Professors
Barbarese, Bernstein, Carson, Eipper, Frank, Kim, Kuwada, Loew, Mains, Maxwell, Morest, Oliver, Pachter, Pappano, and Potashner

Associate Professors
Bansal, S. Hewett, Levine, Shoemaker, Smilowitz, Waitzman, and Zecevic

Assistant Professors
Antic, Conti, Crocker, J. Hewett, Li, Ma, McCullough, Schiller, Wang, and Zecevic

The Neuroscience Graduate Program at the University of Connecticut Health Center is an interdisciplinary and interdepartmental Ph.D. program. The goal of research in this program is to understand the development, function, and dysfunction of the nervous system at the molecular, cellular, systems, and whole animal levels. Molecular, electrophysiological, behavioral, confocal imaging, and stem or virtual cell approaches are employed, as well as cellular, animal, transgenic, and mathematical models. The breadth of this program is depicted in a survey of the numerous topics covered by faculty research, which include: stem and precursor cell biology as it pertains to gliogenesis and neurogenesis in the developing nervous system; biochemistry and regulation of gene expression, signal transduction, and intracellular trafficking in neurons and glia; structure and function of voltage-sensitive ion channels; synthesis, storage and secretion of neuropeptides; neurotransmission and plasticity; synaptic organization and stimulus coding; sensory perception, behavioral neuroscience, and human psychophysics; and neuroinflammation, autoimmunity, and neurodegeneration. Research pertaining to specific diseases or disorders include: substance abuse; stroke; epilepsy; multiple sclerosis; and deafness. (For additional information, see <http://neuroscience.uhc.edu/>).

Skeletal, Craniofacial and Oral Biology

Program Director
Professor William Upholt

Professors
Arnold, Frank, Goldberg, Gronowicz, Hand, Hansen, Hurley, Kosher, Kream, Lalande, Lefrançois, Lurie, Mina, Pilbeam, Rossomando, Rowe, and Upholt

Associate Professors
Dongari-Bagtolglou, P. Epstein, Dealy, Drissi, Harrison, and Lichtler

Assistant Professors

Delany, Kalajzik, Kuhn, Mallya, Maye, Reichenberger, Rogina, Wadhwa, and Y.H. Wang

This program provides students with interdisciplinary research training in the areas of skeletal, craniofacial, and oral biology, emphasizing contemporary research technologies in cell, molecular, and developmental biology, genetics, and biochemistry. Trainees may enter a Ph.D. Program, a dual D.M.D/Ph.D or M.D./Ph.D, or a combined Dental Residency/Ph.D. Program. The Program prepares trainees for academic or industrial careers in the basic biomedical sciences, or for academic careers in Medicine or Dental Medicine. Areas of research include regulation of the formation, outgrowth, and patterning of the developing limb; control of cartilage differentiation, endochondral ossification, osteogenesis, and joint formation; human embryonic stem cell differentiation into mesodermal and musculoskeletal lineages; molecular regulation of gene expression in bone; homeobox gene regulation of osteoblast differentiation; gene therapy of bone diseases; hormonal and cytokine regulation of bone growth, formation, and remodeling; control of craniofacial skeletogenesis and tooth development; biochemistry, function, and regulation of the extracellular matrix; signal transduction and intracellular signaling pathways; cellular and molecular aspects of the pathogenesis of inflammatory disease; microbiology, pathogenesis, and immunology of caries and periodontal disease; neural structure and function in the gustatory system; biomaterial development for tissue engineering; bone cell/implant interactions; and, analysis of oral and mucosal function and disease.

Graduate assistantships are available for qualified incoming and current students. Recipients must be full-time student and work with faculty advisors at the Health Center. Awards include assistantship stipend, waiver of tuition, and health insurance (additional funds are available for travel to scientific conferences and short courses) Incoming students are recommended for these awards by the Biomedical Sciences Admissions Committee. Students should apply by December 15th for admissions in the following fall semester.

M.S. in Clinical and Translational Research.

An M.S. degree program is offered in the field of Clinical and Translation Research (see pp. 79-80).

Dual M.D./Ph.D. Degree Program.

The dual degree program provides students with an integrated educational experience leading to completion of both the M.D. and Ph.D. degrees. The goal of the program is to prepare individuals of outstanding potential for productive careers as physician-scientists. Students spend the first two years completing the preclinical medical school curriculum together with selected graduate school coursework and two laboratory rotations. During the graduate phase, students complete additional coursework and pursue thesis research. Students then return to medical school to complete two years of clinical training. The program is usually completed within seven to eight years including summers. The program is administered by the M.D./Ph.D. Steering Committee under the jurisdiction of the Graduate Programs Committee at the University of Connecticut Health Center. Students apply to the program through the American Medical College Application Program (AMCAS). The Steering Committee reviews applications and, in conjunction with the medical school admissions committee, accepts students into the program. Assistantship support is provided to students in the program.

Courses

MEDS5306(3 Credits) Instructor Consent Required Physiological Digital Imaging A combination lecture/seminar/project course in "Foundations of Imaging Science." It covers the principal mechanisms of physiological imaging in digital applications and focuses on critical analysis of the performance of modern imaging sensors, modeling and measuring of visual perception parameters for image information and optimizing of digital imaging for the life sciences, pathology and radiology, including teleradiology. The course is intended for anyone who works with or will use digital images. Components: Lecture

MEDS5307(2) Critical Analysis of the Biological Literature

This course is intended to develop and improve each student's capacity for critical analysis of research articles, with special emphasis on the logic used to frame hypotheses and justify conclusions. An understanding of experimental methods will also be emphasized. Each week one or two papers, across a wide spectrum of modern biomedical research, will be

discussed in depth in a small group format.
Components:Seminar

MEDS5308(2) The Nature of Evidence in Scientific Research

This course will examine the aspects of the scientific process that are common to all levels of biomedical "investigations: from biophysics in cell-free systems to molecular biology in cells, to physiology in whole" organisms, to epidemiology and clinical investigation in humans. These features begin with enunciation of the question to be asked, and include (3 Credits) Identification of a system to address the question, (2) Specification "of the systems and their manipulation, (3 Credits) Assessment of outcomes, and (4) Drawing inferences on the basis" of results. The course will be designed as a discussion of seminal, published works on the topics. Two to three key papers will be distributed to participants at least one week before the scheduled discussions. There will be no examination for the course. Students are expected to actively participate in critical evaluation and discussion during each of the weekly two-hour sessions. Evaluation of performances will be based solely on such participation. Components:Discussion

MEDS5309(2) Molecular Basis of Disease

This is a seminar and discussion based course that reviews the molecular understanding of human disease. Components:Discussion

MEDS5310(3 Credits) Responsible Conduct in Research

This course introduces the student to ethical and legal issues associated with the practice and reporting of science. The course uses a case study approach and requires in-class student participation. Components:Discussion

MEDS5313(3 Credits) Instructor Consent Required Biomaterials and Tissue Engineering

Instructor consent required. Recommended preparation: BME 271W (or equivalent). Also offered as BME 313.

A broad introduction to the field of biomaterials and tissue engineering. Presents basic principles of biological, medical, and material science as applied to implantable medical devices, drug delivery systems and artificial organs. Recommended preparation: BME 271 (or equivalent). Components:Lecture

MEDS5322(2) Developmental Biology

This course covers history, concepts, and experimental strategies in both classical and modern developmental biology. Topics ranging from early fertilization, to early embryonic development, to the formation of adult structures are considered and compared in a range of model organisms. Class format includes one hour of lecture by instructors and one hour of literature analysis and discussion by students each week. Course grade will combine results of class participation and a final exam. Components:Lecture

MEDS5323(3 Credits) Genetics and Developmental Biology Journal Club

Reading and discussion of current research in the fields of genetics and developmental biology with emphasis on molecular aspects. Periodic presentation of research papers and active discussion will be expected of all participants. Components:Seminar

MEDS5325(2) Instructor Consent Required Practical Applications of Sequence Analysis

Provides an understanding of how to analyze genetic sequence information by computer. Includes basic analyses such as restriction mapping and detection of coding sequences, to more advanced analyses such as sequence similarity searching, sequence comparisons and multi-sequence alignment, prediction of functional motifs from primary sequence information, and current tools for mapping, assembly, and analysis of genomic sequence information. The course emphasizes NCBI and other Web-based tools currently available for use. Students will be exposed to the Genetic Computer Group (GCG) series of sequence analysis programs, but these are not emphasized. Students are required to complete a series of computer-based exercises to demonstrate proficiency in the application and use of the various computer programs presented in class. Components:Lecture

MEDS5327(4) The Logic of Modern Biology

This course covers the fundamental biochemical and genetic principles that underlie all areas of modern biology. The biochemistry and genetics of both prokaryotes and eukaryotes are addressed. Reading and discussion of papers in the literature are important elements of the course. Components:Discussion

MEDS5329(2) Immunobiology I

An overview of basic concepts in immunology including antibody structure, function and production, molecular genetics of the immune system and cellular regulation of immunity. Components:Lecture

MEDS5330(2) Immunobiology II

This continuation of MEDS 329 will consider effect or mechanisms of the immune system in inflammation, hypersensitivity, transplantation and autoimmunity as well as regulation of the immune system by cells, cellular products and chemical or physical agents. Components:Lecture Requirement Group:Prerequisite: MEDS 5329 (RG179).

MEDS5333(2) Instructor Consent Required Immunobiology of Transplantation

Immunogenetics of transplantation, alloantigen reaction lymphocytes, afferent recognition phase of transplantation immunity, cellular effector mechanisms and antibody participation in transplant immunity. Components:Lecture

MEDS5335(4) Instructor Consent Required Advanced Molecular and Cellular Immunology I.

Major areas covered include: (3 Credits) Development of the immune system with respect to lymphoid organs and lymphocyte subsets; (2) Mechanisms of antigen processing and presentation; (3 Credits) Lymphocyte activation including the role of costimulatory molecules and (4) Regulation of the immune response including tolerance induction, cytokine interactions and signal transduction. Components:Lecture

MEDS5336(4) Instructor Consent Required Advanced Molecular and Cellular Immunology II.

Major areas covered include: (3 Credits) Immunoglobulin genetics and structure; (2) T cell receptor genetics and structure; (3 Credits) Molecular nature of antigen recognition by T cell receptor; (4) Structure, function and molecular genetics of lymphocyte accessory molecules; (5) Mechanisms of cytotoxicity and (6) Complement and complement receptors. Components:Lecture Requirement Group:Prerequisite: MEDS 5329 and 5330 (RG180).

MEDS5337(3 Credits) Immunopathology

The immediate-type hypersensitivities will be considered, with special emphasis

on anaphylactic-type responses, pathologic responses, pathologic responses to immunologic complexes, immunohematologic diseases and models such as virus immunopathology, and rheumatoid arthritis and systemic lupus erythematosus. Components:Lecture

MEDS5338(2)Instructor Consent Required Techniques in Structural Biology

Also offered as MEDS 338. A short course to introduce graduate students and selected undergraduates to modern techniques in structural biology. Each course offering covers a specific technique: NMR, computational and graphical analysis of biomolecules, X-ray crystallography, analytical ultracentrifugation, spectroscopy, calorimetry, and others. Components:Lecture Course Equivalent:MCB 5038

MEDS5341(3 Credits)Instructor Consent Required Molecular Neurobiology of Excitable Membranes

Emphasizes the relation between structure and function of biological interfaces that comprise electrically excitable and chemically excitable (synaptic) membranes. Models of electrically-and chemically-induced regulation of ion movement via channels and transporters are examined. Genetic manipulation of channel composition is evaluated with attention to altered function and inferences about their structure. Components:Lecture

MEDS5349(1 - 3) Principles of Pharmacology

An introductory course covering the basic principles of Pharmacology. Introduces the student to the concept that drugs and chemicals act on the body by binding to receptors. The physico-chemical properties of ligand-binding to macromolecules is examined, followed by an examination of the nature of receptors and the mechanisms whereby they exert their physiological responses to pharmacological agents. The uptake and fate of xenobiotics (compounds foreign to the body) in the body is discussed. The responses to chemicals, as therapeutic agents, i.e., the desired correction of diseased conditions, as well as toxins, carcinogens and teratogens. The mechanisms governing these different responses are examined in detail. Components:Lecture

MEDS5350(4) Biochemistry I

Introductory biochemistry of protein

structure, function and synthesis, enzymology, structure and replication of nucleic acids, membrane structure and function. Components:Lecture

MEDS5351(3 Credits) Biochemistry II

This course covers fundamentals of biomolecular interactions and protein structure. Additionally, the course covers the structure/function of select proteins and enzymes essential to the following: metabolic pathways, DNA/RNA transactions, gene expression, cell cycle and signal transduction, and the cytoskeleton. Components:Lecture

MEDS5365(3 Credits) Genetics

Introduction to the principles and practices of molecular genetics of prokaryotes and eukaryotes. Topics include gene structure and function; gene transfer and recombination; gene regulation; molecular genetics of eukaryotic viruses, yeast, *Drosophila*, somatic cells and humans. Components:Lecture

MEDS5367(3 Credits)Instructor Consent Required Introduction to Molecular Biology and Biochemistry

This course involves reading and discussing classic papers in Molecular Biology and Biochemistry in order to introduce first year students to the field and to develop critical skills. Topics will vary from year to year but may include nature of the gene, basic principles of transcription, translation, DNA replication, and membrane structure. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture Requirement Group:Open only to students enrolled in the Biomedical Science doctoral program (RG600).

MEDS5368(3 Credits) Topics in Biochemistry and Molecular Biology

To be offered every semester by a different faculty member on a rotating basis. Topic to be determined by individual faculty member. The purpose of the course will be to discuss and critically evaluate relevant literature in each topic. The topics will include viral replication strategies, membrane molecular biology, growth factors and second messengers, molecular biology of microbial development, membrane receptors, "extracellular matrix-cell interactions, and peptide hormones. Students taking this course will be assigned a" final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

MEDS5369(3 Credits) Advanced Genetics and Molecular Biology

An advanced course emphasizing approaches to the genetic analysis of eukaryotic systems including yeast, fungi, *Drosophila*, mice, and humans. Topics include genome organization, DNA replication, regulation of gene expression, development, and differentiation. Components:Lecture

MEDS5370(3 Credits)Instructor Consent Required Introductory Neuroscience

This course will provide an introduction to neuroscience as a discipline and the important concepts and problems that make the nervous system unique. The nervous system consists of the brain, spinal cord, and peripheral nervous structures. Our scientific understanding of sensation, movement, emotional behavior, homeostatic systems, and cognition each require knowledge and understanding of the nervous system. This course will provide the student with an introduction to the neurobiological bases of these behaviors and the experimental approaches that underlie modern neurobiological research. The course will also introduce the student to the unique cell and molecular biology of the nervous system. Neuroscience, as a discipline, incorporates data from many other scientific fields to address fundamental problems. Therefore, one goal of the course is to show how our understanding of the nervous system requires the integration of data from disciplines like endocrinology, genetics, computation biology, engineering, and biophysics. In addition, this Components:Lecture

MEDS5371(2)Instructor Consent Required Systems Neuroscience

Part of the core series in the Neuroscience graduate program. This course will address the functional organization of neural systems underlying sensation, movement, language, learning/plasticity, and emotion/arousal. Sensory systems will include the somatosensory, auditory, visual, vestibular, and chemosensory systems. Motor systems will include the spinal cord, brain stem, cerebellum, vestibular system, oculometer system, basal ganglia and cerebral cortex. Components:Lecture

MEDS5372(4)Instructor Consent Required Neuroscience: Cellular and Molecular Neuroscience

Part of a core series in the Neuroscience

Program, this course provides an introduction to basic concepts in the study of cell biology, neuroanatomy, neurophysiology, neurochemistry, and molecular biology of the nervous system. Components:Lecture

MEDS5374(1 - 6)Instructor Consent Required Neuroscience: Structure, Function, and Development of the Nervous System

Provides systematic coverage of neuroanatomy, neurophysiology, neuropathology, neurochemistry and developmental neurobiology (including embryology and neural plasticity). Introduction to neuroendocrinology, degeneration and regeneration, communicative sciences (speech, hearing, chemical senses, and psychophysics), and research methods. Components:Lecture Requirement Group:Prerequisite: MEDS 5372 (RG182).

MEDS5375(3 Credits)Instructor Consent Required Neuroscience: Current Research Topics/Methods

The goal of this course is to familiarize students early in their education (first or second year) with various key methodologies to which they will be exposed in courses, journal club presentations, and seminars. After a brief overview of basic concepts, applications, controls, and permutations of the method in the classroom, students will observe and participate in a demonstration of important technical aspects of the method in the laboratory setting. The course is targeted especially toward students with an interest in neuroscience or neuroimmunology. Components:Seminar

MEDS5376(2) Developmental Neurobiology

Emphasis on the cellular and molecular mechanisms which underlie the development of the nervous system. Reading and discussion of research papers in the literature is stressed. Components:Lecture

MEDS5377(3 Credits)Instructor Consent Required Neurobiology of Hearing

Provides in-depth analysis (using the Auditory System as a model system) with application of interdisciplinary approaches of cell and molecular biology, developmental neurobiology, neuroanatomy, neurophysiology/biophysics, neurochemistry, neural modeling, psychophysics, and plasticity, with state-of-the-art methods used in neuroscience research today. The team of faculty members contribute a

variety of complementary fields of study. Components:Lecture

MEDS5378(3 Credits)Instructor Consent Required Computational Neuroscience

Students study the function of single neurons and neural systems by the use of simulations on a computer. The course will combine lectures and classroom discussions with conducting computer simulations. The simulations will include exercises and a term project. Each student will complete a term project of neural simulation to be developed during the second half of the semester. The topic of the term project should be approved by the instructors by the middle of the semester. The grade will be based on the exercises and the term project. Course includes: analysis of electrical circuits modeling neuronal cell membrane and the related differential equations; the Hodgkin-Huxley model of voltage- and time-dependent sodium and potassium conductances in the squid axon; voltage-clamp and current-clamp; the relationship between two rate constants versus the steady-state value and time constant underlying each conductance; neuronal response properties that are related to voltage-dependent and calcium-dependent ion channels; single- and multi-compartment models with Components:Lecture Course Equivalents:BME 6110

MEDS5380(4) Cell Biology

Basic eucaryotic cell biology. Major topics include: Methods in Cell Biology; Cell Growth and Proliferation; Cytoskeleton; Transport: Hormone Response; Cytoplasmic Organelles and Membrane Structure, Function, Biogenesis, Transport and Sorting; Cell Motility; Chromatin Structure and Organization; and Extracellular Matrix and Cell Adhesion. Components:Lecture

MEDS5381(4) Cell Biology and Physiology II

Part I: Lecture format on membrane biophysics (membrane structure and permeability, electrical properties and gated channels, concentration gradients, volume and shape control, energy transduction, membrane dynamics). Part II: Lecture/Seminar format. Topics in receptors and channels, cell biology of the senses, cell junctions in the nervous system, growth factors and cell activation, cell cytoskeleton and matrix. Emphasis on in-depth discussions of specific cell systems through current literature. Final paper required in the form of research proposal. Components:Lecture

Requirement Group:Prerequisite: MEDS 5380 (RG186).

MEDS5382(2) Advanced Cell Biology: From Microscope to Model--Quantitative Approaches to Cell Biology

Intracellular signaling is one of the most rapidly advancing fields in cell biology. The objective of this course is to introduce to the students the most recent achievements in the field of intracellular signaling and regulation. Each of the participating faculty members will give an introductory lecture to provide an overview of signaling events in their field of expertise and discuss the most important recent papers. Components:Lecture

MEDS5383(3 Credits) Neurobiology of Disease

Discussion and Lecture, run by clinician and basic scientist, on diseases of the nervous system. Components:Discussion, Lecture

MEDS5384(2)Instructor Consent Required Brain Microcircuits

Brain Microcircuitry is an upper level course. Components:Discussion

MEDS5385(3 Credits) Molecular Mechanisms of Neurobiological Disorders

Discussion of current papers relevant to molecular analyses of neurobiological diseases. Components:Discussion, Lecture

MEDS5388(1 - 4)Instructor Consent Required Principles and Techniques of Biological Electron Microscopy

A lecture/laboratory course on the theory and practice of transmission and scanning electron microscopy as applied in the biological sciences. Topics include instrument design and operation, electron optics, specimen preparation, photography, microscopic image interpretation and special techniques. Laboratory students learn and carry out commonly used preparative techniques, observe and photograph specimens in the electron microscope, and complete an independent project. Components:Lecture

MEDS5391(2)Instructor Consent Required Enzymes of Xenobiotic Biotransformation

Lectures and student presentations of journal articles relevant to the lectures plus one laboratory. Topics include an overview of metabolic routes of drugs and chemicals in

the body with an emphasis on the hepatic cytochrome P450 monooxygenases. Other topics include conjugative xenobiotic metabolizing enzymes. Components:Lecture

MEDS5395(1 - 6) Independent Study

Independent Study Components:Independent Study

MEDS5415(2) Craniofacial and Oral Biology

Craniofacial and Oral Biology is a combination lecture and literature discussion course with a focus on the underlying biochemical, molecular and genetic mechanisms involved in the pathogenesis of craniofacial and oral disorders, the identification of unsolved questions, and consideration of possible approaches to investigate these questions. Components:Lecture

MEDS5418(3 Credits) Stem Cells and Regenerative Biology

A literature based course on the fundamental aspects of stem cells; their nature, origin, self-renewal and differentiation during embryogenesis and tissue regeneration. Taught by a team of experts. Grade based on mid-term tests, class participation and presentation. Components:Lecture
Requirement Group:Prerequisite: MEDS 5322 or MEDS 5327 or MEDS 5380 (RG 4543).

MEDS6400(1 - 9) Human Biology

Introduces the histology of the major types of tissues and cellular ultrastructure. Following this introductory material, the students will dissect the limbs, and study epithelia, connective tissue, and skin including the extracellular matrix and body fluid compartments. The course will also cover muscle, bone, peripheral nerves, the neuromuscular junction, blood vessels, and other elements essential to understanding the function of the limbs. For all tissues considered, there will be an integrated presentation of structure, biochemistry, and physiology. Also, presents the general principles of biochemistry and molecular biology. Fundamental processes involved in cellular growth and division are included as well as an overview of metabolism and energy production. This is followed by consideration of cellular differentiation. Finally, there will be a survey of the general principles of immunology and the lymphoid tissues including the function of blood cells and coagulation. Components:Lecture

MEDS6401(1 - 9)Instructor Consent Required Organ Systems I

Presents, in an integrated fashion, the anatomy, histology, biochemistry, and physiology of the central nervous system. Concurrently, the students dissect the head and the neck. Components:Lecture

MEDS6402(1 - 9)Instructor Consent Required Organ Systems II

Presents, in an integrated fashion, the anatomy, histology, biochemistry, and physiology of the cardiovascular, respiratory and renal-urinary systems. The emphasis is placed on how these organ systems interact and work together to maintain homeostasis. Concurrently, the students dissect the thorax. Introductory biostatistics and epidemiology are also presented at this time. Components:Lecture

MEDS6403(1 - 9)Instructor Consent Required Organ Systems III

Presents, in an integrated fashion, the anatomy, histology, biochemistry and physiology of the gastrointestinal, endocrine and reproductive systems. Also presented is material related to principles of human genetics. At the same time, students dissect the abdomen and pelvis. Components:Lecture

MEDS6404(2)Instructor Consent Required Correlated Medical Problem Solving - Part A

This course serves to expand upon and integrate basic science concepts introduced in the Human Systems. Components:Lecture

MEDS6405(2)Instructor Consent Required Correlated Medical Problem Solving - Part B

Expands upon and integrates basic science concepts introduced in the Human Systems course. Components:Lecture

MEDS6406(1 - 9) Human Development & Health

This 170-hour course comprises (a) a multidisciplinary scientific survey of biological, psychological, and social development from conception to death; (b) an investigation of the behavioral and social dimensions of health and illness; (c) an introduction to principles of medical law and ethics applied to doctor-patient relationships and health care problems; and (d) an overview of the structure, function, and services of the American health care system

and the political and economic forces shaping its evolution. Components:Lecture

MEDS6407(1 - 9)Instructor Consent Required Mechanisms of Disease: Part A

General pathology, pharmacology and infectious disease. Components:Lecture

MEDS6408(1 - 9)Instructor Consent Required Mechanisms of Disease: Part B

Diseases affecting homeostasis. Components:Lecture

MEDS6409(1 - 9)Instructor Consent Required Mechanisms of Disease: Part C

Medicine. Oncology, metabolism, endocrinology, and the nervous system. Components:Lecture

MEDS6410(1 - 9)Instructor Consent Required Mechanisms of Disease: Part D

Reproduction, immunology, and connective tissue. Components:Lecture

MEDS6411(12)Instructor Consent Required Clinical Practicum

Clinical experience in the major disciplines including: Medicine, Surgery, Obstetrics & Gynecology, Psychiatry, Family Medicine, and Pediatrics. Components:Practicum

MEDS6412(11)Instructor Consent Required Advanced Clinical Practicum

Advanced clinical work with opportunities in the major clinical disciplines. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Practicum

MEDS6413(2) Cancer Biology

This is a survey course to explore the genetics and pathobiology of cancer by focusing on a variety of current research topics. Understanding the disease process requires studying normal mechanisms of growth control. Emphasis will be on topics such as differentiation, apoptosis, growth factors, oncogenes, tumor suppressor genes, viruses and signal transduction. Components:Lecture

MEDS6414(2) Advanced Correlated Medical Problem Solving - Part A

Expands upon and integrates basic science concepts introduced in Human Development and Health and Mechanisms of Disease.

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

MEDS6417(2)Instructor Consent Required
Advanced Correlated Medical Problem Solving - Part B

Expands upon and integrates basic science concepts introduced in Human Development and Health and Mechanisms of Disease.

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

MEDS6418(3 Credits) Classic Papers in Molecular Biology & Biochemistry

Students are required to read and critically analyze one or two papers selected by the instructor each week.

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

MEDS6419(3 Credits) Classic Papers in Neuroscience & Immunology

Students are required to read and critically analyze one or two papers selected by the instructor each week.

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

MEDS6421(1 - 6) Classic Papers in Cell Biology & Developmental Biology

Students are required to read and critically analyze one or two papers selected by the instructor each week. Components:Lecture

MEDS6422(3 Credits) Classic Papers in Cellular & Molecular Pharmacology

Students are required to read and critically analyze one or two papers selected by the instructor each week. Components:Lecture

MEDS6423(2) Cellular and Molecular Biology of the Vascular System

Systematic survey of classic and current literature in vascular biology, emphasizing the molecular and cellular basis of the development, function, and malfunction of the vascular system. Components:Lecture

MEDS6424(2) Neuropharmacology

Highlights the different neurotransmitter

and neuromodulator systems and the pharmacological agents that affect them. Emphasis is placed on the mechanisms of drug action in the treatment of nervous system and mental disease, serving to complement other courses in neuroscience, pharmacology, immunology, and pharmaceutical science. Components:Lecture

MEDS6425(2) Neuroimmune Interactions

Addresses the chemical and physical relationships between the immune system and the nervous system and emphasizes the coordinate operations of the two systems. Components:Lecture

MEDS6430(2) Molecular and Medical Parasitology

Provides students with an in-depth knowledge of classical and modern parasitology. The course will focus on "the molecular and cellular bases of parasite development, differentiation, parthenogenesis and host-pathogen" " interactions. The course also will address the most recent advances in genomics, proteomics," bioinformatics and large-scale functional analyses and their contributions to treatment and prophylaxis of parasitic infections. Components:Lecture

MEDS6444(3 Credits) Molecular Microbiology

Provides first and second year graduate students with a broad understanding of contemporary topics in bacteriology and virology. Although the course centers primarily around the more basic aspects of these two disciplines, the outline also includes sessions intended to relate this basic material to important issues in pathogenesis of bacterial and viral diseases. Components:Lecture

MEDS6445(2)Instructor Consent Required
Skeletal Biology

A comprehensive survey of the cellular and molecular mechanisms that regulate the development, growth, differentiation, remodeling, and repair of the skeletal system. Components:Lecture

MEDS6447(3 Credits)Instructor Consent
Required Presentation of Scientific Data

Through a series of lectures and workshops, this course is designed to improve the ability of students to present scientific data in written and oral format. These skills are essential, not only as a graduate student, but

in future careers as scientist. The curriculum covers basic elements and logical order of presentations. Reviewer's perspectives, grant writing resources, workshops, and evaluation of recent seminars help students to design and evaluate research projects. Components:Lecture

MEDS6450(3 Credits) Optical Microscopy and Bio-imaging

The course presents the current state of the art of optical imaging techniques and their applications in biomedical research. The course materials cover both traditional microscopies (DIC, fluorescence etc.) that have been an integrated part of biologists' tool-box, as well as more advance topics, such as single-molecule imaging and laser tweezers. Four lab sessions are incorporated in the classes to help students to gain some hand-on experiences. Strong emphasis will be given on current research and experimental design. Also offered as BME 341. Components:Lecture Course
Equivalents:BME 6450

MEDS6460(3 Credits) Advanced Optical Microscopy and Bio-imaging

This course will cover several aspects of state of the art biological and biophysical imaging. We will focus on advanced techniques including nonlinear optical processes (multi-photon excitation, second harmonic generation, and stimulated Raman processes), as well as optical coherence tomography. 3 lab projects will supplement the lectures, providing hands-on experience with nonlinear optical methods. Special emphasis will be given to current imaging literature and experimental design. Also offered as BME 342. Components:Laboratory, Lecture Course
Equivalents:BME 6460

MEDS6461(2)Instructor Consent Required
Clinical Radiation Sciences: Physics and Biology (Part A)

A continuous pair (i.e., MEDS 451 and 452) of semester lecture/seminar courses which examines the physical and biological principles underlying the uses of radiation and allied radiation sciences in clinical diagnosis and therapy. Characteristics of imaging systems, Nuclear Medicine, Radiation Therapy, biological effects of ionizing radiation, radiation measurement and dosimetry, and quality assurance will be covered through critical readings in texts and the literature. This course is available to individuals enrolled in residency programs of medical radiology, oral and maxillofacial

radiology, and other specialties engaged in patient imaging. Some of these students will be enrolled in a concurrent degree program, either Master of Dental Science or PhD in Biomedical Sciences. The course is also available to individuals in Master's or PhD level graduate studies who desire an in-depth study of radiation sciences, and how they apply to patient care. Components:Lecture

MEDS6462(2)Instructor Consent Required
Clinical Radiation Sciences: Physics and Biology (Part B)

A continuous pair (i.e., MEDS 451 and 452) of semester lecture/seminar courses which examines the physical and biological principles underlying the uses of radiation and allied radiation sciences in clinical diagnosis and therapy. Characteristics of imaging systems, Nuclear Medicine, Radiation Therapy, biological effects of ionizing radiation, radiation measurement and dosimetry, and quality assurance will be covered through critical readings in texts and the literature. This course is available to individuals enrolled in residency programs of medical radiology, oral and maxillofacial radiology, and other specialties engaged in patient imaging. Some of these students will be enrolled in a concurrent degree program, either Master of Dental Science or PhD in Biomedical Sciences. The course is also available to individuals in Master's or PhD level graduate studies who desire an in-depth study of radiation sciences, and how they apply to patient care. Components:Lecture

MEDS6471(3 Credits)Instructor Consent Required
Physiological Systems I

Designed for engineers or other graduate students without a life sciences background. Contents: introduction to cell structure and function; the cardiovascular, respiratory, and renal/urinary systems; the basics of hematology, and the interactions between these organ systems to transport oxygen and eliminate wastes. Format: didactic session followed by group problem-solving. Course grade will be determined by level of participation in the problem-solving session and by two take-home problem-solving exams. This course is available to all students involved in the BEACON (Biomedical Engineering Alliance for Central Connecticut) program. Also offered as BME 310. Components:Lecture Course Equivalents:BME 5000

MEDS6472(3 Credits)Instructor Consent Required
Physiological Systems II

A problem based learning course that focuses on in-depth coverage of four human organ systems with an engineering perspective. An extensive literature review is required for each topic which culminates in a major report that highlights the engineering standpoint unified mathematically. Case studies are used to develop each topic. Format: didactic session followed by group problem solving. Also offered as BME 318. Components:Lecture Course Equivalents:BME 6020 Requirement Group:Prerequisite: MEDS 6471 or BME 5000 or consent of instructor (RG187).

MEDS6479(5) Chemistry and Biology of
Drugs of Abuse

An in-depth interdisciplinary approach to the neurobiology of drug abuse, integrating basic and clinical sciences. Lectures, student presentations of original research reports, and laboratory exercises dealing with methods to measure neurotransmitter transport, ligand binding to receptors and transmitter action on ligand-activated channels. Components:Lecture

MEDS6495(1 - 6) Independent Study

A reading course for those wishing to pursue special topics in the biomedical sciences under faculty supervision. Components:Independent Study

MEDS6496(1 - 6) Laboratory Rotation

Components:Laboratory

MEDS6497(1 - 6) Graduate Seminar

Reading and discussion of recent research developments in various areas of biomedical

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Business Administration

The School of Business offers course work and research leading to the degrees of Master of Business Administration (M.B.A.); Master of Science (M.S.) in the fields of Accounting, Business Analytics and Project Management, and Financial Risk Management; and Doctor of Philosophy (Ph.D.) in Business Administration. Detailed descriptions of these programs (as well as the Executive M.B.A.) can be found in brochures available from the School of Business.

The Ph.D. Program

The Ph.D. Program prepares students to conduct state-of-the-art research and to take faculty positions in business schools at leading universities. Students select an area of concentration from the following: accounting, finance, management, marketing or operations and information management. The program emphasizes: (1) student/faculty interaction; (2) flexibility in designing a program to meet individual needs; and (3) timely completion of the degree.

Degree Requirements.

The Ph.D. program has four major components: course work, qualifying research paper, written general qualifying examination, and dissertation. Specific course work varies depending upon the student's area of concentration (refer to the Departmental Doctoral Curriculum at <www.business.uconn.edu/phd>). All courses must be at the graduate level and credits in the major area typically are Ph.D. level seminars. Interdisciplinary courses are encouraged in the supporting electives. Completion of the qualifying research paper is required by the end of the second year. The general qualifying examination is administered by the faculty in the student's area of concentration. The dissertation is the final requirement.

Admission.

Admission to the Ph.D. program is based upon the applicant's potential to conduct research and commitment to a rigorous program of study. Applicants to the Marketing and the Operations and Information Management concentrations may submit a GRE or GMAT score. All

other applicants must submit a GMAT score, regardless of their background. Students who have not previously acquired knowledge of the subject matter of the Common Body of Knowledge courses of the AACSB are expected to acquire that knowledge as part of their program. In addition, applicants should have satisfactorily completed one year of calculus. Letters of recommendation also are considered in the admission decision and a campus interview is desirable. Applicants whose native language is not English must submit a Test of Spoken English (TOEFL iBT or IELTS).

The M.S. Program in Accounting

The Master of Science Program in the field of Accounting is an online degree which will provide students with the skill set critical to a successful professional career in public and private accounting. A dynamic online community has been created that supports and nurtures student-centered learning and information literacy, also known as “learning to learn”. Information literacy is the process of identifying a problem and information sources, evaluating information to make a judgment, and then communicating that judgment. Student-centered learning shifts the focus for learning from the instructor to the student, with the instructor facilitating and guiding the learning experience. Both information literacy and student-centered learning produce individuals who can succeed in challenging work environments

The online community allows students to readily access other students in the online class as well as pertinent faculty members. Completion of this program, combined with an undergraduate degree with at least 30 credit hours in business or economics other than accounting, will fulfill the 150-hour educational requirements in preparation for the CPA exam in most U.S. states.

Students can complete the 30-credit degree program in eight months on a full-time basis or within 16 months on a part-time basis.

The part-time program provides a wide range of summer course offerings minimizing the coursework taken during the fall semester.

Admission.

Admission is highly selective. General targets for admission are: a GMAT score of 550 (with a reasonable balance between verbal and quantitative scores), and an undergraduate grade point average of 3.2 on a 4.0 scale. In addition, applicants must have completed at least 24 semester hours of accounting courses and received

a baccalaureate degree at a college or university accredited by a regional accounting commission subscribing to established national policies and procedures or of equivalent accreditation as determined by the Connecticut State Board of Accountancy. Students with fewer than 24 credits in accounting should contact the program director or manager to discuss acquiring the necessary background courses.

Applicants with significant work experience and applicants who add to the cultural and geographic diversity of the student body are encouraged to apply even if they do not possess typical GMAT scores or undergraduate grade-point averages.

Students enter the program in May of each year. Applications and all accompanying materials should be received as early as possible, since admissions decisions are made on a rolling basis until the entering class is filled. The deadline for submitting the application and all materials is March 1.

The M.B.A. Program

The University of Connecticut M.B.A. degree offers a comprehensive state-of-the-art business education that empowers global business leaders to anticipate and effectively manage the challenges within the dynamic and complex world of modern-day business.

The M.B.A. degree is offered in three program formats – full-time, part-time/evening, and executive (EMBA) – and at multiple campuses. Regardless of format and location, all graduates receive the same M.B.A. degree upon successful completion.

Admission.

All applicants must take the Graduate Management Admission Test (GMAT) and meet the general requirements for admission to the Graduate School. Interviews may be requested by the M.B.A. Admissions Review Committee. A college-level calculus course covering limits, functions, integration, and differentiation must have been completed at or prior to the start of the M.B.A. program.

Scholastic Standards.

Ordinarily, a student will not be permitted to continue in the M.B.A. program if he or she: receives two or more grades of B- or below with a cumulative average below 3.0 after completing four courses in the program; accumulates four grades of B- or below at any point in the program with a cumulative average below 3.0; or receives an F at any point in the program. Under no circumstances

will the M.B.A. degree be conferred if the student has a mark of Incomplete (I) or Absent (X) on his or her record even though the course may not be listed on the plan of study.

Accreditation

The UConn School of Business and M.B.A. degree is accredited by the AACSB International - The Association to Advance Collegiate Schools of Business – the premiere accrediting body for management education worldwide.

The Full-Time M.B.A. Program

Residing in Storrs, UConn’s flagship full-time M.B.A. program consists of 57 credits and takes 2 years to complete. The full-time M.B.A. program features an Individualized Plan of Study fully customized to each candidate’s unique career goals and interests, and emphasizes the role of experiential learning across all functional business disciplines.

Additional highlights of the rigorous interdisciplinary full-time M.B.A. curriculum include the blending of traditional academic instruction with unique experiential learning accelerators to significantly close the gap between theory and practice, as well as a comprehensive, integrated, live corporate-sponsored project that draws on the entire first-year curriculum. A laptop computer is also required for the program and its use is completely integrated into the curriculum.

Year 1 of the full-time M.B.A. program is presented in a lock-step format in which all students are required to progress through the core curriculum as a single cohort, taking all the same classes with no exceptions. The fall semester consists of core introductory courses in business law and ethics, financial accounting and reporting, economics, market-driven management, managerial statistics, and management information systems. The spring semester continues with additional core introductory courses in cost analysis and control, financial management, managing organizations, business strategy, and operations management.

As part of the Year 1 curriculum, students are grouped into functional teams. These teams undertake a comprehensive, company-sponsored project – the Application of Core Teaching (ACT) project – through which students generate and develop ideas for improving the organization’s performance. The ACT project affords students a unique opportunity to synthesize knowledge and

skills learned from all first-year courses, as well as past professional experiences, and employ them in a real-world context. The ACT project culminates in a case competition judged by the Year 1 faculty and sponsoring company executives. Previous sponsoring organizations include Aetna, General Electric, Hamilton Sundstrand, ING, Pratt & Whitney, The Hartford, Wiremold and Xerox.

Also in the spring of Year 1, M.B.A. students develop an Individualized Plan of Study in consultation with an advisory committee comprised of business school faculty, career counselors, and alumni/experts in the field. A student's Individualized Plan of Study includes 8 courses (24 credits) and must include 1-2 courses (3-6 credits) of experiential learning which cannot substitute for substantive courses in his/her area of specialization. The approved plan ultimately consists of a coherent bundle of courses and experiential learning participation that best aligns with the student's unique career goals and interests.

After fulfilling the required summer Internship Milestone, M.B.A. candidates continue with Year 2, pursuing the Individualized Plan of Study developed and approved in Year 1. Most, if not all, 2nd year course offerings are delivered in Hartford, Stamford and/or Waterbury to best coordinate with the experiential learning centers where Year 2 students participate.

Essential to the M.B.A. curriculum is the incorporation of innovative experiential learning accelerators – GE/UConn edgelab, SS&C Technologies Financial Accelerator, Innovation Accelerator, Student Managed Fund, and Sustainable Community Outreach & Public Engagement (SCOPE) program. These unique practice-based initiatives integrate traditional teaching and classroom experience with high-profile business partnering to close the gap between theory and practice. By pushing the boundaries of cooperative research and analysis, employing student teams on substantive live projects, and providing a creative, collaborative environment, UConn's experiential learning accelerators redefine the partnership between business and education.

Candidates for the full-time M.B.A. degree are required to complete 57 credits of graduate study including: eleven mandatory core courses (33 credits) and eight courses (24 credits) in an area of specialization outlined within the candidate's approved Individualized Plan of Study.

Required M.B.A. Core Courses –
ACCT 5121 – Financial Accounting and

Reporting
ACCT 5123 – Cost Analysis and Control
BLAW 5175 – Business, Law, and Ethics in Modern Society
FNCE 5101 – Financial Management
FNCE 5151 – Economic Analysis for Business
MGMT 5138 – Managing Organizations
MGMT 5800 – Strategy, Policy, and Planning
MKTG 5115 – Market-Driven Management
OPIM 5103 – Managerial Statistics
OPIM 5110 – Operations Management
OPIM 5165 – Management Information Systems

In accordance with Graduate School policy, up to 6 credits of graduate course work may be transferred into the M.B.A. program. Approved transfer credits will be applied toward graduate electives in the candidate's Individualized Plan of Study (if appropriate); transfer credits cannot substitute for core courses. Transfer credit approval rests with academic department heads.

Part-Time/Evening M.B.A. Program

The part-time/evening M.B.A. program requires 57 credits of graduate level courses and is offered in downtown Hartford, Stamford and Waterbury. Admission is offered on a rolling basis throughout the year.

Though the program is designed with part-time candidates in mind, accommodating the various obligations of working professionals, individuals may take more than one or two courses during a semester. Ultimately, students move through the program at a pace that is personally comfortable. Some students complete the program in fewer than three years while others take five or more years to finish.

A unique feature of the part-time/evening M.B.A. curriculum is the ability to develop more than one area of concentration. A minimum of two electives comprises an area of concentration; however, some concentrations may require more than two electives or require specific classes in that area of specialization.

Candidates in the part-time/evening M.B.A. program are required to complete 57 credits of graduate study which includes: eleven mandatory core courses (33 credits) – many of the same core course as the full-time M.B.A. program, one international elective (3 credits), and seven electives (21 credits).

Students transferring from another institution must earn a minimum of 42 credits of graduate work in the UConn M.B.A.

program.

All continuing M.B.A. students not registered for credit courses during the fall or spring semesters must register for GRAD 5998 Special Readings (Master's) to maintain active student status. In other words, if a student chooses to take the fall or spring semester off, he/she must register for GRAD 5998 to retain their place in the M.B.A. program.

The Executive M.B.A. Program

The Hartford-based Executive M.B.A. program requires 48 credits of graduate level courses and is designed for individuals with significant managerial experience who want to broaden and update their managerial knowledge and skills. Admission takes place once per year.

The Executive M.B.A. program employs a Friday/Saturday format for classes, allowing managers to retain their positions and professional responsibilities while pursuing graduate studies. Completion time is approximately 20 months. Class size is limited to provide a highly interactive classroom environment.

The program begins with an In-Residence Week, held at UConn's main campus in Storrs, during which students get acquainted with the program, faculty, group-mates, and prepare for upcoming projects. After In-Residence Week, classes meet every other weekend from September to June.

A week-long International Study Trip takes place in June when students travel to a foreign country, studying foreign business practices, management styles and norms, operations and the culture.

During the summer, students work on their Executive Management Projects which integrates their professional experience and personal interests with the knowledge and skills gained from the first half of the program to develop and write a business plan. Then normal class schedule resumes in August and the program ends in April with a commencement ceremony.

Dual M.B.A. and J.D. Degree Program

This program offers the student the opportunity to combine academic training in the fields of Business and Law by combining into four years of study the three-year J.D. program offered by the School of Law and the two-year M.B.A. program offered by the Graduate School. Fifteen credits from the J.D. program are used to meet the M.B.A. requirements. Twelve credits from the

M.B.A. program are used to satisfy the J.D. requirements. To be admitted to the joint M.B.A./J.D. program, a student must meet the admission requirements of both schools. For additional information, interested students should review the materials of the regular programs contained in the catalogs of the respective schools.

Dual M.B.A. and M.D. Degree Program.

Rapid changes in the health care industry as well as the increasing size and complexity of health care organizations have created a demand for physicians who also are effective managers. The Doctor of Medicine program is offered at the University of Connecticut Health Center. Usually, students complete the first two years of study in the School of Medicine, enroll in the full-time M.B.A. program in Storrs for the third year, and then return to the Health Center to take electives in both the School of Medicine and the M.B.A. program in Hartford. M.D./M.B.A. students are required to complete 42 credits in the M.B.A. program. For more information, contact the Director of the Storrs M.B.A. program or the Office of Admissions, School of Medicine.

Dual M.B.A. and Pharm.D. Degree Program.

This program permits the pursuit of dual M.B.A. and Pharm.D. degrees in which the M.B.A. program waives 15 credits of non-core requirements for the dual Pharm.D./M.B.A. students, and the Pharm.D. program waives 15 credits of 5000-level (P3, P4). Pharm.D. students complete their P1 and P2 years in Pharmacy School and then spend the next year at the School of Business in the M.B.A. program taking 12 courses (33 credits) and fulfilling the MBA Internship Milestone during the summer. They return to the Pharmacy School and complete their P3 and P4 years, as well as the M.B.A. degree requirements of three courses (9 credits). For additional information, interested students should review the materials of the regular programs contained in the catalogs of the respective schools.

Dual M.B.A. and M.A. in International Studies Degree Program.

This program is designed for students interested in the management of international organizations in African, Latin American and Caribbean, and European areas. Fifteen credits of course work in area studies in the School of Liberal Arts and Sciences are used to meet both M.B.A. and M.A. degree requirements. More details are available from

the Directors of the Storrs M.B.A. Program, the Center for Contemporary African Studies, the Center for Latin American and Caribbean Studies or the Center for European Studies.

Dual M.B.A. and M.S.W. Degree Program.

This program is designed for students who anticipate careers in the management and administration of social work services in either governmental or private agencies. Application to each school is made independently. Nine credits in the M.B.A. program are used to meet the M.S.W. requirements. Fifteen credits in the M.S.W. program are used to meet the M.B.A. degree requirements. For additional information, interested students should review the materials of the regular programs contained in the catalogs of the respective schools.

Continuous Registration for Dual Degree Candidates.

All continuing M.B.A. students must maintain registration continuously (fall and spring semesters) until all requirements for both degrees are completed. Therefore, continuing M.B.A. students not registered for credit graduate business courses during the fall or spring semester must register for Grad 5998 Special Readings (Master's) to maintain active M.B.A. student status. (For more information, please see the Graduate School's policy under "Continuous Registration").

Courses

Accounting

ACCT5121(3 Credits) Financial Accounting and Reporting

Accounting is an information system. This course is designed to introduce students to accounting concepts essential to the preparation and interpretation of financial statements issued to management and to external users such as stockholders and creditors. While appropriate consideration is given to procedural aspects of accounting, more emphasis is placed on understanding the conceptual bases of generally accepted accounting principles and the effects of using alternative accounting methods on financial statements. Components:Lecture Requirement Group:Open to graduate business students only, others with permission. Prerequisite: undergraduate calculus course or OPIM 5602 (RG3739).

ACCT5123(3 Credits) Cost Analysis and Control

Internally, managers need timely

information in order to plan and control operations. This course focuses on managerial uses of accounting information for decision-making within the business enterprise. Decisions considered include product pricing, transfer pricing, make or buy, and capital budgeting. Formation of budgets establishing an internal control structure, performance evaluation, and cost control techniques are also discussed. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: ACCT 5121 (RG2089).

ACCT5327(3 Credits) Financial Statement Analysis and Business Valuation

Addresses the use of financial statements to analyze and value firms. Topics include advanced issues in accounting, earnings quality, performance measurement, cash flows, and accounting-based valuation and trading strategies. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: ACCT 5121 (RG2089).

ACCT5505(3 Credits) Instructor Consent Required Understanding the Responsibilities of an Accounting Professional

The groundwork for fundamental issues that are included in the curriculum in the MS in Accounting Program relating to content and skills associated with professional success will be set. Components:Seminar Requirement Group:Open to students in the Accounting MS program (RG2753).

ACCT5520(3 Credits) Financial Planning for Accounting Professionals

Designed for the accounting professional in the role of financial planner, this course covers all facets of a professional in financial planning practice. Topics include personal income tax planning, debt management, investment and retirement planning, risk management and insurance, and estate planning. Components:Lecture Requirement Group:Prerequisite: ACCT 5571. Accounting 5572 preferred but not required. (RG192).

ACCT5531(3 Credits) Contemporary Financial Accounting Issues

Study of major financial accounting issues, including the conceptual framework of accounting, the standard-setting process, asset valuation, income determination, and the agency theoretic perspective on managerial behavior and the use of accounting information in contracts. Other topics covered

are fair value and derivatives accounting, and corporate governance issues related to the Sarbanes-Oxley Act of 2002. Concentrates on developing theories of the usefulness of accounting information in financial markets. This “theoretical perspective is used to evaluate the conceptual framework, specific accounting standards, and” issues related to international harmonization of accounting standards. Components:Lecture

ACCT5533(3 Credits) Contemporary Managerial Accounting Issues

Study of major managerial accounting issues including analysis and evaluation of cost management systems. Overall focus is on the use of internally generated accounting data to support business strategy and maintain competitive advantages. Current research in the constantly evolving area of managerial accounting is emphasized. Components:Lecture

ACCT5535(3 Credits) Global Financial Reporting and Analysis

Students will develop and test expectations about the content of financial reports based on an understanding of how national culture and subcultures affect financial reporting in a principles-based decision environment. Components:Lecture

ACCT5539(3 Credits) Financial Services Reporting & Analysis in the Financial Services Industry

Introduces the nature of and accounting for financial services firms. The major emphasis is on insurance and banking. In each section of the course the student will learn about the nature of the business and the basic transactions in which the business engages. The unique accounting aspects of the businesses are discussed, including any special regulatory accounting rules. The analysis of firms in the industry will be covered. Components:Lecture

ACCT5543(3 Credits) Advanced Assurance Services

Advanced treatment of significant assurance services issues. Intended for students with previous coursework in assurance services and/or auditing. The course demonstrates more detailed level of audit techniques: audit planning, risk analysis, assessing internal control, executing audit procedures to substantiate validity of key financial accounts, and a presenting the audit findings in a final audit report.

Components:Lecture

ACCT5545(3 Credits)Instructor Consent Required Business Law, Business Ethics, and Public Accounting

This course covers the major legal and ethical issues in business and their significance for the accounting profession and related stakeholders. Included among the topics are the tension between profit and the public interest, corporate responsibility to society, environmental concerns, consumer and employee relations, confidentiality, whistle blowing, advertising and hiring practices. This course may not be taken by MBA students, who should instead take BLAW 375. Components:Lecture

ACCT5546(3 Credits)Instructor Consent Required Forensic Accounting and Securities Fraud

Forensic accounting has become the “buzz” in accounting, largely due to several highly publicized fraud cases. Recent surveys identified this specialized field of accounting as the future growth area for both public and private accounting. However, forensic accounting involves much more than fraud. The course will define and contextualize forensic accounting, as well as provide students the mindset and skill set required of a forensic accountant, both of which can be applied to fraud or other contexts, or can prove to be invaluable within the traditional auditing and taxation areas as well. Components:Lecture

ACCT5549(3 Credits)Instructor Consent Required Accounting and Disclosure for Not for Profit Entities

Accounting for not-for-profit organizations (NFPs), including educational institutions, hospitals and other health care entities, and civic and cultural organizations, is substantially different than for-profit entities. This course will examine topics relating to preparing and using financial statements for NFPs, including accounting, audit, and disclosure requirements and selected issues relating to government grants awarded to NFPs. Components:Lecture

ACCT5553(3 Credits)Instructor Consent Required Evaluating Internal Controls

This course examines frameworks for evaluating the control practices that an organization relies on to help ensure the integrity of information provided by its accounting systems. Students will learn how

to: (3 Credits) analyze an organization’s control environment and processes to assess information integrity risks that can be managed with control procedures; (2) design, implement, and monitor internal controls for both manual processing procedures and information-technology-intensive accounting systems; and (3 Credits) test the effectiveness of controls in order to evaluate the extent to which deficiencies threaten the reliability of accounting information. Components:Lecture

ACCT5559(3 Credits)Program Director Consent Reqd Accounting and Auditing for Governmental Entities

This course provides students with an understanding of how the characteristics and unique objectives of government entities are manifested in the accounting standards, audit risk and disclosure requirements. Topics addressed include the purpose of the various governmental financial statements, basis of accounting, measurement, audit focus, risk, fund types, and financial statement disclosures. Components:Lecture

ACCT5563(3 Credits)Program Director Consent Reqd Enterprise Risk Management: Identify Events as Risks to Manage or Opportunities to Seize

This course provides students with the ability within the COSO framework to identify events that may impact a nonfinancial publicly traded enterprise’s ability to realize value for its stakeholders using the concept of the triple bottom line of profit, people, and planet. Events will be evaluated as risks that have negative impacts and opportunities as well as potential positive impacts. ERM techniques applied in the course will include: risk control, business continuity, reputation risk, supply-chain management, compensation system alignment, and strategic decisions. Components:Lecture

ACCT5571(3 Credits) Taxation of Business Entities

Application of basic tax concepts to business entities, with particular emphasis on C corporations and partnerships. At the end of the course, students should be able to identify and address the tax issues faced when forming, operating, and liquidating a business entity. Components:Lecture

ACCT5572(3 Credits) Research in Taxation

Application-oriented tax research, which has the objective of determining

the defensibly correct tax treatment of a transaction based on the existing law. Tax research is a process of two basic activities: (3 Credits) the conceptualizing process to decide what research is needed and then to evaluate any information located through tax research, and (2) the search process, which requires the ability to use the massive quantity of tax authority available in electronic format. Students further develop their communication skills, both oral and written. Components:Lecture

ACCT5573(3 Credits) Advanced Corporate Taxation

Focus is on topics relating to the taxation of corporations: taxable sales and acquisition of going concerns; tax-free reorganizations; multistate taxation; and international taxation of U.S. multinational corporations. The objective is to familiarize the student with the applicable tax rules. Students learn to identify applicable tax planning strategies and tax issues present in business decisions such as those involving the sale or acquisition of a going business, the location or expansion of operations, the repatriation of foreign earnings, and the setting of transfer prices for goods and services provided to related parties. Components:Lecture Requirement Group:Prerequisite: ACCT 5571. Accounting 5572 preferred but not required. (RG192).

ACCT5574(3 Credits) Advanced Individual Taxation

Focus is on topics relating to taxation of individuals: estate and gift taxation; income taxation of estates and trusts; estate planning; compensation planning including, but not limited to, equity-based compensation; income taxation of and planning for high-income taxpayers, including taxation of investments and charitable planning. Students learn tax rules and tax planning strategies necessary for individuals to create, preserve, and transfer wealth to future generations. Components:Lecture Requirement Group:Prerequisite: ACCT 5571. Accounting 5572 preferred but not required. (RG192).

ACCT5582(3 Credits)Instructor Consent Required Research for Accounting Professionals

This course provides students with the information literacy skills required of an accounting professional to identify information needs, specify and implement research strategies, evaluate resources in order to fulfill those needs, and communicate findings. Components:Lecture

ACCT5583(3 Credits)Instructor Consent Required Financial Reporting and Auditing Implications Relating to Income Taxes

This course focuses on the financial reporting and auditing provisions related to federal, foreign, and state income taxes. Students will learn how to: calculate income tax amounts reported on the income statement, "balance sheet, and statement of cash flows; prepare the income tax footnote and related disclosures;" identify substantive audit procedures relating to income tax balances and disclosures; and evaluate and recommend internal controls relating to income taxes. Components:Lecture

ACCT5603(3 Credits) Advanced Accounting

An in-depth study of accounting for business combinations. Coverage also is given to accounting for nonprofit entities and contemporary issues in financial accounting. Components:Lecture Requirement Group:Prerequisite: ACCT 5622. Not open to students who have passed ACCT 4203 (RG190).

ACCT5604(3 Credits) Assurance Services

Issues relevant to the public accounting profession, such as legal liability and ethics, audit risk analysis, planning of audit engagements, audit reports, and other assurance services and reports. Students learn to think critically about issues facing the audit profession, primarily by analyzing cases and completing a number of individual and research group projects. Components:Lecture Requirement Group:Not open to students who have passed ACCT 4243 (RG 634).

ACCT5622(3 Credits) Financial Accounting

Study of the financial accounting principles which determine financial statements and the uses of the financial statements. The course adopts a broad perspective to understanding major accounting concepts contained in the intermediate accounting curriculum. Emphasis is placed on financial statement presentation and the meaning of resulting balance sheet and income statement amounts. Components:Lecture Requirement Group:Prerequisite: ACCT 5121 (RG191).

ACCT5625(3 Credits) The Federal Income Tax and Business Decisions

Designed for the business manager who

wants an awareness of tax considerations involved in business decisions. It involves a symptom/recognition level of learning rather than a detailed analysis of each section of the law. The course involves an examination of the definition of income, evaluation of different business entities, methods of reporting income and deferral transactions. Students examine how slight changes in a transaction can materially alter the tax consequences. The course includes discussion of the social, economic, and political aspects of taxation as well as an opportunity to familiarize the student with tax research techniques. Components:Lecture Requirement Group:Prerequisite: ACCT 5121 (RG191).

ACCT5894(1 - 3) Special Topics in Accounting

Investigation and discussion of special topics in accounting. Components:Seminar Requirement Group:Open to MBA students, others with permission. Prerequisite: ACCT 5121 (RG2089).

ACCT5895(1 - 6)Instructor Consent Required Independent Study in Accounting

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of accounting. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study

ACCT6200(1 - 3) Investigation of Special Topics

Components:Lecture

ACCT6201(3 Credits)Instructor Consent Required Introduction to Accounting Research

This seminar introduces students to three major elements of accounting research. First, students are introduced to philosophy of science and how that translates into the major research paradigms in accounting. Second, students are introduced to basic research design issues and how those issues are illustrated in the accounting literature. Finally, students are introduced to the major research paradigms in accounting. Components:Seminar

ACCT6202(3 Credits) Seminar in Accounting Research II: Organizational Behavior

Continuation of study in current research

topics in accounting. Components:Seminar

ACCT6203(3 Credits)Instructor Consent
Required Accounting and Capital Markets

This seminar provides a broad survey of capital markets research in accounting and related fields. Students are introduced to major theoretical and methodological issues in this line of research. The seminar focuses on theoretical and intuitive constructs that frame accounting research questions and the methods that are used to address those research questions. Components:Seminar

ACCT6204(3 Credits)Instructor Consent
Required Judgment and Decision Making in Accounting

The seminar examines theories and empirical research related to individual judgment and decision making in accounting. Students are introduced to the major theoretical and methodological issues involved in this line of research, and develop the background for reading the literature and for further study. Components:Seminar

ACCT6211(3 Credits)Instructor Consent
Required Seminar in Special Research Topics

Students are exposed to a broad range of accounting research through reading and critiquing research papers presented at the Accounting Department Research Workshop (papers are presented by local scholars as well as scholars from other institutions). The seminar also focuses on how to present effective written and oral criticisms of research papers. Components:Seminar

Courses

Business Administration

BADM5310(3 Credits)Instructor Consent
Required Financial Accelerator I: Business Applications in Finance

This practicum is open to the participants of ongoing projects at the Financial Accelerator. It involves scoping the project, identification and review of the pertinent academic and practitioner literature, development of the deliverables, identification of data sources required for analysis, and performing various project work. The practicum involves a student team project with a faculty mentor. Components:Practicum

BADM5311(3 Credits)Instructor Consent
Required Financial Accelerator II: Advance Financial Analysis

This practicum is open to the participants of ongoing projects at the Financial Accelerator. It involves application of advanced financial models to business problems, identification of the appropriate method for analysis of data, interpretation of results, making presentations to client managers during the semester, and writing the final report. The practicum involves a student team project with a faculty mentor. Components:Practicum

BADM5320(3 Credits)Instructor
Consent Required Innovation Accelerator
I: Evaluation of New Ventures -- Business Process

This practicum provides students hands on experience working with the founders of a high-tech entrepreneurial venture. Students, working in a team, are empowered to act as the CEO of the start-up venture focusing on developing innovative and implementable strategic solutions to a defined mission-critical problem faced by the venture. Students develop an expert's knowledge with respect to the venture's industry, markets, products, competitors, etc. that serve as a foundation for recommending evidence-based transformational solutions. Emphasis is placed on skill acquisition such that students can effectively frame the problem, research it and acquire 360 degree views/voices of the issues. Components:Practicum

BADM5321(3 Credits)Instructor Consent
Required Innovation Accelerator II: New Venture Analytics

This practicum provides the students

with hands on experience working with the founders of a high-tech entrepreneurial venture. Under a faculty mentor, the lab provides the students with hands-on experience collecting both primary and secondary data. Students acquire skills related to identifying targeted survey populations, the development of unambiguous survey questions, as well as best methods for survey implementation. Furthermore, students learn how to analyze the resultant data, combine it with other secondary research, extract relevant, non-duplicative findings, and develop evidence-based conclusions and strategic recommendations/solutions for the client venture. Components:Practicum

BADM5330(3 Credits)Instructor Consent
Required SCOPE I: Social Entrepreneurship Processes

This practicum provides students with hands on experience in working with social entrepreneurs at work in start-up or existing organizations (private, public or not-for-profit). Experiences may include helping organizations identify social needs, evaluate alternative methods for improving social conditions and develop programs to implement solutions. Meaningful social entrepreneurship can be local in scope, or contribute to the development of cities, regions, nations or even be global in its reach. Under a faculty mentor, students work on projects which will provide the opportunity to make a positive difference by applying their skills and training to address critical social needs. Components:Practicum

BADM5331(3 Credits)Instructor Consent
Required SCOPE II: Social Innovation Processes

This practicum examines how innovation by organizations can be used to develop responses to social problems. Social innovators employ "entrepreneurial skills," such as finding opportunities, inventing new approaches, securing and focusing resources to meet social needs and managing risk, in the service of creating social value. We see social innovation, defined as innovative, social value creation, occurring within or across nonprofit, governmental, and for profit organizations. Under a faculty mentor, students in this course will work with an organization to help it improve people's lives through the development of innovative programs to meet social needs. Components:Practicum

BADM5340(3 Credits)Instructor Consent
Required Applied Business Research

Methods

This practicum is open to participants of ongoing projects at edgelab. It involves applying critical thinking and problem solving skills to address business problems in areas such as finance, marketing, operations, or technology and then develop recommendations. There is an emphasis on project management skills while performing many project tasks including: problem definition, analysis of project specifications and scope; project planning; identifying, designing and developing research models and methods. Students conduct secondary research; review academic and practitioner literature; develop and deliver formal presentations. Practicum involves a student team project with a faculty mentor. Components:Seminar Requirement Group:Prerequisite OPIM 5103 & BADM5341 as a corequisite (RG 4782)

BADM5341(3 Credits)Instructor Consent Required Advanced Business Research Methods

This practicum is open to the participants of ongoing projects at edgelab. This course builds upon the research conducted in BADM 5340 with additional emphasis on conducting primary research; building and testing models and interpretation of results. Students will develop and present formal presentations to project sponsors, and complete final deliverables for the project. The practicum involves a student team project with a faculty mentor. Components:Seminar Requirement Group:Prerequisite OPIM 5103 and corequisite BADM 5430 (RG 4783)

BADM5350(3 Credits)Instructor Consent Required Fund Management I

This course is the first part of a two-part Fund Management course. This course develops the objectives and goals, the process, and the procedure for execution for management of funds in conformity with the SMF Prospectus. The purpose is to train students in the art of asset allocation, security selection, portfolio construction, risk management, preparing analysts' reports for trade recommendations, monitoring of positions, and preparing reports for presentation to the Investment Advisory Board. Components:Seminar Requirement Group:FNCE 5101 & FNCE 5202 corequisite (RG 5202)

BADM5351(3 Credits)Instructor Consent Required Fund Management II

This course is the second part of a two-part Fund Management course. In addition to all the activities in the first part during Fall, this course focuses on portfolio management, performance evaluation, attribution analysis, development of various trading and risk management strategies, and technical analysis. Students prepare the final annual report for presentation to the UConn Foundation. Components:Seminar Requirement Group:FNCE 5101, BADM 5350 & FNCE5202 corequisite (RG 4785)

BADM5894(1 - 9) Special Topics

Special Topics Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2998).

BADM6201(3 Credits) Introduction to Research and Teaching

This course introduces students to important dimensions of an academic career. The role and importance of research and teaching is stressed with emphasis on philosophy of science, as well as appreciation of research in other business administration areas of concentration. Teaching methods and values in higher education are covered. Guest speakers discuss research in their areas. Practical aids such as how to write a research proposal and how to manage a dissertation are covered. Components:Lecture Requirement Group:Open to PhD students in the School of Business only (RG193). BLAW5175(3 Credits) Business, Law, and Ethics in Modern Society

In order to survive, business must meet the legal and ethical standards being imposed by a changing society. This course emphasizes that the business enterprise is not an island and that business decision-making must be undertaken in light of current legal and ethical demands. Such demands may take the form of globalization of business enterprise, reactions to hostile takeovers, concerns with market concentration and efficiency, changes in legal philosophy and corporate ethics and developments in international law and administrative regulation. By examining the philosophical, legal, social, historical, and political/economic regulatory environments, this course places business decision-making in the legal and ethical perspective so critical in today's markets. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

Courses

Business Law

BLAW5660(3 Credits) International Law

This course examines major issues in international law by focusing primarily on the extensive legal and ethical environment of the modern international marketplace. Key topics to be explored include international intellectual property, employment, and environmental issues. The course will also help students understand key institutions in the international legal system and learn about current legal topics related to international trade and foreign investment. Components:Lecture Requirement Group:BLAW 5175 or permission of instructor

BLAW5676(3 Credits) Law for the Manager

All business activity must be conducted with a sensitivity toward both the requirements of the law and the legal ramifications that flow from discretionary action. Whether such activity involves the formation of a contract, the choice of a business organization, the use of an agent, the purchase or sale of securities, or the institution of a lawsuit, legal considerations are pervasive. This course exposes students to some of the basic tenets of business law including the judicial process, contracts, partnerships, corporations, securities regulation, labor law, torts, and the principal-agent relationship. Components:Lecture

BLAW5894(1 - 3) Seminar

Investigation and discussion of special topics in law. Components:Seminar Requirement Group:Open to MBA students, others with permission (RG2090).

BLAW5895(1 - 6)Instructor Consent Required Special Topics in Business Law

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of law. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study FNCE5101(3 Credits) Financial Management All major business decisions have financial implications, and therefore, the financial manager's contribution to directing the operations of the firm has become increasingly critical in the last decade. This course provides an overview of techniques for effectively studying financial decisions and their impact on the company. The course covers the basic concepts and tools necessary to understand the financial

decision-making process. The fundamental issues of timing and uncertainty are integrated into the problem of asset valuation. Financial analysis models for determining appropriate sources of capital and effective use of long term and short term assets are discussed. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisites: ACCT 5121 and OPIM 5103. (RG 795)

Courses

Finance

FNCE5151(3 Credits) Introduction to Economic Markets

Provides a foundation in the economics of markets, with particular application to financial markets and the role of information. Specific topics include the following: (3 Credits) the basic principles of supply, demand, profit maximization, price determination, international trade, and exchange rates; (2) the basic structure of modern, global financial markets, as an application of the basic economic principles; (3 Credits) the use of information and information technology in financial markets, including use of the internet, Bloomberg, Dow Jones and other computerized sources of information; and (4) a review of the "efficient market hypothesis. Components:Lecture Requirement Group:Open to graduate business students only, others with permission. Prerequisite: undergraduate calculus course or OPIM 5602 (RG3739).

FNCE5202(3 Credits) Investment and Security Analysis

A rigorous foundation in risk/return analysis, asset valuation, the use of derivatives, and financial engineering techniques in risk management and overall portfolio management. Information technology is applied, including computerized financial modeling and asset management software. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5205(3 Credits) Global Financial Management

An exploration of global finance topics such as 1) international trade, 2) balance of payments, 3) exchange rate determination, 4) currency exposure, and 5) the cost of capital in global financial markets. Information technology is applied. Components:Lecture Requirement Group:Open to MBA students,

others with permission. Prerequisite: FNCE 5101 (RG2092).

FNCE5206(3 Credits) Financial Institutions: Management and Capital Markets

Investigation of the structure financial services companies (banks, insurance companies, securities firms, and so forth). Emphasis is on the tools used by these firms to compete to provide basic financial services like pooling resources, managing risk, transferring economic resources, pricing information and clearing and settling payments. Financial services product development and the role of information technology in financial services, including software and data. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: FNCE 5101 (RG2093).

FNCE5209(3 Credits) Corporate Finance

A markets-oriented approach to corporate finance issues, especially capital structure and dividend policy. Modern concepts of agency theory and asymmetric information are integrated. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5311(2)Program Director Consent Req'd Financial Markets and Instruments

This course introduces fixed income securities, futures and forwards, swaps and options contracts and discusses the structure of financial markets, including equity and bond markets, money markets, foreign exchange, and commodities. Components:Lecture

FNCE5312(2)Program Director Consent Req'd Financial Institutions - A Risk Management Approach

Sources of risk and management of risk through diversification, hedging and gearing, Value at Risk (VAR), Risk Management System and Basel II Accord, as well as the measurement of market risk, interest rate risk, credit risk, and other risks are addressed in this course. Components:Lecture

FNCE5313(3 Credits)Program Director Consent Req'd Financial Risk Modeling I

Students of this course will learn the mathematical foundation for modeling financial risk as well as key concepts in algebra, statistics, calculus, time series and

econometrics principles with applications to modeling risk management as a dynamic process over time. Components:Lecture

FNCE5321(3 Credits)Program Director Consent Req'd Financial Risk Modeling II

This course provides a background in building advanced financial models, including lattice models, numerical methods, and Monte Carlo simulation; programming techniques to value complex derivatives and portfolios; and analyses of financial risk problems with Excel, VBA, and higher level programming languages. Components:Lecture

FNCE5322(3 Credits)Program Director Consent Req'd Financial Risk Management I - Equity Markets

The objective of this course is to provide strategies for security selection and asset allocation and evidence on returns and volatility, trade-to-trade equity price behavior, trading volume and patterns, financial risks and optimal allocation of funds. Students will use pricing and equity derivatives in risk management as well as exotic options in equity-linked and interest rate-linked products and strategies. Components:Lecture

FNCE5323(3 Credits)Program Director Consent Req'd Strategies & Risk Management in Alternative Investments I

The objectives of this course are to (a) discuss the alternative investment tools (b) examine the performance of hedge funds and other alternative investments such as venture funds and private equity, and (c) present an in-depth analysis of the main hedge fund investment strategies, (d) explore the behavioral issues and human factor in risk management. The recent financial crises have exposed how risk models can fail as a result of human errors, and lack of communication. The instructors will include business professionals and rely mostly on cases which apply the concepts developed in the previous classes. This class will devote a significant amount of time on how to address the human factor in modeling risk. Components:Lecture

FNCE5331(3 Credits)Program Director Consent Req'd Financial Risk Modeling III

This course covers the application of advanced estimation and forecasting techniques including multivariate and time series models (ARIMA) and maximum likelihood estimation to risk management, and advanced VAR topics, including

computing and implementing VAR management systems, extensions and limitations of VAR (IVAR, DVAR), and stress testing. Components:Lecture

FNCE5332(3 Credits)Program Director
Consent Req'd Financial Risk Management II - Fixed Income Markets

This course covers: bond fundamentals and risk, models of term structure, the use of interest rate derivative in hedging interest rate risk, the use of mortgage-backed and other asset-backed securities (MBS, CMBS), and other debt instruments (CDOs, CLOs etc.) to manage credit and cash flow risks, in addition to valuation and trading strategies of pooled assets and derivative bonds using Monte Carlo and option pricing techniques. Components:Lecture

FNCE5333(3 Credits)Program Director
Consent Req'd Strategies & Risk Management in Alternative Investments II

The objectives of this course are to (a) discuss the alternative investment tools (b) examine the performance of hedge funds and other alternative investments such as venture funds and private equity, and (c) present an in-depth analysis of the main hedge fund investment strategies, (d) explore the behavioral issues and human factor in risk management. The recent financial crises have exposed how risk models can fail as a result of human errors, and lack of communication. The instructors will include business professionals and rely mostly on cases which apply the concepts developed in the previous classes. This class will devote a significant amount of time on how to address the human factor in modeling risk. Components:Lecture

FNCE5341(3 Credits)Program Director
Consent Req'd Financial Risk Management III - Advanced Topics

Topics covered in this course include: pricing, measurement, and management of credit risk; credit risk modeling; use of credit derivatives to manage and control credit risk; building and managing portfolios, including long/short, and market neutral strategies; measurement of credit risk, including Actuarial, Merton, and Copula function; and portfolio construction, performance evaluation, asset allocation, and portfolio risk management (VAR, Hedging, Portfolio insurance). Components:Lecture

FNCE5342(3 Credits)Program Director
Consent Req'd Internal Control Risk - Valuation and Analysis Issues

This course reviews the accounting requirements associated with asset valuation and income recognition of complex portfolios that utilize advanced hedging techniques.

The course analyze an organization's control environment and processes within COSO and SOX frameworks and examines the control practices that organizations use to help ensure the integrity of information provided by its accounting systems. Finally tax related issues and Basel II are also discussed.

Components:Lecture

FNCE5343(3 Credits)Program Director
Consent Req'd Legal & Ethical Issues in Financial Risk Management

This course provides participants with an introduction to the federal laws regulating financial products and the internal controls necessary to comply with those laws. It examines the federal regulation of securities and derivatives and the market participants engaged in those businesses. Participants study safety and soundness regulation of other major financial institutions, including commercial banks, bank holding companies, and insurance underwriters. Finally, the course examines the compliance activities and internal controls that financial firms need to maintain to comply with federal law particularly the Sarbanes-Oxley Act. It closes with an overview of new developments in financial regulation and compliance. Components:Lecture

FNCE5504(3 Credits) Options and Futures

Analysis and valuation of speculative securities including options and futures with emphasis on their use for hedging and speculative motives. Major valuation models are discussed and applications of contingent claim valuation framework to corporate finance problems are also explored. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: FNCE 5101 (RG195).

FNCE5507(3 Credits) Working Capital Management

Working capital management is critical in determining whether a firm is competitive and profitable. Each component of working capital cash, marketable securities, receivables, inventories, and payables is studied and is related to the firm's operations. The course concentrates on applications and includes lectures by working capital managers from major corporations.

Components:Lecture Requirement
Group:Prerequisite: FNCE 5101 (RG196).

FNCE5508(3 Credits) Asset Allocation and Capital Market Theory

Provides an integrative overview of issues in financial theory. Contemporary theoretical developments in corporate finance and financial markets are addressed. Major topics include agency theory, option theory, term structure theory, CAPM, APT, market efficiency, capital structure, and dividend policies under full and asymmetric information. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission (RG194).

FNCE5512(3 Credits) Fixed Income Instruments and Markets

This course examines contemporary portfolio management of fixed income institutional investors, issuers, and broker-dealers. It assesses current practice and presents a theoretical framework for anticipating change. Coverage includes pricing, assessment of return and risk, and the development of overall strategies, for these markets: government, corporate, municipal, and international bonds; mortgage-related and other asset-backed securities; and derivative securities including futures, options, swaps, and other interest rate contracts. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5513(3 Credits) Advanced Corporate Finance: Capital Investment Finance

This course in dynamic capital budgeting applies corporate finance theory to the real-world problems that financial analysts face every day, integrating theory and practice, facilitated through the use of simulation analysis. These tools include both an understanding of the theoretical underpinnings of sound capital budgeting techniques and a mastery of the technology necessary to practically implement this knowledge in a real-world setting. Components:Lecture Requirement Group:Prerequisite: FNCE 5101 (RG3017).

FNCE5521(3 Credits) Risk and Insurance

A study of the recognition, analysis, and treatment of pure risk from the viewpoint of the enterprise. This course considers various methods of risk management but emphasizes

the role of insurance. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission (RG194).

FNCE5532(3 Credits) Real Estate Investment and Portfolio Management

This course provides an overview of real estate investment decision-making. Topics include: risk-return analysis of alternative types of real estate investments; leases, operating costs, and tax consequences; valuation techniques, including discounted cash flow and option pricing; real estate portfolio management; and alternative forms of equity securitization such as real estate investment trusts. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission (RG194).

FNCE5533(3 Credits) Real Estate Capital Markets

This course covers the structure and operation of the mortgage market. Topics include the identification, measurement and management of risk from the perspective of borrower, lender, and investor. The course stresses the integration of the real estate debt markets with the global capital market, and considers the role and impact of mortgage-backed securities for residential and commercial real estate lending. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5534(3 Credits) The Internet and Information Systems Applied to Real Estate

Specialized information technology is now available for all segments of the real estate industry. For example, investment firms are particularly interested in information technology that helps them monitor, understand, and manage risks associated with mortgage-backed securities. Database management systems and geographic information systems (GIS) give the decision-maker unprecedented power to manage data and analyze risks. The Internet opens up vast new sources of timely information. This course stresses the use of GIS and of the Internet. Students will gain hands-on experience with these tools through projects that are organized around business problems. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission (RG194).

FNCE5610(3 Credits) Personal Financial Planning

This course is for the professional working in the area of financial services as well as for one's personal planning. It is the application of finance theory to the individual and family. This integrated approach covers lifetime cash flows, asset accumulation and allocation, debt management, retirement planning, and risk management. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5611(3 Credits) Financial Modeling

This course is a "hands-on" use of computerized decision aids to analyze a variety of financial problems. Applications will be drawn from corporate financial planning, modern portfolio theory, options pricing, dynamic trading, and so forth. No computer experience is required; this course will help students develop the necessary programming skills to build fairly sophisticated models. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5630(3 Credits) Real Estate: A Personal Investment Perspective

Real estate is a major component of household wealth. Important household real estate decisions include, for example, where to buy a house; renting versus owning a home; choosing between alternative mortgage instruments; understanding the house purchase transaction; and the risks and returns of real estate investing. This course surveys the fundamentals of real estate from a personal investment perspective. Components:Lecture Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission (RG194).

FNCE5894(1 - 3) Seminar

Investigation and discussion of special topics in finance, risk and insurance and/or real estate and urban economic studies. Components:Seminar Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission. (RG2091).

FNCE5895(1 - 3)Instructor Consent Required Special Topics in Finance

Faculty-student interaction on a one-to-one

basis involving independent study of specific areas of finance, risk and insurance, and/or real estate and urban economic studies. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study Requirement Group:Prerequisite: FNCE 5101. Open to MBA students, others with permission (RG194).

FNCE6200(1 - 2) Investigation of Special Topics

Components:Seminar Requirement Group:Prerequisite: FNCE 5508 (RG198).

FNCE6201(3 Credits)Instructor Consent Required Introduction to Finance Theory and Evidence

Topics include: efficient market hypothesis, utility theory, portfolio theory, CAPM, arbitrage pricing theory, option pricing, capital structure / tax theory, capital budgeting under uncertainty, current empirical studies. Components:Lecture

FNCE6202(3 Credits)Instructor Consent Required Corporate and Institutional Finance

Topics include: information asymmetry, agency, internal capital markets, governance, market microstructure, moral hazard / adverse selection. Concepts are applied in both corporate and financial institution settings. Components:Lecture Requirement Group:Prerequisite: FNCE 5508 (RG198).

FNCE6203(3 Credits)Instructor Consent Required Theory of Financial Markets and Valuation

Topics include: fundamental pricing theorems, state preference theory, martingale pricing, dominance, spanning and arbitrage restrictions, consumption models, and continuous-time approaches to asset pricing, interest rate models, and derivatives pricing. Components:Lecture

FNCE6204(3 Credits)Instructor Consent Required Empirical Methods in Finance Research

Topics include: predictability of asset prices, time series models of market microstructure, event study methodology, tests of asset pricing models and derivative pricing models, market efficiency, volatility of asset returns, and term structure interest rates. Components:Lecture Requirement Group:Prerequisite: FNCE 5508 (RG198).

Courses

Health Systems Management

HSMG5240(3 Credits) Health Care Organization and Management

This course examines the nation's healthcare delivery system with overviews provided for each major sector of the health economy. The basic tools of economics and finance are employed to gain critical insights into the structure, conduct and performance of each of these sectors. This course is designed to accommodate both health care professionals and individuals from other business areas interested in learning more about the health care industry. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

HSMG5243(3 Credits) Health Care Economics

This course demonstrates how various economic theories can be used to think about health care issues and takes a macro or industry perspective of various health care problems and policy questions. Students are provided with a set of economic tools to evaluate a theoretical or empirical argument relating to health or medical care. The course culminates with an in-depth analysis of the structure, conduct, and performance of the markets for medical insurance, physician services, hospital services, pharmaceutical products, and long-term care. Health care reform is also discussed. Components:Lecture Requirement Group:Prerequisites: FNCE 5101 and HSMG 5240 (RG201).

HSMG5544(3 Credits) Competitive Strategies for Health Care Organizations

This course focuses on the microeconomic organization of healthcare business units and analyzes various issues central to the individual firm's short-term and long-term competitive success. Competitive strategies pertaining to various types of healthcare organizations such as physician practices, hospitals, health maintenance organizations, and pharmaceutical companies are explored using a wide variety of business tools and methods. Efficient market theory, industry analysis, the boundaries of the firm, principal and agent problems, incentive mechanisms, mergers and acquisitions, the development and sustainability of competitive advantage, and competitive pricing are some of the general topics discussed in the context of the health care sector. Components:Lecture Requirement Group:Prerequisite: HSMG 5243 or consent of the instructor (RG3373).

HSMG5545(3 Credits) Management of Long-Term Health Care Organizations

This course examines administrative processes within the long-term health care facility including issues related to organizational effectiveness, financial management, the regulatory structure, operational procedures, policies and practices. Components:Lecture Requirement Group:Prerequisite: HSMG 5240 (RG801).

HSMG5548(3 Credits) Health Care Law and Policy

This course examines legal, regulatory and ethical considerations in health care management, and the formation of public policy in the health care setting. Emphasis is on understanding legal principles and issues including administrative and regulatory law; institutional and individual liability in the health care sector; employment law; and torts. Special attention is paid to ethics in health care management and its interrelation to law and public policy. May be substituted for BLAW 375. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

HSMG5549(3 Credits)Instructor Consent Required Management of Long-Term Health Care Organizations

This course examines administrative processes within the long-term health care facility including issues related to organizational effectiveness, financial management, the regulatory structure, operational procedures, policies and practices. Components:Lecture Requirement Group:Not open to M.B.A. degree students (RG530).

HSMG5632(1 - 9)Instructor Consent Required Internship in Health Care Management

Under the guidance of a qualified preceptor, the student participates in the administrative process in the long-term health care organizational structure. A project is required. Components:Practicum Requirement Group:Not open to M.B.A. degree students (RG530).

HSMG5642(3 Credits) Decision Analysis in Health Care

The course covers methods used by health care managers in making strategic and operating decisions, including (but are

not limited to) sales forecasting, product valuation, and cost effectiveness and cost/benefit analyses. Example of potential applications include estimating the value of new drugs under development, the payoff profile from strategic alliances and limited partnerships in different health care industries, the valuation of healthcare mergers and acquisitions, the profitability of different HMO benefit plans, and other ventures pertaining to health care organizations Components:Lecture Requirement Group:Prerequisite: FNCE 301 and HSMG 383 or consent of the instructor (RG3372).

HSMG5686(3 Credits) Health Insurance and Risk Management

This course examines health insurance choices from the perspective of individuals, employers, and insurers. A portfolio perspective for individuals' choices is taken. Other topics include: health insurance loss and contingency distributions; health insurance loss reserving; pricing (rate-setting) for health insurance products; LTC insurance; health insurer risk management; health reinsurance structures; health insurance derivatives. Components:Lecture Requirement Group:Prerequisites: FNCE 5101 and FNCE 5151 (RG802).

HSMG5687(3 Credits) Global Healthcare Systems

This course focuses on the examination and evaluation of diverse healthcare systems across the world. As part of this process, students will review the rationale that shapes the unique characteristics and attributes of different systems throughout the world and their associated strengths and weakness. From an organizational perspective, this course will introduce models used for the provision of health care services within the framework of business management practices. This course can be used to satisfy the MBA Program at Hartford. Components:Lecture

HSMG5688(3 Credits) Risk Management and Quality Across Borders

This course examines the management of risk and quality within health care organizations and within different international settings. Within this framework, students are exposed to a number of different quality modes and study the relationship between risk management and quality. Components:Lecture

HSMG5891(1 - 3)Instructor Consent

Required Health Care Internship

Under the guidance of a qualified preceptor, students are provided opportunities to study and analyze an organization's characteristics, functions, goals, strategies, and decision-making processes. Managerial skill is developed through the performance of administrative tasks and through participation in problem-solving processes. A research paper is required. Components:Practicum

HSMG5894(1 - 3) Seminar

Investigation and discussion of special topics in health care management. Components:Seminar Requirement Group:Open to MBA students, others with permission (RG2090).

HSMG5895(1 - 6)Instructor Consent Required Special Topics in Health Care Management

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of health care management. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study

Courses Management

MGMT5138(3 Credits) Managing Organizations

Today's business climate demands that organizations and their managers be innovative, flexible, adaptive, and capable of maximizing the contributions of all their members. In addition, today's manager must possess the leadership and team skills necessary to manage the increasingly diverse work force. Knowing how to reap maximum benefit from an organization's human capital is essential for today's manager. This course examines topics such as leadership, motivation, team dynamics, organization structure, design and culture, conflict, power and politics. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

MGMT5222(3 Credits) Management Consulting

This course introduces students to the roles individual consultants and consulting firms play in enhancing the effectiveness of their clients. The course draws on a wide range of management theory and practice to help students develop the interpersonal, analytical,

and technical skills required in consulting interventions. The course will provide an overview of the consulting industry and address such topics as relationship and client management, intervention frameworks and their application, project management, ethical issues in consulting, and implementation issues. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

MGMT5223(3 Credits)Instructor Consent Required Managing Innovation and Change

Students will learn both the theory and practice underlying successful organizational change, thereby providing them with the understanding necessary to become effective change agents. The course addresses such topics as assessing organizational effectiveness/performance, fundamental organizational development techniques, change methodologies, individual, group, and organizational change processes, applied research methods for analysis of change problems, process interventions, the power and politics of change, and strategic change. Components:Lecture Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4364)

MGMT5224(3 Credits)Instructor Consent Required Venture Consulting Practicum

The primary goal of the venture consulting practicum is to give students the opportunity to work directly with clients (in teams, with faculty mentors) in real-time and gain additional hands-on experience. Students will be required to prepare a consulting proposal for the client (scope of work, timeline, etc.), negotiate an end-product with the client, perform the proposed intervention, and prepare a final report and present findings with recommendations to the client for evaluation and critique. (Student participation in a project at the Innovation Accelerator can be substituted for this course.) Components:Practicum Requirement Group:Open to MBA students, others with permission (RG2090).

MGMT5260(3 Credits) Management of Technology and Innovation

In today's dynamic organizations, management of research, technology and change are generic processes which constitute irresistible and critical elements of the overall environment of business. Awareness of these processes can be a powerful force for an organization's management of its future. This course introduces the

student to the management of innovation in several contexts, dealing with products and services, tangible and intangible outputs. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

MGMT5335(3 Credits)Instructor Consent Required Venture Planning, Management, and Growth

The primary goal of the venture consulting practicum is to give students the opportunity to work directly with clients (in teams, with faculty mentors) in real-time and gain additional hands-on experience. Students will be required to prepare a consulting proposal for the client (scope of work, timeline, etc.), negotiate an end-product with the client, perform the proposed intervention, and prepare a final report and present findings with recommendations to the client for evaluation and critique. (Student participation in a project at the Innovation Accelerator can be substituted for this course.) Components:Laboratory Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4364)

MGMT5377(3 Credits) Human Resource Information Systems

Nearly every aspect of human resource management and labor relations is or will be undergoing significant improvements via information technology. Increasingly human resource professionals are called upon to be part of a team in the design of information systems. Indeed their role is critical in insuring that the system truly supports and integrates HR needs. HR professionals must also query databases, create reports and contribute to departmental web sites. This course will prepare students for these challenges. The course will focus on future systems as well as seek to understand current configurations. It will explore the implications that systems design has for flexibility, efficiency, and effectiveness over the longer run. Components:Lecture

MGMT5621(3 Credits) Business and Managerial Ethics

Recent observers of the business scene have questioned whether today's modern executive has lost his/her moral compass." Clearly all businesses and their managers must be held accountable to ethical standards. At issue then is what is ethical behavior and what problems are created in trying to exercise such behavior. This course examines in detail the processes of policy formulation

and implementation as they relate to ethical problems. Alternative responses to expressed and anticipated social needs, expectations and demands that arise in the daily conduct of business are considered. Components:Lecture

MGMT5629(3 Credits) Formal Corporate Planning Systems

Planning is a corporate, group, and business function whose character has changed markedly and whose importance is universally recognized. Special attention is given to particular topics: environmental forecasting, corporate vs. business planning, staff vs. line functions, cycling/rolling systems, planning's impact on results, and others. In order to emphasize the essential nature of creating a managerial system which is efficient and effective through tailoring it to the specific requirements of the organizational setting, the work of the course centers on case analyses, but it employs also, as appropriate, lectures, discussions, and field projects and reports. Components:Lecture

MGMT5634(3 Credits)Instructor Consent Required Opportunity Generation, Assessment, and Promotion

This course provides a hands-on experience in opportunity development, exposing students to three distinct modules. The first, creativity and innovation, stimulates the flow of ideas. The second, feasibility analysis, runs these ideas through an comprehensive assessment framework. The third module, getting the first customer, focuses on the initial sales and marketing process needed to get the idea off the ground. At the end of the course, students will be able to: Identify, evaluate, and shape new business opportunities; Effectively present and sell their ideas to critical constituencies; Manage the resource constraints associated with launching new ventures. Components:Lecture Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4364)

MGMT5637(3 Credits) Organization Behavior

The course is divided into two major components: micro and macro organization behavior. The first component focuses on individual and group-level problems and the second focuses on organizational-level problems, as they relate to improving organizational performance. This course introduces some of the central topics in management theory, research, and practice and provides the basis for understanding and evaluating organizations and their

management. Components:Lecture Requirement Group:Prerequisite: Open to M.B.A. and M.P.S. students.

MGMT5639(3 Credits) Gender and Diversity in the Workplace

The demographic composition of the international labor force is changing. In the United States, the proportions of both women and people of color have steadily increased in recent years. This course chronicles and examines the transition that is taking place in the workplace due to the increased diversity in employees. It examines gender-related issues such as sex differences and sex role development, occupational choice and organizational entry, peer and manager-subordinate interactions, sexual harassment, career development, the interface between work and family, and strategies for promoting equal opportunity in organizations. It examines diversity issues stemming from differences in individual characteristics such as race, ethnicity, and national origin. Components:Lecture Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4364)

MGMT5640(3 Credits) International Business

The growing impact of a rapidly changing international business environment on organizations today means that few managers can afford to remain indifferent to the issues of international business. It is important to understand the changing patterns of international business, the dynamics of international competition, government-business interactions in other countries, and the organizational challenges of managing strategically across borders. This course addresses these issues through an applied approach in the discussion of cases. Components:Lecture Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4366)

MGMT5650(3 Credits) Managerial Communications

Designed to improve effective oral and written communication skills for managers. Topics in written communications include: organization, structure, and clarity of business communications; practice in writing formal papers and research reports; establishing style and tone in different types of written business communications. Topics in oral communications include: analysis of audiences, presentations to small and large groups, persuasion and motivation

techniques, using audio-visual aids, and improving delivery and style using video feedback. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

MGMT5672(1 - 3) Career Dynamics

As individuals pass through organizations, they both shape them and are shaped by them. This course looks at the issues involved in integrating the individual with the organization through the process known as career development. In particular, it focuses on the realities of entry, membership, and advancement that occur in organizations. Topics cover career stages and life stages; career stages and organizational stages; individual self-assessment including personal characteristics, interests, values and interpersonal styles; individual career mapping; and changing jobs and careers. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

MGMT5673(1 - 3) Organizational Renewal Development

Organizational renewal must be a regular part of the job of every manager. This course focuses on the management skills needed to diagnose, change and develop an organization. Participants learn not only the latest concepts but also are required to engage in organizational development (OD) exercises. Topics to be covered include methods of diagnosing organizations, planning and OD effort, deciding on a change strategy, fitting the intervention to the client's needs, managing an intervention and obtaining evaluative feedback. Through the use of exercises, presentations and hands-on-training, participants have the opportunity to practice their OD skills. Components:Lecture

MGMT5674(3 Credits) Negotiation Strategies

Developing and implementing effective negotiation strategies and tactics is an increasingly important activity in a wide range of managerial positions. This course deals with negotiations both within and between organizations. Effective negotiations skills are essential for successful managers in complex contemporary organizations characterized by changing structures, temporary task forces, multiple demands on resources, and the increased importance of interdepartmental cooperation. Critical negotiation situations with other organizations range from those dealing

with labor unions, purchasing, mergers, acquisitions, and joint ventures. During this course, participants plan and conduct negotiations simulations, as well as receive feedback on their performance. Components:Lecture Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4367)

MGMT5675(3 Credits) Strategic Management of Human Resources

Effective human resources management (HRM) is one of the most decisive factors in the success of any organization. This course examines how to manage human resources effectively in the dynamic legal, social, and economic environments currently constraining organizations. Among the topics included are: formulation and implementation of human resource strategy, job analysis, methods of recruitment and selection, techniques for training and management development, performance appraisal, compensation analysis and administration, and evaluation of the effectiveness of HRM systems. Attention is also given to the need for adjusting human resource strategies and tactics when applying them in a foreign setting. Emphasis is placed on integrating human resource management with other key aspects of management. A variety of teaching methods are used to help students acquire an understanding and appreciation of HRM. Components:Lecture Requirement Group:MGMT 5138 (RG 4749)

MGMT5676(3 Credits) Business Improvement Through Training and Development

Planning, implementing, and evaluating training programs designed to meet individual and organizational needs. Training methods, techniques, and processes. Strategic and international training issues. Focuses on the process by which organizations train and develop employees. Topics include training needs assessment, program design, training evaluation, and management development practices. Components:Lecture

MGMT5678(3 Credits) Compensation and Benefits

Application of compensation principles to organizational objectives. Strategic use of compensation systems for attracting, motivating, and retaining employees. Managerial aspects of paying employees at all organizational levels. Focuses on managing employee compensation in contemporary organizations. The major objectives are: to

examine the current state of compensation decision making, to examine how recent theoretical and research developments inform compensation decisions, and to offer an opportunity to develop competencies in making compensation decisions. Components:Lecture Requirement Group:MGMT 5138 (RG 4749)

MGMT5800(3 Credits) Strategy, Policy, and Planning

A firm's ability to survive and succeed in an increasingly competitive global arena depends on its ability to develop and maintain an effective strategy. This capstone course deals with the two major aspects of strategy: formulation and implementation. Strategy formulation examines such issues as environmental threats and opportunities, the values and priorities of management and societal stakeholders, and the strengths of company resources and competencies relative to principal competitors. Strategy implementation covers such topics as strategic leadership, organizational structure, resource allocation, and building a strategy-supportive culture. The course uses cases and readings to develop the knowledge and skills necessary to prepare students to deal with strategic issues. The student must have completed basic courses in the functional areas of business in order to be ready to assume the holistic perspective required of those who address this important topic. Components:Lecture Requirement Group:Completion of at least 42 credits, including MGMT 5138, and good standing in the MBA program are required (RG3925)

MGMT5801(3 Credits) Advanced Strategy, Policy, and Planning

This advanced strategy course offers practical tools to evaluate sources of a firm's competitive advantage. A supplement to the capstone course, This course offers an in-depth look at special strategic problems such as the implementation of strategy, corporate renewal, strategy formulation in decline contexts, and/or political elements of strategy. Components:Lecture

MGMT5894(1 - 3)Instructor Consent Required Seminar

Investigation and discussion of special topics in management. Components:Seminar Requirement Group:Prerequisite: MGMT 5138. Open to MBA students only (RG4364)

MGMT5895(1 - 3)Instructor Consent Required Special Topics in Management

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of management. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study

MGMT6200(1 - 6) Directed Readings in Special Topics

Components:Independent Study Requirement Group:Open to PhD students in the School of Business only (RG193).

MGMT6201(3 Credits) Seminar in Organizational Behavior

A survey of research in organizational behavior and theory. Topics include learning and cognition in organization, attribution theory, satisfaction and performance, leadership, motivation and group dynamics. Components:Seminar

MGMT6202(3 Credits) Research Methods in Strategic Management

This course is an in-depth review of the content of policy research. The course is designed to cover several streams of research currently popular in the strategic management literature. The course will cover the major findings within each stream. Components:Seminar

MGMT6203(3 Credits) Contemporary Research in Organizational Behavior

Focus is on several of the contemporary research themes popular in Organization Behavior. Students critique the methodology and future potential of each theme. Components:Seminar

MGMT6204(3 Credits) Seminar in Strategic Management

Reviews the research of strategic management that emphasizes macro explanatory models. Students review recent dissertations and critique the content and methodology of each. Components:Lecture

MGMT6206(3 Credits) Applied Research in Management

Students, individually or in groups, formulate, conduct and prepare a written report in publishable format on a research project pertaining to the area of management. Meetings will be devoted to discussion of issues which arise in the conduct of student

projects and to presentation of projects.
Components:Lecture

MGMT6405(3 Credits) Research Design

Examination of research methods utilized in management research. Topics include the laboratory-field distinction, randomized experiments in field settings, content analysis and interrater reliability, log-linear analysis, instrument design and reliability analysis, survey design and sampling techniques, meta-analysis, quasi-experimental design, nonequivalent group design, interrupted time-series design and correlational analysis.
Components:Lecture

MGMT6408(3 Credits)Instructor Consent Required Seminar in Strategic Entrepreneurship, Innovation, and New Ventures

This seminar introduces students to major theoretical and empirical issues in the area of strategic entrepreneurship, innovation, and new ventures. The course focuses on the construction and testing of theory regarding the generation, identification, assessment, and capture of opportunities that support the expansion of existing ventures or formation of new businesses. Subject matter includes, but is not limited to, an overview of the field; generation and identification of entrepreneurial opportunities; entrepreneurial thinking and the associated decisions to explore and exploit; and influences on and processes associated with innovation management and venture creation.
Components:Seminar

Courses Marketing

MKTG5115(3 Credits) Market-Driven Management

The purpose of a business is to create a satisfied customer. To accomplish this objective managers must incorporate both their customers' and competitors' perspectives into their decision-making. This course focuses on the necessity to become a market-driven organization. Topics covered in this course include: market segmentation and target marketing, marketing research for obtaining critical customer information, development of marketing strategies, product development and the key linkage between marketing and R&D, pricing strategies and implementation, working with distribution partners, developing effective promotional programs, control and evaluation of the marketing function. These

and other topics are applied in a wide range of market arenas such as global marketing, the new service economy, industrial and high technology products, consumer goods and services, financial services, and health care. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

MKTG5220(3 Credits) Customer Relationship Marketing

This course discusses the scope of interactive marketing strategies and programs and introduces business models that are suited for this purpose. It covers the concept of customer lifetime value and its linkage to various customer relationship forms including cusotmer,partner, stakeholder, and employee relationship marketing. Cross-marketing strategies for maximizing customer lifetime value are emphasized. Brand development and brand equity management are also explored from a relationship marketing perspective. Integrated marketing communications and interactive marketing tools including digital marketing are discussed. Students obtain hands-on experience of creating detailed marketing plans with appropriate financials for typical interactive marketing situations. Case studies of actual companies are used to better illustrate the concepts. FM-4/26/02 Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5230(3 Credits) New Product and Innovation Management

This course takes a "whole enterprise" approach to the management of innovation, based on the perspectives of product managers and a CEO. The course's primary objective is to develop effective conceptual frameworks and analytical tools for managing innovation throughout the firm. The analytical tools used in the course range from traditional methods for forecasting new product performance (e.g. Bases, Assessor, etc.) to more sophisticated methods that use virtual reality lab environments. Topics include the nature of innovation, new product development processes, new product sales forecasting, successful integration of marketing and R&D, and acceleration of the new product process from design to commercialization advantages. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5250(3 Credits) Marketing Research and Information Systems

This course discusses the collection and use of information on customers and their needs for designing marketing programs. The course develops skills in obtaining and using customer input for product design, communications, pricing, distribution, and customer service decisions. Some of the topics covered include: research design; use of secondary information sources; decision support systems; sampling techniques; questionnaire design; scaling and measurement; and multivariate data analysis procedures. The applications discussed in the course include the creation and use of data-warehouses; customer satisfaction measurement; customer-based brand equity measurement; and the use of the Internet as an information-gathering tool. Components:Lecture Requirement Group:Prerequisites: MKTG 5115 and OPIM 5103 (RG205).

MKTG5251(3 Credits) Data Analytics

Introduces students to the concepts, methods, and quantitative tools for creating and exploiting customer databases. The course will have a strong hand-on methodological orientation with emphasis on applications involving real customer data. Students will learn quantitative tools for estimation of customer lifetime value, customer response modeling (e.g., multiple regression, logistic regression, cluster analysis, discriminant analysis, and neural network analysis) and experimentation in test markets. Applications will "include prospecting, market segmentation and targeting, product customization, cross-selling, and customer" loyalty programs. The applications will span several different types of businesses, such as Internet "retailing, financial services, computers, and knowledge-intensive enterprises.

FM-4/26/02" Components:Lecture Requirement Group:Prerequisite: MKTG 5115 and OPIM 5103 (RG788).

MKTG5625(3 Credits) Marketing for Global Competitiveness

The United States is the largest market for consumer goods in the world, yet it is also one of the slowest growing markets. Faced with increasing competition from American, Japanese, European and other global competitors, all companies are faced with the necessity of developing

truly global marketing strategies. This course helps prepare the manager for these challenges by investigating specific success criteria in the world's major markets. Cultural, political, economic and institutional factors are discussed and their implications for marketing strategies are explored. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5635(3 Credits) Marketing for Non-Profit Institutions

With reduced financial support from the government, non-profit organizations must adopt a marketing orientation to successfully survive in the turbulent environments which they face. This course explores techniques to analyze market needs and environmental opportunities as the basis for planning the products, services and communications of such non-profit organizations as government agencies, social action groups, universities, hospitals, religious organizations, charities, museums, public arts organizations, and civic groups. The course utilizes extensive case studies as well as field projects. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5640(3 Credits) Integrated Marketing Communications

The implementation of integrated marketing communications is increasingly important for an organization's competitiveness. This course covers: communications models; the communications mix; communications strategy - including setting objectives, designing and implementing communications programs, and evaluation. Emphasis upon: customer response models; interactive marketing; direct marketing; information driven marketing; measuring customer life-time value, creation and use of marketing data bases in communications strategy, the emergence of one-to-one marketing, and measurement of marketing productivity. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5645(3 Credits) Business and Industrial Marketing

Explores the differences between consumer markets and business-to-business or industrial markets. Organizational buying

models are discussed as they apply to a variety of purchasing situations. Special consideration is given to industrial and high technology market segmentation, industrial distribution, industrial sales practices, and requirements of cross functional marketing. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5650(3 Credits) Strategic Brand Management

The objective of this course is to provide students with an advanced understanding customer behavior in relation to marketing strategies in building, leveraging, and enhancing brand equity and formulating "strategic brand decisions, such as positioning and designing brands, building and leveraging brand" community, measuring brand assets and brand performance, managing global brands, providing brand stewardship, and managing brand extensions. The course provides concepts and perspectives relevant for any market offering (public/private, profit/nonprofit, commercial/noncommercial). Students will conduct a brand assessment project, a brand equity audit or brand marketing plan. Components:Lecture Requirement Group:Prerequisite: MKTG 5115 is a prerequisite (RG4781)

MKTG5655(3 Credits) Pricing Strategies

One of the most closely scrutinized aspects of the marketing mix, pricing is a critical factor in the success of both new and old products and services. This course examines the price-setting process and the role of marketing, engineering, manufacturing and other business functions in price determination. Students will integrate economic and behavioral aspects of customer response to pricing, legal constraints as they impact the marketing manager's pricing flexibility, and the particular problems of pricing within the context of a global marketing strategy. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5660(3 Credits) Customer Behavior

The analysis of customer behavior as it informs marketing decisions -- customer relationship management, brand management, and marketing strategy. Topics: customer information search; customer responses to marketing communications; customer choice processes; post-choice experiences, including

product consumption and usage, satisfaction, brand and supplier loyalty, and customer defection; internal and external influences on customer behavior; and customer behavior research methods. The course considers both online and traditional behaviors, as well as individual, household and organizational customers. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5662(3 Credits) Services Marketing

An examination the application of marketing principles to the service arena. Exploration of the differences between the marketing of goods and services. Development of appropriate decision models for services in consumer and industrial market segments and the use of services as a differentiation tool for product marketers. Topics include new service development; the service-profit chain; evaluating service quality; strategic service management; and the impact of customer satisfaction and loyalty on company profits. A variety of service industries are used as points of illustration, including telecommunications; insurance and financial services; health care; and business-to-business services such as advertising, temporary employees, and accounting. Components:Lecture Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5665(3 Credits) New Media Marketing Strategies

This course will provide students with both an advanced understanding of the role of media in marketing strategy and how to use new media to understand and communicate with consumers using new media. Particular attention will be on how companies can and do leverage new media to develop a competitive advantage in the marketplace, and how consumers use new media to engage in and co-create marketplace experiences. Components:Seminar Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5894(1 - 6) Seminar

Investigation and discussion of special topics in marketing. Components:Seminar Requirement Group:Prerequisite: MKTG 5115. Open to MBA students, others with permission (RG204).

MKTG5895(1 - 6) Instructor Consent

Required Special Topics in Marketing

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of marketing. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study

MKTG6200(1 - 6) Investigation of Special Topics

Components:Lecture Requirement
Group:Open only to students in the Marketing doctoral program (RG651).

MKTG6202(3 Credits)Instructor Consent Required Behavioral Applications in Marketing

This survey course is designed to provide a strong foundation of theory and research in the area of consumer behavior. Topics are subject to change at the discretion of the instructor, but would typically cover: theory development and testing, validity and reliability, relationships among conceptual, methodological and substantive domains, attitude theory, affect, branding, information processing, individual difference variables, advertising, and cultural meaning of goods. Both quantitative and interpretive methods are explored. Components:Seminar

MKTG6203(3 Credits)Instructor Consent Required Quantitative Applications in Marketing

This survey course acquaints students with the state of the art in mathematical marketing models. Topics are subject to change at the discretion of the instructor, but would typically cover: validity and reliability, diffusion models, managerial models of advertising allocations, channel design, sales force allocations, sales promotion, pricing, product design, test markets, and competitive positioning, models of consumer and market behavior, for example, utility theory, discrete choice models, stochastic models, hazard rate models multi-dimensional scaling, and hierarchical decision making. Components:Seminar

MKTG6210(3 Credits)Instructor Consent Required Strategic Applications in Marketing

This survey course acquaints students with the state of the art in strategic marketing. Topics are subject to change at the discretion of the instructor, but would typically cover strategic issues related to products, firms, customers and competition.

Components:Seminar

MKTG6211(3 Credits) Multivariate Analysis in Marketing

This course will present an overview of various multivariate statistical methods. Topics are subject to change at the discretion of the instructor, but would typically cover: discriminant, canonical, cluster, and factor analysis; multidimensional scaling; and conjoint, logit, probit and tobit analysis. Hands on experience in use of these methods will be provided; the primary focus will be on marketing applications. Components:Seminar

MKTG6296(3 Credits) Special Topics: Progress Toward Qualifying Paper

Open only to students in the Marketing doctoral program. Independent study under faculty supervision in area chosen for doctoral student's qualifying paper. Satisfactory progress on qualifying paper (including literature review and research conceptualization) is required. Student can also develop research design, conduct pilot studies, refine questionnaires and measures, or develop a framework for model specification and model estimation. A written report is required. Components:Independent Study Requirement Group:Open only to students in the Marketing doctoral program (RG710).

Courses

Operations & Information Management

OPIM5103(3 Credits) Managerial Statistics

A manager is concerned with recognizing and formulating statistical problems in business decision-making. This course covers some of the more familiar classical inference procedures and the basic statistical concepts that are often essential to the interpretation of business data. Methods of understanding variability, and detecting changes are explored using descriptive, exploratory, and inferential statistics found in widely available statistical packages. Topics include: discrete and continuous random variables, sampling, confidence intervals, hypothesis testing, and linear regression. Components:Lecture Requirement Group:Open to graduate business students only, others with permission. Prerequisite: undergraduate calculus course or OPIM 5602 (RG3739).

OPIM5110(3 Credits) Operations Management

An operations manager is concerned with designing, operating and controlling a

system for producing goods and services. Design decisions include selecting a process technology, organizing jobs, selecting vendors, and developing the location and layout of facilities. Operating the system involves planning and scheduling work and material flow, controlling quality, and managing inventories. General systems concepts and models are developed and applied. Topics include process flow analysis, inventory systems, waiting line analysis, quality design, capacity resource planning, project management, and integrating operations with the firm's strategic plans. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: OPIM 5103 (RG2094).

OPIM5165(3 Credits) Management Information Systems

A manager is concerned with the solution of business problems by exploiting the information resources that are becoming available through the explosion in information technology. The emphasis is on business applications and how to structure the development and use of information systems for maximum benefit to the organization. Topics include: decision support systems, impact of the computer upon individual and organizations, competitive implications, technology change, telecommunications, and control of information systems resources. Components:Lecture Requirement Group:Open to MBA students, others with permission (RG2090).

OPIM5270(3 Credits) Introduction to Project Management

Business objectives are increasingly solved by projects. Many projects fail to produce the expected results, are over budget, or not completed on time. Good project management significantly improves the likelihood of a successful project. This course will examine the project management process and the management of a portfolio of projects, with focus on techniques to overcome the pitfalls and obstacles that frequently occur during a typical project. It is designed for business leaders responsible for implementing projects, as well as beginning and intermediate project managers. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: OPIM 5165 (RG2096).

OPIM5272(3 Credits)Instructor Consent Required Business Process Modeling and

Data Management

Managing and improving a business process adds to the bottom line, and data is a core business asset derived from multiple business processes. The need to manage both efficiently and use them effectively has assumed paramount importance. This course introduces market-leading techniques that help to identify and manage key data from business processes. It provides the essential tools required for data mining and business process re-engineering. It combines lecture, class discussion and hands-on computer work in a business-oriented environment. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: OPIM 5165 (RG 2095).

OPIM5602(3 Credits) Mathematical Analysis for Business

Review of algebra followed by introduction to functions, limits, differentiation, integration, vectors, matrices and linear programming. Examples and applications of mathematical topics to business problems. Components:Lecture Requirement Group:Open to MBA students, other with permission (RG4370).

OPIM5604(3 Credits)Instructor Consent Required Predictive Modeling

Introduces the techniques of predictive modeling in a data-rich business environment. Covers the process of formulating business objectives, data selection, preparation, and partition to successfully design, build, evaluate and implement predictive models for a variety of practical business applications. Predictive models such as neural networks, decision trees, Bayesian classification, and others will be studied. The course emphasizes the relationship of each step to a company's specific business needs, goals and objectives. The focus on the business goal highlights how the process is both powerful and practical. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: OPIM 5103 (RG2094).

OPIM5620(3 Credits) Managing and Controlling Information Systems

Examines the management control problems and systems development processes from the dual perspective of (a) managers of the computer information system, and (b) the organization as a whole, including persons who interact extensively with the

systems personnel or are administratively in a position to influence the information system. Components:Lecture Requirement Group:Prerequisite: OPIM 5165 (RG209).

OPIM5641(3 Credits) Business Decision Modeling

The course discusses business modeling and decision analysis. Covers topics such as optimization, simulation, and sensitivity analysis to model and solve complex business problems. As spreadsheets are often used as software tools for such problem solving, the course will emphasize developing high quality spreadsheets to ensure that the objectives of the model are clear, defining the calculations, good design practices, testing and presenting the results. Components:Lecture Requirement Group:Open to MBA students, others with permission. Prerequisite: OPIM 5103 (RG2094).

OPIM5668(3 Credits) Project Risk and Cost Management

Introduces the art and science of project risk as well as continuity management and cost management. Risk management ensures a project is completed through both general and severe business disruptions on local, national and international levels. Managing the risk of a project as it relates to a three-part systematic process of identifying, analyzing, and responding is examined through actual case studies. In addition, this course will examine the process of cost management, early cost estimation, detailed cost estimation, cost control using the earned value method, issues related to project procurement management, and the different types of contracts for various scope scenarios. Components:Lecture Requirement Group:Prerequisite: OPIM 5270 Open to MBA students, others with permission. (RG 4505)

OPIM5671(3 Credits) Data Mining and Business Intelligence

Discusses data mining techniques that can be utilized to effectively sift through large volumes of operational data and extract actionable information and knowledge (meaningful patterns, trends, and anomalies) to help optimize businesses and significantly improve bottom lines. The course is practically oriented with a focus of applying various data analytical techniques in various business domains such as customer profiling and segmentation, database marketing, credit rating, fraud detection, click-stream Web

mining, and component failure predictions. Components:Lecture Requirement Group:Prerequisite: OPIM 5604 Open to MBA students, others with permission. (RG 4502)

OPIM5894(1 - 6) Seminar

Introduces many of the most exciting concepts emerging in the field of consumer oriented Internet-working, including high speed access [cable modem, satellites and digital subscriber lines (DSL)] and infrastructure developments such as gigabyte networking with asynchronous transfer mode (ATM). Evaluates the emerging directions in EC that are expected to shape both consumer and business applications in the coming decade. A macro perspective is used to examine the technical and managerial aspects of electronic commerce. Focus is on questions such as: What are or will be the key attributes of current and future digital products, payment systems, online retailing, and banking? How are these systems designed and implemented? What are the different mercantile processes and tradeoffs associated with these processes? What impact has global connectivity made on traditional supply-chain(s)? Components:Seminar

OPIM5895(1 - 3)Instructor Consent Required Special Topics in Information Management

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of operations management, operations research and/or information management. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required. Components:Independent Study

OPIM6200(1 - 6)Instructor Consent Required Investigation of Special Topics

This course provides an in-depth investigation in special topics in Operations and Information Management. Components:Seminar Requirement Group:Open only to doctoral students (RG709).

OPIM6201(3 Credits) Research Methods for Operations and Information Management

Several advanced analytical methods that are relevant to students' areas of research will be studied in depth in this seminar. Topics may include special mathematical programming; complex decision making; linear models; advanced statistical analysis; and stochastic processes. Components:Seminar

OPIM6202(3 Credits) Seminar in Operations Management

Introduces doctoral students to the current research concerns in the field of Operations Management. The course will also acquaint students with the variety of research tools used in the field, enable them to critically evaluate the research of other scholars in the field as well as to develop research skills in identifying potential research problems to be analyzed. Components:Seminar

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Chemical Engineering

Department Head:
Professor C. Barry Carter

Professors:
Cooper, Laurencin, M. Shaw, and Weiss

Associate Professors:
Parnas, Srivastava, Willis, and Zhu

Assistant Professors:
Lei, McCutcheon, Mustain, Smirnova, Srivastava, Wang, and Wilhite

Study and research programs leading to the degrees of Doctor of Philosophy and Master of Science in chemical engineering are offered. Areas of special interest include: environmental engineering, electrochemical engineering, biochemical engineering, polymer science and engineering, nanomaterials engineering, kinetics, catalysis and reaction engineering, computer simulation of chemical processes, process optimization, and process dynamics and control.

Requirements for the Ph.D. Degree.

Ph.D. candidates must pass both written and oral qualifying examinations taken after the first semester of graduate study. The written exam covers the areas of thermodynamics, transport phenomena, and kinetics (CHEG 5301, 5315 and 5321 are required preparation for this exam). The oral exam involves the critique and discussion of a paper from the literature assigned to the student after passing the written exam. The doctoral plan of study developed jointly by the student and his/her advisory committee usually includes one year of full-time course work beyond the master's degree. Doctoral students also must fulfill a foreign language requirement of the Graduate School (which may be satisfied by courses in a related or supporting area such as math or computer science). In addition to the qualifying exams, the student must complete a General Examination and the writing of a Ph.D. dissertation proposal, which is defended orally. The Ph.D. dissertation must contain the results of original research in chemical engineering. An oral defense of the dissertation is required.

Special Facilities.

Available are large, well-equipped laboratories. Facilities and research

opportunities are available through a number of other departments and University Institutes as well, including Chemistry, the Institute of Materials Science, the Center for Environmental Science and Engineering, the Connecticut Global Fuel Cell Center, the Biotechnology Center, Booth Research Center and the Advanced Technology Institute. Examples of equipment available in these research laboratories include: clean room for surface and interface research, polymer preparation and characterization instrumentation, electron microscopes, atomic-force microscopes, surface analysis equipment, a wide variety of analytical and visualization equipment, electrochemical instrumentation and reactors, electro dialysis units, fuel cell lab, injection molding machine, and a variety of biological reactors. Computing resources are widely available, including those in the University Computer Center and the Booth Computer Applications and Research Center. Machine, glass and electronics shops provide services for the construction of specialized equipment.

Courses

CHEG5301(3 Credits) Chemical Engineering Thermodynamics I An advanced study of classical thermodynamics with emphasis on phase and chemical equilibria and applications to the chemical process industries. Kinetic theory and statistical thermodynamics with emphasis on the prediction and correlation of physical and chemical properties of gases and liquids, including mixtures. Theory and application of flames, plasmas, and shock waves. Components:Lecture

CHEG5302(3 Credits) Chemical Engineering Thermodynamics II

An advanced study of classical thermodynamics with emphasis on phase and chemical equilibria and applications to the chemical process industries. Kinetic theory and statistical thermodynamics with emphasis on the prediction and correlation of physical and chemical properties of gases and liquids, including mixtures. Theory and application of flames, plasmas, and shock waves. Components:Lecture

CHEG5311(3 Credits) Transport Phenomena

An advanced study of transport phenomena and rate processes with emphasis on a differential balance approach. Designed for non-chemical engineers and chemical engineers with an inadequate background in differential balances. Components:Lecture

<p>CHEG5315(3 Credits) Transfer Operations I</p> <p>An advanced study of momentum, heat and mass transfer with application to complex problems. Cartesian tensors, non-Newtonian flow, statistical theory of turbulence. Mass transfer in multicomponent systems and with chemical reaction. Mass transfer in drops and bubbles; two-phase flow and fluidization. Components:Lecture</p>	<p>non-linear processes. Specification of control systems. Stability analysis. Optimal operation of chemical processes. Design of feedback and feedforward control schemes for multiloop processes. Adaptive control. Components:Lecture</p>	<p>CHEG5363(3 Credits)Instructor Consent Required Electrochemical Engineering</p>
<p>CHEG5316(3 Credits) Transfer Operations II</p> <p>An advanced study of momentum, heat and mass transfer with application to complex problems. Cartesian tensors, non-Newtonian flow, statistical theory of turbulence. Mass transfer in multicomponent systems and with chemical reaction. Mass transfer in drops and bubbles; two-phase flow and fluidization. Components:Lecture</p>	<p>CHEG5351(3 Credits) Polymer Physics</p> <p>Modern concepts relating to glassy, rubbery and organized states of bulk polymers. Considers rubber elasticity, glass-to-rubber transitions, networks, elements of crystallization, blends and interfacial phenomena. Components:Lecture</p>	<p>Principles underlying electrochemical processes. Transformation of chemical and electrical energy. Applications of fundamental electrochemical laws to industrial processes, energy conversion, and electrometallurgical operations. Components:Lecture</p>
<p>CHEG5321(3 Credits) Reaction Kinetics I</p> <p>Chemical kinetics and reactor design. An advanced study of chemical reaction engineering with emphasis on catalysis. Applications to stirred-tanks, fixed-bed, and fluidized bed reactors. Components:Lecture</p>	<p>CHEG5352(3 Credits) Polymer Properties</p> <p>Interrelationships between solid state structure, dynamics, and mechanical properties of non-crystalline and semi-crystalline polymers. Considers polymer viscoelasticity, diffusion, failure mechanism, and elementary polymer rheology. Components:Lecture</p>	<p>CHEG5367(3 Credits) Polymer Rheology</p> <p>Analysis of the deformation and flow of polymeric materials. Topics include non-Newtonian flow, viscoelastic behavior and melt fracture with application to polymer processing. Components:Lecture</p>
<p>CHEG5331(3 Credits) Process Engineering</p> <p>Applications of thermodynamics, kinetics, unit operations, mechanics, and economics to the design of process plant equipment and complete plant design. Components:Lecture</p>	<p>CHEG5355(3 Credits) Polymer Structure and Morphology</p> <p>A fundamental study of the various levels of structure and morphology in polymers from the molecular to the macroscopic level, and how this structure influences the overall material properties. The principle methods used to characterize morphology are described for the analysis of amorphous and crystalline homopolymers, polymer blends, and copolymers. Components:Lecture Requirement Group:Prerequisite: CHEM 5381 (RG213).</p>	<p>CHEG5368(3 Credits) Polymer Rheology and Processing Laboratory</p> <p>Classical and modern experimental techniques for measuring the viscoelastic properties of polymers. Experiments include: creep, dynamic mechanical analysis, cone and plate viscometer, single-screw extruder, capillary rheometer, and extensional viscosity. Components:Laboratory, Lecture Requirement Group:Prerequisite: CHEG 5367 (RG216).</p>
<p>CHEG5336(3 Credits)Program Director Consent Req'd Optimization</p> <p>Advanced topics in optimization such as linear and nonlinear programming, mixed-integer linear and non-linear programming, deterministic and stochastic global optimization, and interval global optimization. Example applications drawn from engineering. Components:Lecture</p>	<p>CHEG5356(3 Credits) Adhesion</p> <p>A study of both physical and chemical factors controlling adhesion behavior. Thermodynamics, surface energy and surface tension. Intermolecular forces. Surface roughness effects. Mechanical evaluation of bond strength. Factors controlling adhesion durability. Chemical coupling agents. Components:Lecture Requirement Group:Prerequisite: CHEG 5351 (RG214).</p>	<p>CHEG5373(3 Credits) Biochemical Engineering</p> <p>Principles and design of processes involving biochemical reactions. Nature of biological materials, biochemical kinetics, heat and mass transfer, application to fermentation and other biological processes. Also offered as BME 321. Formerly CHEG 383. Components:Lecture</p>
<p>CHEG5345(3 Credits) Chemical Engineering Analysis I</p> <p>Techniques for the solution of chemical engineering problems including the solution of ordinary and partial differential equations, numerical analysis, and computer simulation. Components:Lecture</p>	<p>CHEG5358(3 Credits) Composite Materials</p> <p>An introduction to the mechanical properties of fiber reinforced composite materials. Included are discussions of the behavior of unidirectional composites, short fiber composites and laminates. Special topics such as fatigue, fracture and environmental effects are also included. Components:Lecture</p>	<p>CHEG5374(3 Credits)Program Director Consent Req'd Bioremediation</p> <p>Application of engineering and biological principles toward remediation of hazardous wastes. Degradation of toxic chemicals using genetically-engineered microorganisms. Biological contacting devices for waste remediation. Components:Lecture</p>
<p>CHEG5347(3 Credits) Process Dynamics and Control I</p> <p>Dynamic behavior of chemical process operations. Distributed parameter and</p>		<p>CHEG5375(3 Credits)Instructor Consent Required Fermentation and Separation Technology Laboratory</p> <p>Introduction to techniques used for industrial mass culture of prokaryotic and eukaryotic cells, and methods used to extract useful products from these cultures. Metabolic processes, energetics, growth kinetics and nutrition of microorganisms. Synthesis of cellular material and end products. Heat</p>

exchange, oxygen transfer, pH control, sterilization and design of fermentors. Culture of eukaryotic cell mass. Immobilized enzyme and cell reactors. Product recovery methods of precipitation centrifugation, extraction filtration and chromatography. Formerly CHEG 384. Also offered as MCB 384. Components:Laboratory Course
Equivalents:MCB 5684

CHEG5381(3 Credits) Water Purification Principles

An advanced study of the application of thermodynamics, transfer operations, and chemical kinetics to disposal and recovery of aqueous industrial and municipal wastes. Components:Lecture

CHEG5385(3 Credits) Air Pollution

Sources and properties of air pollutants, atmospheric chemistry, dynamics of atmospheric pollution, analytical and sampling techniques, control and abatement processes and air pollutants. Components:Lecture Requirement
Group:Prerequisites: CE 390 or ENVE 300 for non-CHEG majors (RG3027).

CHEG5389(3 Credits) Chemical Transport Processes in the Environment

Movement and fate of chemicals within the air, water, and soils in the environments. Emphasis on interfacial processes and exchange rates involving surface water, groundwater and air pollution problems. Components:Lecture

CHEG5393(0) Seminar Components:Seminar

CHEG5394(0) Seminar Components:Seminar

CHEG5395(1 - 3) Investigation of Special Topics

This course is designed for special topics, or for individual students who desire to pursue investigations in a specialized field. Components:Lecture

CHEG5399(1 - 3)Instructor Consent Required Independent Study

Independent study under the supervision of a Chemical Engineering faculty member. Components:Independent Study

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Chemistry

Department Head
Professor Steven L. Suib

Program Head:
W. Bailey, Basu, Birge, Bohn, David, Frank, Howell, Kumar, Mason, Michel, Papadimitrakopoulos, Rusling, M. Smith, Stwalley, and Sung

Associate Professor
Adamson, Brueckner, Fenteany, Seery, Sotzing, and B. Shaw

Assistant Professors
Asandei, Burdette, Gascon, Kasi, Leadbeater, Lin, T. Miller, Peczuh, Vlahos, and Yao

The Department of Chemistry offers course work and research in the areas of analytical, biological, chemical education, environmental, inorganic, organic, physical, and polymer chemistry leading to the M.S. and Ph.D. degrees in Chemistry. Research projects within these areas include: Analytical – atomic spectroscopy, biomedical sensors and microarrays, chemistry, proteomics, separations and mass spectrometry; Biological – bio-analytical, bio-inorganic, bio-organic, bio-physical, bio-polymer, and bio-materials; Inorganic – bioinorganic and coordination chemistry, catalysis, crystal growth and structure, organometallic and transition metal chemistry, physical methods, solid state chemistry, structure determination, synthesis and characterization, and surface analysis; Organic – bioorganic, medicinal and toxicological chemistry, natural products, synthetic and physical organic chemistry, and organic polymer chemistry; Physical – kinetics, biophysical chemistry, spectroscopy, physical methods, theoretical and computational chemistry, thermodynamics, x-ray crystal structure; and Polymer – organic and inorganic polymers, and synthesis and characterization of materials; and Chemical Education. A detailed description of the research programs of individual faculty members is available in a departmental brochure, which is available on the departmental Website <http://chemistry.uconn.edu>

In addition to the basic requirements for admission to the Graduate School, an applicant should submit scores from the General and the Advanced Test in Chemistry of the Graduate Record Examinations at the time of application. All entering graduate students must take comprehensive proficiency examinations in analytical, inorganic, organic, and physical chemistry at the

advanced undergraduate level. The results of these examinations are used to determine the appropriate course level for the student.

The student must qualify in the four areas listed above either by passing the proficiency examinations upon entry, or by earning a grade of B or higher (not B-) in a graduate course in the discipline(s) in which the examination was not passed. Students lacking undergraduate background in an area, may elect to take an undergraduate course or sequence and retake the proficiency examination. Students who do not qualify for admission to the Ph.D. program may be allowed to continue towards a master's degree.

Requirements for the Ph.D. Degree.

There are no specific course requirements for the Ph.D. degree in chemistry beyond those established by the student's advisory committee. Students should confer with their advisory committees concerning those courses which are recommended as preparation for the doctoral General Examination in the various divisions. Ordinarily, students also are expected to demonstrate reasonable competence in an area or areas outside their major program emphasis.

After the successful completion of the qualification requirements (see above), the student must pass the General Examination for the Ph.D. degree, consisting of a written and an oral portion as determined by the student's chosen Division (analytical, biological, chemical education, environmental, inorganic, organic, physical and polymer). The General Examination (see the department's Graduate Student Handbook for details) usually is completed during the second or third year of graduate study.

The Ph.D. dissertation must contain the results of original research in chemistry and make a substantial contribution to the particular field. Upon completion of the dissertation, the student takes an oral examination in its defense.

Special Facilities.

In addition to the standard equipment found in chemistry departments, the facilities available for research include: electrochemical instrumentation, electron spin resonance spectrometers, FT-IR and Raman spectrometers, high field NMR facility, gas and liquid chromatographs, flash photolysis apparatus, laser spectroscopy instrumentation (atomic and molecular), Mössbauer instruments, magnetic susceptibility balances,

microscopes (including fluorescence and scanning electron microscopes), UV/visible and fluorescence plate readers, multimode digital imaging systems, nanocalorimeters, polymer preparation and characterization instrumentation, high-resolution mass spectrometry (MS facility for GC-MS and LC-MS with state-of-the-art mass spectrometers (QqTOF, QqQ, QqLIT) with various ionization sources, surface analysis equipment (Auger, SAM, XPS, ISS-SIMS), high throughput synthesis and screening facility, thermal analysis equipment, ultra-high temperature and pressure equipment, UV/visible spectrophotometers, spectrofluorimeters, and powder X-ray diffraction equipment. Advanced computing facilities and access to supercomputers are available within the department and university; computer services are also available at the University of Connecticut Computer Center on campus. Some faculty members are also members of the University's Institute of Materials Science (IMS) or the Center for Environmental Science and Engineering (CESE) where additional research facilities are available, especially for polymer synthesis, characterization, and processing, or environmental analysis and research, respectively.

Courses

CHEM5300(1 - 3)Instructor Consent
Required Independent Study

Components:Independent Study

CHEM5310(3 Credits) Seminar

Reports and discussion of topics of current interest in a variety of fields of chemistry. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory). Components:Seminar

CHEM5324(3 Credits) Advanced Inorganic Chemistry I

Synthetic methods in inorganic chemistry; the application of physical methods to the investigation of inorganic compounds. Components:Lecture

CHEM5325(3 Credits) Advanced Inorganic Chemistry II

In depth study of general principles of inorganic chemistry; the structure of the elements and of inorganic compounds; group

theory; different approaches to understanding the chemical bond. Components:Lecture
Requirement Group:Prerequisite: CHEM 5324 (RG218).

CHEM5326(3 Credits) Advanced Inorganic Chemistry III

Main group and transition metal compounds with inorganic and organic ligands; the study of the transition metals is in preparation for Chemistry 327. Components:Lecture
Requirement Group:Prerequisite: CHEM 5325 (RG219).

CHEM5327(3 Credits) Advanced Inorganic Chemistry IV

Transition metal chemistry; organometallic and coordination compounds of the transition elements, including the lanthanides and actinides; selected topics in bioinorganic chemistry. Components:Lecture
Requirement Group:Prerequisite: CHEM 5326 (RG220).

CHEM5335(3 Credits) Theoretical Analytical Chemistry

A problem oriented course, involving hands on computer use, which incorporates modern methods of analyzing data obtained from the various analytical techniques. Use of theoretical and empirical models and chemometrics is stressed. Components:Lecture

CHEM5336(3 Credits) Electroanalytical Chemistry

A study of the theoretical and practical basis for electroanalytical methods. Topics include voltammetric methods of analysis (including polarography, cyclic voltammetry, rotating disk voltammetry, pulse and square-wave methods, and stripping analysis), coulometric, and chronoamperometric methods. Recent advances using micro- and modified electrodes, thin-layer and flow cells, electrochemical sensors and detectors, and bioelectrochemistry may be included. Components:Lecture

CHEM5337(3 Credits) Optical Methods of Analysis

A discussion of fundamental principles, instrumentation and applications of some spectroscopic techniques of analytical chemistry including Raman spectroscopy, molecular fluorescence spectroscopy, atomic spectroscopy. Components:Lecture

CHEM5338(3 Credits) Separation Methods

<p>A study of the theoretical and practical basis for modern separation methods. Topics to be discussed include the various methods dealing with gas-liquid, liquid-liquid, liquid-solid, gas-solid, ion-exchange, size exclusion, chromatography, electrophoresis, and mass spectrometry. Components:Lecture</p>	<p>retrosynthetic analysis, synthetic strategies, common carbon-carbon bond formation reactions, multiple bond disconnection strategies (applications of pericyclic reactions), organometallic coupling reactions, radical and carbene reactions in organic synthesis, strategies to construct carbocyclic and heterocyclic ring systems. Components:Lecture Requirement Group:Prerequisite: CHEM 5343 and CHEM 5344 (RG665).</p>	<p>mechanisms of chemical processes in biological systems. Chemical perspectives or problems of biological significance at the interfaces of the various divisions of chemistry. Components:Lecture</p>
<p>CHEM5340(3 Credits) Electronic Interpretation of Organic Chemistry</p>	<p>CHEM5350(3 Credits)Instructor Consent Required Advanced Physical Chemistry I</p>	<p>CHEM5361(1 - 3)Instructor Consent Required Biological Chemistry II</p> <p>Selected topics in Biological Chemistry building on the concepts developed in Chemistry 360. Components:Lecture</p>
<p>Approaches to writing organic reaction mechanisms. Components:Lecture</p>	<p>“Not open to students who have passed any of CHEM 5351, 5352, 5353, 5355, or 5356. Thermodynamics,” quantum mechanics and reaction dynamics, including enthalpy, entropy, free energy, equilibrium, quantum behavior of electrons and molecules, atomic and molecular spectroscopy, and theories of reaction rates. Components:Lecture</p>	<p>CHEM5370(3 Credits) Environmental Chemistry I</p>
<p>CHEM5341(3 Credits) Adv Organic Chem</p> <p>This course will review the fundamentals of bonding, stereochemistry and conformations and basic reactions from undergraduate organic chemistry. These fundamental principles will then be elaborated to include more advanced concepts of reactions and reactivity. Components:Lecture</p>	<p>CHEM5351(3 Credits) Quantum Chemistry I</p>	<p>Sources, transport, effects, fate, analytical chemistry, monitoring and management of chemical species; chemical principles, equilibria and reactions. Water and atmospheric pollution; acid rain, global warming, ozone. Components:Lecture</p>
<p>CHEM5343(4) Organic Reactions</p>	<p>The concepts of the quantum theory starting with an historical introduction and proceeding to the formulation of the Schrödinger equation and its exact solutions. Other topics include group theory, angular momentum, and approximate methods with applications to atomic and molecular structure and spectroscopy. Components:Lecture</p>	<p>CHEM5371(3 Credits) Environmental Chemistry II</p>
<p>Nomenclature. Classes of compounds. A focus upon those reactions in which C-C bonds are formed. Emphasis on the fundamentals of each reaction, their utility and applications. A background of functional group exchanges; reaction control by steric, electronic, and topological considerations. Components:Lecture</p>	<p>CHEM5352(3 Credits) Quantum Chemistry II</p>	<p>Inorganic metals and organic chemicals in the environment; energy sources; fossil fuels, nuclear power, fuel cells, and alternatives. Components:Lecture Requirement Group:Prerequisite: CHEM 5370 or 4370 (RG225).</p>
<p>CHEM5344(3 Credits) Concepts in Organic Chemistry</p>	<p>Selected topics in quantum chemistry, building on the concepts developed in Chemistry 351. Components:Lecture</p>	<p>CHEM5380(3 Credits) Polymer Synthesis</p>
<p>Structure and mechanism. Such topics as chemical bonding, stereochemistry, conformation, molecular orbital theory and applications, acids and bases, and study of organic reaction mechanisms, including kinetics, substitutions, rearrangements and photochemical reactions. Components:Lecture Requirement Group:Prerequisite: CHEM 5343 (RG221).</p>	<p>CHEM5353(3 Credits) Chemical Kinetics</p>	<p>Chemistry of the formation of high polymers, including kinetics, mechanisms, and stereochemistry of step growth and addition polymerization. Recent advances in polymer synthesis. Components:Lecture</p>
<p>CHEM5345(3 Credits) Determination of Organic Structures</p>	<p>The empirical and theoretical treatment of reaction rates. Experimental methods and treatment of data. Simple kinetic forms. Deduction of reaction mechanisms. Reaction energetics. Theories of elementary reaction rates. Diffusion. Homogeneous and heterogeneous catalysis. Extrakinetic probes of mechanism. Components:Lecture</p>	<p>CHEM5381(3 Credits) Polymer Physical Chemistry</p>
<p>Structural problem solving using fundamental data including spectroscopic and wet chemical techniques. Components:Lecture Requirement Group:Prerequisite: CHEM 5343 (RG221).</p>	<p>CHEM5356(3 Credits) Statistical Mechanics</p>	<p>A molecular description of the fundamental physico-chemical aspects of polymer solutions and solids. Considers thermodynamics, chain statistics, dynamics, and structure of polymer molecules. Components:Lecture</p>
<p>CHEM5347(3 Credits) Organic Synthesis</p>	<p>Equilibrium properties of macroscopic systems from a molecular point of view. Components:Lecture</p>	<p>CHEM5382(3 Credits) Polymer Characterization I</p>
<p>An investigation of efficient strategies for the synthesis of natural and unnatural organic molecules. Topics include:</p>	<p>CHEM5360(3 Credits)Instructor Consent Required Biological Chemistry I</p>	<p>Experimental techniques for characterizing polymers on a molecular level, with emphasis on the provision of a working knowledge of instrumental analysis. Experiments include dilute solution viscosity, vapor pressure osmometry, gel permeation chromatography, chemical and spectroscopic analysis. Components:Lecture, Practicum</p>
	<p>Recent advances in understanding the</p>	

CHEM5384(3 Credits) Polymer Characterization II

Experimental techniques for characterizing polymers on a macroscopic scale, with emphasis on provision of a working knowledge of instrumental analysis. Experiments include calorimetry, mechanical analysis, surface characterization, and structure determination. Components:Lecture, Practicum

CHEM5385(3 Credits) Reactions of Polymers

A comprehensive coverage of theories of reactions of high polymers, as applied to reaction mechanisms and the relationships of structure with physical properties and reactivity. Topics include modification of polymers, degradation of polymers, polymer reagents and polymer catalysis. Components:Lecture

CHEM5388(3 Credits) Infrared Spectroscopy of Polymers

The nature of the interaction of IR radiation with molecules, modern spectrometer design, non-conventional sampling techniques, and applications to polymer-related problems. Components:Lecture

CHEM5393(1 - 3)Instructor Consent Required Special Topics in Physical Chemistry

Components:Lecture

CHEM5394(1 - 3)Instructor Consent Required Special Topics in Polymer Chemistry

Components:Lecture

CHEM5395(1 - 3) Special Topics in Analytical Chemistry

Components:Lecture

CHEM5396(1 - 3) Special Topics in Inorganic Chemistry

Components:Lecture

CHEM5397(1 - 3) Special Topics in Organic Chemistry

Components:Lecture Requirement
Group:Prerequisite: CHEM 5343 (RG221).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Civil Engineering

Department Head
Professor Amvrossios C. Bagtzoglou

Associate Department Head & Graduate Program Director
John N. Ivan

Professors
Accorsi, Epstein, and Frantz

Associate Professors
Abboud, Anagnostou, Garrick, Liu, MacKay, and Malla

Assistant Professors
Basu, Bushey, Christenson, Chrysochoou, Gebremichael, Kim, Li, Lownes, and Zofka

The Department of Civil and Environmental Engineering offers graduate courses and research opportunities for students seeking the M.S. or Ph.D. Research areas include environmental, geotechnical, structural and transportation engineering. In addition, the Department participates in interdisciplinary programs in applied mechanics, environmental engineering and fluid dynamics.

Special Requirements for the Master's Degree.

Master's degrees may be earned under either of two plans. Plan A requires not fewer than 21 credits of graduate program course work and the writing of a Thesis, while Plan B requires not fewer than 30 credits of graduate program course work and a final examination (but no thesis). For outstanding students who have completed six credits of approved graduate-level course work (5000's level or higher) as part of an undergraduate program (as electives and/or as professional requirements) prior to entry to the master's degree program (with grades of B+ or higher in all such courses) the advisory committee may reduce the course work to 15 credits for Plan A and to 24 credits for Plan B.

Special Requirements for the Ph.D. Program.

By the end of the first year of study, the Ph.D. student must have passed a qualifying examination and have submitted evidence of his or her capacity for independent study in the form of a master's thesis or a comparable achievement. In many cases the final examination of the student's M.S. program serves as the qualifying examination (See also "Applied Mechanics" and "Fluid

Dynamics.”)

Special Facilities.

The Department has fully-equipped, state-of-the-art laboratories for graduate research in applied mechanics, environmental, geotechnical, structural and transportation engineering. In addition to the typical laboratories, special departmental facilities include a 40' x 65' fully-equipped structures testing strong floor, state-of-the-art computer lab for computer aided design (CAD) and geographical information systems (GIS) laboratory, specialized asphaltic and bituminous materials laboratories and controlled environment rooms for both environmental and geotechnical research laboratories. Equipment is also available for conducting experimental research in the field. Specialized laboratories of the Center for Environmental Sciences and Engineering (CESI) are also available for research in environmental engineering. Departmental research is funded by national and state agencies and by the private sector.

Special Courses.

For additional mathematical analysis and fluid mechanics courses students should consider ME 307, 308, and 312.

NOTE -- The following courses are part of the interdisciplinary Applied Mechanics program: CE 5122, 5124, 5126, 5128, 5160, 5164, 5166, 6810, and 6811.

Courses

CE5010(3 Credits) Civil Engineering Graduate Seminar

May be taken up to three times for credit. Presentation and discussion of advanced civil engineering problems. Components:Lecture

CE5020(1 - 6)Instructor Consent Required Independent Graduate Study in Civil Engineering

Special problems in civil engineering as arranged by the student with a supervisory instructor of his or her choice. Components:Independent Study

CE5030(0) Seminar in Transportation and Urban Engineering

Extended discussions on presentations contributed by staff, students and outside speakers. Required every semester for all full-time students in the Transportation and Urban Engineering Area of Concentration

in the Civil Engineering Field of Study. Components:Seminar

CE5090(1 - 3)Instructor Consent Required Advanced Topics in Civil Engineering

Classroom or laboratory courses as announced for each semester. For independent, study see Civil Engineering 300 Components:Lecture

CE5122(3 Credits) Advanced Mechanics of Materials

Stress and strain, combined stress, and theories of failure. Torsion of non-circular sections. Shear center, unsymmetrical bending, curved flexural members, and beams on elastic foundations. Energy methods. Components:Lecture

CE5124(3 Credits) Applied Elasticity

Theory of elasticity; two-dimensional solutions of beams, wedges, disks, and rings under load; stress concentrations; strain-energy methods; torsion of bars; stresses in bodies of revolution. Components:Lecture

CE5126(3 Credits) Plates and Shells

Stresses and deformations in flat plates and curved shells; bending of circular and rectangular plates; energy methods; buckling; shells of revolution. Components:Lecture

CE5128(3 Credits) Elastic Stability

Buckling of elastic and inelastic columns; lateral buckling of beams; buckling of plates, rings and tubes; stability of frames. Components:Lecture

CE5130(3 Credits) Numerical Methods in Civil Engineering

Solution of linear and nonlinear systems of equations and algebraic eigenvalue problems. Interpolation, numerical integration, and regression. Ordinary and partial differential equations by finite difference method. Computer programming. Components:Lecture

CE5140(3 Credits) Classical Structural Analysis

Classical indeterminate analysis, displacement analysis, consistent deformations, energy methods, elastic center and column analogy, slope-deflection, moment and shear distribution, second order effects. Components:Lecture

CE5150(3 Credits) Structural Vibrations

Vibrating systems; application to design; discrete and continuous systems, free and forced vibrations; response to periodic and non-periodic loads; analytical and numerical techniques; earthquake loading; response spectra. Components:Lecture

CE5151(3 Credits) Experimental Structural Dynamics

Characteristics of random data; vibration test hardware; data acquisition and analysis; and experimental modal analysis and system identification. Laboratory experiments will be used to enhance understanding of taught concepts. Components:Lecture

CE5160(3 Credits) Matrix Analysis of Structures

Matrix methods; force and displacement methods; energy principles; analysis of indeterminate structures, rigid frames, trusses and grids; settlement of supports, lack of fit, and temperature stresses; computer programming. Components:Lecture

CE5162(3 Credits) Applied Finite Element Analysis

This course and CE 366 may not both be taken for credit. Structural engineering applications using plane stress, plane strain, plate and solid finite elements. Applications using available programs. Components:Lecture

CE5163(3 Credits) Fracture Mechanics

This course focuses on fundamental concepts and applications of fracture mechanics. Topics include linear elastic fracture mechanics, elastic plastic fracture mechanics, computational fracture mechanics, fracture mechanisms in metals and non-metals, fracture testing, dynamic and time-dependent fracture, fatigue crack growth, interfacial fracture, fracture in advanced materials, and engineering applications. Components:Lecture

CE5164(3 Credits) Finite Element Methods in Applied Mechanics I

This course and CE 363 may not both be taken for credit. Formulation of finite elements methods for linear static analysis. Development of two and three dimensional continuum elements, axisymmetric elements, plate and shell elements, and heat transfer

elements. Evaluation of basic modeling principles including convergence and element distortion. Applications using commercial finite element programs. Also offered as ME 380. Components:Lecture Course Equivalents:ME 5520

CE5166(3 Credits) Finite Element Methods in Applied Mechanics II

Also offered as ME 381. Formulation of finite elements methods for modal and transient analysis. Development of implicit and explicit transient algorithms. Stability and accuracy analysis. Formulation of finite element methods for material and geometric nonlinearities. Development of nonlinear solution algorithms. Applications using commercial finite element code. Components:Lecture Course Equivalents:ME 5521

CE5210(3 Credits) Environmental Engineering Chemistry - I

Quantitative variables governing chemical behavior in environmental systems. Thermodynamics and kinetics of acid/base coordination, precipitation/dissolution, and redox reactions. Also offered as ENVE 300. Components:Lecture Course Equivalents:ENVE 5210

CE5211(3 Credits) Environmental Engineering Chemistry - II

Environmental organic chemistry: ideal and regular solution thermodynamics; linear free energy relations; estimation of vapor pressure, solubility, and partitioning behavior, abiotic organic compound transformations; chemical fate modeling. Also offered as ENVE 301. Components:Lecture Course Equivalents:ENVE 5211 Requirement Group:Prerequisite: CE 5210 or ENVE 5210 (RG 241).

CE5220(3 Credits) Transportation& Air Quality

Mobile source emissions models in theory and practice. Regulatory framework. Emissions control technology. Field and laboratory measurement techniques. Roadway dispersion modeling. Current topics in mobile source emissions. Also offered as ENVE 305. Components:Lecture Course Equivalents:ENVE 5220

CE5221(3 Credits) Transport and Transformation of Air Pollutants

Transport and deposition of gaseous and

aerosol pollutants; chemical formation and reactions of oxidants and acidic compounds. Also offered as ENVE 343. Components:Lecture Course Equivalents:ENVE 5221 Requirement Group:Prerequisite: CE 5210 or ENVE 5210 (RG 241).

CE5240(3 Credits) Biodegradation and Bioremediation

Biochemical basis of the transformation of key organic and inorganic pollutants; quantitative description of kinetics and thermodynamics of pollutant transformation; impact of physiochemical and ecological factors on biotransformation. Also offered as ENVE 306. Components:Lecture Course Equivalents:ENVE 5240 Requirement Group:Prerequisite: CE 5210 or ENVE 5210, and CE 5211 or ENVE 5211 (RG237).

CE5250(3 Credits) Environmental Physicochemical Processes

Reactor dynamics, applications of interfacial phenomena and surface chemistry, processes for separation and destruction of dissolved and particulate contaminants. Scholarly reviews. Also offered as ENVE 321. Components:Lecture Course Equivalents:ENVE 5251

CE5251(3 Credits) Environmental Biochemical Processes

Major biochemical reactions; stoichiometric and kinetic description; suspended and attached growth modeling; engineered biotreatment systems for contaminant removal from aqueous, gaseous, and solid streams; process design. Also offered as ENVE 322. Components:Lecture Course Equivalents:ENVE 5311

CE5252(3 Credits) Contaminant Source Remediation

Regulatory framework. Soil clean-up criteria. Treatment technologies: soil vapor extraction, solidification - stabilization, soil washing - chemical extraction, hydrolysis - dehalogenation, thermal processes, bioremediation. Risk analysis. Also offered as ENVE 5252. Components:Lecture Course Equivalents:ENVE 5252 Requirement Group:Prerequisite: CE 5250 or ENVE 5231, and CE 5251 or ENVE 5311 (RG236).

CE5253(3 Credits) Ground Water Assessment and Remediation

Quantitative evaluation of field data in

assessing nature and extent of groundwater contamination. Subsurface control and remediation. Case studies. Also offered as ENVE 320. Components:Lecture Course Equivalents:ENVE 5250

CE5310(3 Credits) Environmental Transport Phenomena

Movement and fate of chemicals: interfacial processes and exchange rates in environmental matrices. Also offered as ENVE 310. Components:Lecture Course Equivalents:ENVE 5310

CE5320(3 Credits) Environmental Quantitative Methods

Also offered as ENVE 432. This course and NRME 432 may not both be taken for credit. Topics on natural resources and environmental data analysis: random variables and probability distributions, parameter estimation and Monte Carlo simulation, hypothesis testing, simple regression and curve fitting, wavelet analysis, factor analysis; formulation and classification of optimization problems with/without constraints, linear programming; models for time series; solution of ordinary differential equations with Laplace transforms and Euler integration; solution of partial differential equations with finite differences; basics of modeling. Components:Lecture Course Equivalents:ENVE 5320

CE5330(3 Credits) Probabilistic Methods in Engineering Systems

Common probabilistic models used in engineering and physical science design, prediction, and operation problems; derived distributions, multivariate stochastic models, and estimation of model parameters; analysis of data, model building and hypothesis testing; uncertainty analysis. Also offered as ENVE 304. Components:Lecture Course Equivalents:ENVE 5330

CE5340(3 Credits) Environmental Systems Modeling

Modeling pollutants in natural surface waters. Advective, dispersive, and advective-dispersive systems. Modeling water quality, toxic organic and heavy metals pollution. Also offered as ENVE 311. Components:Lecture Course Equivalents:ENVE 5340

CE5370(3 Credits) Environmental Monitoring

Also offered as ENVE 314. Introduction to complexities and challenges associated with acquisition of information on environmental processes and characteristics of natural systems. Hands-on experience with selection of measurement strategy and sensing technology; sampling network and protocol design; and deployment, acquisition and interpretation of measurements in natural systems. Components:Lecture Course Equivalents:ENVE 5370

CE5380(3 Credits) Bridge Structures

Steel, reinforced concrete, prestressed concrete, and girder, box girder bridges; curved bridges; loadings; durability; fatigue; vibrations. Design project. Components:Lecture

CE5381(3 Credits) Subsurface Contaminant Transport Modeling

“Also offered as ENVE 5381. Fate and transport of contaminants in groundwater. Convection, dispersion,” adsorption, and biological and radioactive decay. Field scale modeling. Galerkin finite elements. Application to field sites. Components:Lecture Course Equivalents:ENVE 5381

CE5394(0) Seminar in Environmental Sciences and Engineering

Extended discussions on presentations contributed by staff, students and outside speakers. A certificate of completion will be issued from the Environmental Engineering Program. Also offered as ENVE 400. Components:Seminar Course Equivalents:ENVE 5094

CE5541(3 Credits) Advanced Soil Mechanics

Introduction of soil as a multi-phase material, brief overview of origin and mineralogy of soil; stress and strain analysis in soil; soil compression and consolidation, soil shear strength; common laboratory and in situ tests pertaining to soil strength and stiffness; introduction to critical state soil mechanics; discussion and analysis of relevant case histories. Components:Lecture

CE5543(3 Credits) Advanced Foundation Design

Soil behavior in retaining systems, shallow foundations, deep foundations. Components:Lecture

CE5544(3 Credits) Geosynthetics in

Geotechnical Design

The properties of geotextiles, geomembranes, geocomposites, and geogrids and their use in road construction, retaining structures, drainage, hazardous waste sites, etc. Design, testing and selection. Components:Lecture

CE5545(3 Credits) Earth Structures

Embankments, earth dams, earth and rock slopes, consolidation, vertical drains, soft deposits, landslides, subsurface investigations. Components:Lecture

CE5546(3 Credits) Ground Water Flow and Drainage

Permeability, flow nets, ground water flow and filter design, excavation dewatering, foundation drains, slope stabilization, highway drainage. Components:Lecture

CE5547(3 Credits) Soil Behavior

Clay mineralogy and interfacial properties, electro-osmosis, thixotropy, shear strength, consolidation, permeability, frost heave, and swelling. Components:Lecture

CE5548(3 Credits) Soil Settlement and Consolidation

Settlement predictions, theories of consolidation, secondary compression, numerical solutions, analysis of field data. Components:Lecture

CE5549(3 Credits) Soil Shear Strength

Failure theories for particulate media, plastic equilibrium, laboratory testing and interpretation. Components:Lecture

CE5570(3 Credits) Bituminous Materials

Properties, performance and design of bituminous materials for highway and airport paving; physical and chemical properties of binders; testing methods; specifications; production and construction. Components:Lecture

CE5610(3 Credits) Advanced Reinforced Concrete Structures

Behavior and design of reinforced concrete for flexure, shear, torsion, bond, and axial loads; two way slabs; beam-column joints; general flexure theory; seismic considerations; review of design specifications. Components:Lecture

CE5620(3 Credits) Advanced Steel Structures

Behavior, stability and design of steel columns, beams, beam-columns, plates, bracing, frames; torsional behavior; fatigue and brittle fracture; review of design specifications. Components:Lecture

CE5630(3 Credits) Wood Design

Physical and mechanical properties of wood. Behavior of wood beams, columns, beam columns, connectors and fasteners; introduction to plywood and glued-laminated members; analysis and design of structural diaphragms and shear walls. Components:Lecture

CE5640(3 Credits) Prestressed Concrete Structures

Analysis, design, and behavior of pretensioned and post-tensioned concrete; simple and continuous span structures; time dependent behavior; review of design specifications. Components:Lecture

CE5710(3 Credits) Program Director Consent Req'd Case Studies in Transportation Engineering

Analysis of transportation case studies in transportation design, and transportation and land use planning. Application of transportation engineering and planning skills. Oral and written group reports, group discussions, individual papers. Not open to students who have passed CE 255. Components:Lecture Requirement Group:Not open to students who have passed CE 4710 (RG655).

CE5720(3 Credits) Highway Engineering - Design

Urban street and highway design: vertical and horizontal alignment, cross-section elements, traffic barriers, interchanges and intersections, pedestrian and bike facilities, traffic calming, community and roadside elements. Components:Lecture

CE5730(3 Credits) Transportation Planning

Transportation economics, urban transportation planning process, local area traffic management, evaluation of transportation improvements, land use and transportation interaction. Components:Lecture

CE5740(3 Credits) Traffic Engineering Characteristics

<p>Relationships among traffic flow characteristics; microscopic and macroscopic representations of traffic flow; capacity of highways; traffic stream models; shock wave analysis; queueing analysis; traffic simulation. Components:Lecture</p> <p>CE5750(3 Credits) Pavement Design</p> <p>Analysis and design of flexible and rigid pavements; testing and characterization of paving materials. Components:Lecture</p> <p>CE5810(3 Credits) Hydrometeorology</p> <p>Global dynamics of aquatic distribution and circulation. Hydrologic cycle, atmospheric circulation, precipitation, interception, storage, infiltration, overland flow, distributed hydrologic modeling, and stream routing. Also offered as ENVE 385. Components:Lecture Course Equivalents:ENVE 5810</p> <p>CE5811(3 Credits) Hydroclimatology</p> <p>Also offered as ENVE 313. This course focuses on the physical principles underlying the spatial and temporal variability of hydrological processes. Topics include atmospheric physics and dynamics controlling the water/energy budgets; global water cycle, its dynamics, and causes of variability/changes; occurrence of drought and flood; climate teleconnections and their hydrological application; hydrological impact of global changes; quantitative methods in hydroclimatic analysis. Components:Lecture Course Equivalents:ENVE 5811</p> <p>CE5812(3 Credits) Ecohydrology</p> <p>Also offered as ENVE 5812. This course focuses on the interactions between ecological processes and the water cycle, emphasizing the hydrological mechanisms underlying various terrestrial ecological patterns and the ecological properties controlling the hydrologic and climatic regimes. Topics include conceptual understanding of hydrological cycle over vegetated land, quantifying and modeling flux exchanges in the soil-vegetation-atmosphere continuum, case studies on the hydrological impact of land use land cover changes, ecosystem response to environmental changes, and vegetation-climate feedback at the regional and global scales. Components:Lecture Course Equivalents:ENVE 5812</p> <p>CE5820(3 Credits) Unsaturated Flow and</p>	<p>Transport</p> <p>Also offered as ENVE 315. Modern approaches to water flow and solute transport in partially-saturated porous media including media characterization (review); unsaturated flow in porous media (governing equations, hydraulic functions, numerical and analytical solution methods); solute transport in unsaturated media (convection dispersion, transfer functions, solutions); modeling and observational scales; coupled water flow and solute transport (model applications); special topics (preferential flow, effects of spatial variability, stochastic aspects of flow and transport, gas exchange and transport measurement methods) Components:Lecture Course Equivalents:ENVE 5820</p> <p>CE5821(3 Credits) Vadose Zone Hydrology</p> <p>Also offered as ENVE 316. Theoretical and experimental elements of primary physical and hydrological properties of porous media and processes occurring in partially-saturated soils. Practical experience in measurement and interpretation of hydrological information and methods of analysis for vadose-zone related environmental problems. Components:Lecture Course Equivalents:ENVE 5821</p> <p>CE5830(3 Credits) Groundwater Flow Modeling</p> <p>Basics of modeling with Finite Difference and Finite Element Methods. Modeling flow in saturated and unsaturated zones. Model calibration and validation. Parameter estimation. Treatment of heterogeneity. Basic geostatistics. Modeling surface-groundwater interactions. Application to field sites. Also offered as ENVE 388 Components:Lecture Course Equivalents:ENVE 5830 Requirement Group:Prerequisite: CE 5253 or ENVE 5250 (RG239).</p> <p>CE5840(3 Credits) Open Channel Hydraulics</p> <p>Unsteady, nonuniform flow; energy and momentum concepts; flow control; de St. Venant equations; unsteady flow modeling of channels and natural rivers. Also offered as ENVE 384. Components:Lecture Course Equivalents:ENVE 5840</p> <p>CE5841(3 Credits) River Mechanics</p> <p>Erosion and sedimentation, physical properties of sediment, dimensional analysis, mechanics of sediment laden flows, particle motion, incipient motion, bedforms, bed load,</p>	<p>suspended load. Components:Lecture</p> <p>CE6730(3 Credits) Travel Demand Forecasting</p> <p>Alternative formulations and calibration of trip generation, trip distribution and travel mode choice prediction models. Traffic network equilibrium and assignment. Components:Lecture</p> <p>CE6740(3 Credits) Traffic Engineering Operations</p> <p>Driver, pedestrian and vehicle operating characteristics. Traffic data collection. Accident and safety analysis. Highway capacity analysis. Traffic signs and markings. Traffic signal timing and operation. Traffic management. Components:Lecture</p> <p>CE6810(3 Credits) Advanced Fluid Mechanics I</p> <p>Dimensional analysis; vector analysis, circulation and vorticity; irrotational motion and velocity potential; two-dimensional flow and stream function; complex variable theory; conformal mapping; airfoils; sources and sinks; free streamline flow; water waves; three-dimensional flow. Also offered as ENVE382. Components:Lecture Course Equivalents:ENVE 6810</p> <p>CE6811(3 Credits) Advanced Fluid Mechanics II</p> <p>Turbulent boundary layer . Dimensional analysis. Free shear flows. Flows in pipes and channels. Boundary layers on smooth and rough surfaces. Also offered as ENVE 383. Components:Lecture Course Equivalents:ENVE 6811</p> <p>CE6820(3 Credits) Hydraulic Machinery and Transients</p> <p>Pumps and turbines. Surging, water hammer, cavitation, hydraulic machinery for hydroelectric plants, water supply, irrigation, and river navigation. Also offered as ENVE 386. Components:Lecture Course Equivalents:ENVE 6820</p> <p>CE6821(3 Credits) Hydraulic Structures</p> <p>River regulation and development. Hydroelectric plants, storage and turbines, canals, locks, and penstocks, dams, regulation of power, flood control, navigation and irrigation. Also offered as ENVE 387. Components:Lecture Course Equivalents:ENVE 6821</p>
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CE6830(3 Credits) The Flood Problem

Flood hazards. Preventing or alleviating damages. Flood frequency analysis. Effect of land-use/land-cover and soil moisture on flooding. Remote sensing in flood prediction. Flood and dam-break modeling. Multiple purpose projects. Components:Lecture

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Clinical And Translational Research

Department Head
Associate Professor Anne Kenny and
Professor Marie Smith

Professors
Brewer, Campbell, Cloutier, Ford, Kuchel,
Litt, Mazzocca, Pendryns, Pilbeam, Rajan,
Shelton and Tennen

Associate Professors
Burkey, McCullough, LaSala, Puddington,
Tannebaum

Assistant Professors
Baker, Lalla, Uribe

Adjunct Professors
Orsey, Hagstrom, and Zucker

The M.S. program in Clinical and Translational Research is designed to prepare health care professionals with the academic and research skills needed to be competitive for independent research. The program focuses on the preparation of individuals with established, terminal degrees in a health related field (M.D., Ph.D., Pharm.D., D.D.S. or D.M.D.) to conduct independent research in translation of information from the basic sciences to the community as researchers, teachers, public health administrators, clinicians, and industry employees competent to carry out the broad health mission of the State of Connecticut.

The M.S. Program.

The Master of Science degree program in Clinical and Translational Research is administered in the Department of Medicine. The program stresses clinical research methods and research practicum. The program is offered to individuals with a health related terminal degree (M.D., D.M.D. or Ph.D.) to provide practical research training to be prepared for independent research. The Master Program is based on both course work and research experience, but no research thesis is required. Students will be required to sit for a final examination, which may entail the oral defense of a grant application and a manuscript.

Entering students should have a terminal degree (M.D., D.M.D. or Ph.D. in a health-related field) or be involved in

an M.D., D.M.D. or Ph.D. program in a health-related field and in good standing. A complete description of the program with recommended preparation and instructions for applying may be obtained from Ms. Lisa Godin, General Clinical Research Center, University of Connecticut Health Center, Farmington, CT 06030-3805; (860) 679-4145; e-mail <godin@nso.uchc.edu>.

Courses

CLTR5000(3 Credits)Program Director
Consent Req'd Graduate Seminar in Clinical and Translational Research

The Introduction to Clinical Research Course, utilizing lecture, the textbook *Designing Clinical Research* by Hulley and Cummings, et al. (Third Edition) and practical application writing a research proposal, provides training in the methods of clinical investigation to physicians and other health professionals. Components:Discussion, Lecture

CLTR5020(3 Credits)Program Director
Consent Req'd Statistical Methods in Healthcare

Quantitative procedures including descriptive and inferential statistics, non-parametric approaches to data, and parametric analyses through factorial analysis of variance. Cross listed with NURS 5020. Components:Lecture
Course Equivalents:NURS 5020

CLTR5022(3 Credits)Program Director
Consent Req'd Graduate Seminar in Clinical and Translational Research

Reading and discussion of methodological and statistical developments in various areas of clinical and translational research
Components:Discussion

CLTR5099(1 - 3) Independent Study in
Clinical and Translational Research

A reading course for those wishing to pursue special topics in the clinical and translational research under faculty supervision.
Components:Independent Study

CLTR5357(3 Credits) Principles of Clinical and Translational Research I

This is the first core course in research methods, biostatistics and topics in clinical and translational research. In the methods section, the topics covered include Defining a Research Question, Cross-Sectional Studies, and Case-Control Studies. The Biostatistics section covers Probability Distributions, Sample Size Calculations, Hypothesis Testing, Odds Ratios and Logistic Regression. The major other topic is ethical issues in research, including specifically those related to the conduct of research with human beings. Components:Lecture

CLTR5358(3 Credits) Principles of Clinical and Translational Research II

This is the second core course in research methods, biostatistics and topics in clinical and translational research. The methods section covers Observational Perspective Studies, Randomized Controlled Trials, and Information Synthesis. The biostatistics section covers Analysis of Variance, Survival Analysis, Analysis of Randomized Controlled Trials, and Methods of Meta-Analysis. The major other topics are data management and other informatics. Components:Lecture

CLTR5359(3 Credits) Principles of Clinical and Translational Research III

This is the third core course in research methods, biostatistics and topics in clinical and translational research. The methods section includes Instrument Development, Cross Cultural Adaptation of Research Instruments, Genetic Epidemiology, Pharmacoepidemiology, Pharmacogenomics, and Secondary Data Analysis. The biostatistics section includes Handling Missing Data, Analysis of Genetic Epidemiologic Studies, Structural Equation Modeling, and Economic Analyses. The other topics include writing and presenting scientific information. Components:Lecture

CLTR5407(1 - 12)Program Director Consent Req'd Clinical and Translational Research Practicum

This course seeks to provide practical training in the formulation and conduct of clinical and translational research. Specific aspects that

will be covered during the 9-12 total hours of the practicum will be: the identification of a specific research question and its specification as one or more aims, review of the relevant literature, and specification of the methods to be employed in the conduct of the study, including experience in recruitment and retention of subjects, an IRB application and HIPAA documents preparation. The student will initiate a research project and participate in data collection and analysis, culminating in a report of the findings. These activities will be monitored and mentored by a research advisor who is a member of the Graduate Faculty. Components:Practicum Requirement Group:Open to M.S. students in Clinical and Translational research (RG 4373).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

Communication Sciences

Department Head
Professor Carl A. Coelho

Professors
Atkin, Buck, Farrar, Lin, Musiek, and Snyder

Associate Professor
Cienkowski, D'Alessio, Grela, Hamilton, Jalbert, Nowak, Rios, Tufts, VanLear, and Wang

Assistant Professors
Myers, Ramanathan, Gaztambide-Geigel, Theodore and Spaulding

The field of communication sciences deals with the process and analysis of human communication. The Department of Communication Sciences has two major sections: Communication Disorders and Communication, each of which offer graduate degree programs. The Communication Disorders Section offers M.A., Au.D., and Ph.D. concentrations in Speech, Language, and Hearing. The Communication Section offers an M.A. concentration in Communication and a Ph.D. concentration in Communication Processes and Marketing Communication.

Communication Disorders

The mission of this section is to develop a theoretical perspective on human communication disorders and their clinical management. Two distinct areas of study are offered in this section which lead to either professional or research degrees:

Audiology - The Doctor of Audiology (Au.D.) is a professional degree which prepares students for clinical certification in Audiology.

Speech-Language Pathology - The M.A. in Speech-Language Pathology, is a professional degree which also prepares students for clinical certification. Speech-language pathologists who work in the Connecticut public schools must have school certification. Through an arrangement with the School of Education, students enrolled in the M.A. program in Speech, Language and Hearing can fulfill requirements leading to certification as an SLP for employment in Connecticut's public schools. requirements include course work in Special Education, Regular Education, Human Development

or Psychology, Classroom Instruction and Management.

Both of these degree programs are accredited by the American Speech, Language, Hearing Association's (ASHA) Council on Academic Accreditation (CAA).

Five areas of emphasis are offered for the Ph.D. degree: (1) speech pathology, (2) language, (3) audiology, (4) speech science, and (5) hearing science. The curriculum involves broad-based coursework and independent experimental investigations followed by dissertation research.

Admission Requirements

Requirements for admission to the professional degree programs (Au.D., M.A.) include completion of pre-professional background coursework (approximately 25 credits) as well as basic courses in math/statistics, physics, and biology or a Bachelor's Degree in Communication Disorders. Requirements for admission to the Ph.D. programs require a B.A./B.S. in a related field of study. Applicants for all programs must also submit scores from the Graduate Record Examination. The application deadline for the professional degree programs is February 1. The application form and instructions for applying are available at: <http://grad.uconn.edu>. For questions regarding the Communication Disorders graduate programs please visit our website www.cdis.uconn.edu, call (860) 486-2628, or send an email to comsci3@uconn.edu.

Communication.

The mission of this section is to study and teach about communication with areas of specialization that include interpersonal communication, persuasion, communication technology, nonverbal communication, and media effects. Our goal is to pursue theoretically grounded research and to disseminate knowledge by publishing our research and through teaching. Ample experimental and survey research facilities are available.

M.A. in Communication.

Graduate work in the M.A. program emphasizes the empirical investigation of human communication. Students receive a basic foundation in communication theory and research methodology. Those pursuing the M.A. in communication prepare to carry

out independent research in communication and to evaluate communication programs, either at institutions offering doctoral-level work in communication or in business or government. Areas of emphasis include: general communication theory; organizational communication; mass communication; interpersonal communication; marketing communication; and new communication technology (12-month course of study).

Ph.D. in Communication Processes and Marketing Communication.

Graduate work in the Ph.D. program provides the student with strong theoretical and research skills to prepare for an academic career or professional research position. Areas of emphasis include: media effects, persuasion, emotional, intercultural, international, nonverbal, organizational, political, relational, and small group communication; public opinion, health communication campaigns, new communication technology, advertising, social marketing, and consumer research.

Admission Requirements.

Applicants to both the M.A. and Ph.D. programs must present scores on the three parts of the general Graduate Record Examination. Applicants for the Ph.D. program must have an M.A. degree to be considered. The application form and instructions for applying are available at: www.grad.uconn.edu.

The application deadline for Communication is January 1. For questions regarding the Communication graduate programs, please visit our website: www.coms.uconn.edu, call (860) 486-2628, or send an e-mail message to comsci3@uconn.edu.

Courses Communications

COMM5001(3 Credits) Introduction to Graduate Communication Research

An introduction to quantitative research methods and statistics. Issues of measurement and design of communication studies as well as basic descriptive and inferential statistics are covered. Components:Lecture

COMM5002(3 Credits) Research Methods

Integrative approach to modeling theory, research design, and statistical analysis, including mathematical models, scale construction, measurement issues, correlation, regression, and analysis of variance. Formerly offered as COMS 302. Components:Lecture

COMM5003(3 Credits) Advanced Communication Research Methods

Research techniques and procedures for the study of communication. Research design, multivariate statistics, and structural modeling. Formerly offered as COMS 306. Components:Lecture Requirement Group:Prerequisite: COMM 5002 (RG242).

COMM5010(3 Credits) Theory Construction and Research Design

Conceptualization, theory construction, and review of communication methodologies. Students will write a proposal for independent research, thesis, or dissertation. Formerly COMS 325. Components:Lecture Requirement Group:Prerequisite: COMM 5002 (RG242).

COMM5100(3 Credits) Persuasion Theory and Research

Evaluation of current and traditional theories of persuasion and attitude change from communication, social psychology, and related disciplines. Formerly COMS 319. Components:Lecture

COMM5101(3 Credits) Motivation

Theories of motivation considered in relation to their supporting data. Also offered as PSYC 340. Formerly COMS 340. Components:Lecture

Course Equivalents:PSYC 5101

COMM5120(3 Credits) Communication Campaigns

Campaign theory and planning. Students learn how to conduct interviews and focus groups with members of a target audience, and work with non-profit organizations to design a campaign. Formerly offered as COMS 301. Components:Lecture

COMM5200(3 Credits) Interpersonal Communication

Cognitive, emotional and behavioral interactions in specific contexts, including

interpersonal relationships, groups, and work. Formerly COMS 308. Components:Lecture

COMM5220(3 Credits) Group Communication Research

The group communication process with emphasis upon research methodologies for the study of interactions in a group setting. Formerly COMS 313. Components:Lecture

COMM5230(3 Credits) Organizational Communication: Theory and Research

Relationship of prescribed and informal communication networks to organizational goal achievement and individual integration. Emphasis on frequently used research methodologies. Formerly COMS 322. Components:Lecture

COMM5300(3 Credits) Mass Communication Theory

Introduction to major theories, with emphasis on the structure, function, and effects of mass media. Formerly COMS 309. Components:Lecture

COMM5310(3 Credits) Seminar in Mass Communication Research

Recent theories of social and political effects of mass communication, and the cognitive processing of media messages. Formerly COMS 371. Components:Seminar

COMM5500(3 Credits) Nonverbal Communication

The study of metacommunication: Kinesics, space, time and other concomitants of verbal messages. How the non-verbal band helps in the interpretation of verbal messages. Formerly COMS 312. Components:Lecture

COMM5501(3 Credits) Seminar in Nonverbal Communication and Persuasion

Role of media nonverbal communication in persuasion and media preferences. Affective and analytic communications in attitude formation, structure, and change. Formerly COMS 374. Components:Lecture

COMM5650(3 Credits) Communication Technology and Society: Theory and Research

Theory and research associated with the study of emerging communication technologies. Provides a comprehensive foundation in the scholarly literature addressing the content, adoption, uses and effects of new media. Components:Seminar

COMM5660(3 Credits) Computer Mediated Communication

Communication networks, human-computer interaction and interface design, social and collaborative communication via computer. Formerly COMS 314. Components:Lecture

COMM5670(3 Credits) Computer Modeling in Communication Research

History, basic concepts, and minimal skills of computer simulation and mathematical modeling. Formerly COMS 321. Components:Lecture

COMM5680(3 Credits) Seminar in Message Systems Analysis

Selected topics in information and communication; analysis of message elements in human communication; discussion of message factors as related to behavioral effects. Formerly COMS 307. Components:Lecture

COMM5770(3 Credits) Health Communication

Overview of health communication, including health behavior change interventions, emergency communication, risk assessment, media influences, provider-patient communication, socialization and identity, stereotyping, social support, diverse populations, and new communication technologies. Components:Seminar

COMM5892(1 - 6) Practicum in Research

May be repeated for credit. Formerly COMS 319. Components:Practicum

COMM5895(1 - 3)Instructor Consent Required Variable Topics in Communication

Instructor consent required. May be repeated for credit with a change in topic. Components:Lecture

COMM5899(1 - 6) Independent Study in Communication Science

This course is an independent study course

in which periodic conferences with the instructor are required. Formerly COMS 300. Components:Independent Study

COMM6001(3 Credits) Proseminar in Communication Research

Advanced topics in communication research presented by faculty and specialists. Topics include information theory, survey of sampling and data collection, time series analysis (time-domain and panel design), physiological measurement, interaction analysis, and meta analysis. Formerly COMS 401. Components:Seminar Requirement Group:Prerequisite: COMM 5002, COMM 5003, and COMM 5010 (RG247).

COMM6800(1 - 6) Seminar and Directed Research in Communication

Open to graduate students in the Marketing Communication Program. May be repeated for credit for a maximum of 12 credits. Formerly COMS 404. Components:Seminar Requirement Group:Open to graduate students in the Marketing Communication Program (RG248).

COMM6850(3 Credits) Seminar in Marketing Communication Research

Theories of emotional and cognitive processing of communications; cognitive mapping and message construction; design, implementation and evaluation of information campaigns. Formerly COMS 405. Components:Seminar

COMM6895(3 Credits) Topics in Applied Communication Research

Investigation of special research techniques and findings in selected areas of applied

Courses

Communication Disorders

CDIS5320(1 - 3) Directed Observation in Hearing Directed observation of diagnostic and rehabilitative procedures in audiology for pediatric and adult populations. Effects of etiology considered. Credits and hours by arrangement. Lecture. May be repeated for credit. Components:Lecture

CDIS5321(3 Credits) Otologic Basis of Hearing Loss

Basic and advanced principles of medical audiology including anatomy and physiology

of the system, disorders of the auditory system, genetics, radiology, and functional brain imaging. Components:Lecture

CDIS5322(4) Electrophysiology Techniques and Interpretation I

Review of clinical applications of otoacoustic emissions, auditory brainstem response, electrocochleography, and auditory steady state potentials with emphasis on diagnostic issues. Four credits, three class periods and one 1-hour laboratory period. Components:Laboratory, Lecture

CDIS5323(3 Credits) Geriatric Audiology

The physical effects of aging on the auditory periphery and central nervous system, as well as the consequences of aging on diagnostic and rehabilitative services to older clients. Components:Lecture

CDIS5324(3 Credits) Psychosocial Issues of Hearing Loss

Contemporary counseling issues related to working with individuals with hearing disorders. Emphasis on family systems and the impact of a hearing disorder. Components:Lecture

CDIS5325(3 Credits) Adult Aural Rehabilitation

The provision of aural rehabilitation services to adults with hearing loss including auditory training, speechreading, auditory-visual integration, effective communication strategies, and Deaf culture. Components:Lecture Requirement Group:Prerequisite: CDIS 5356 (RG3366)

CDIS5326(3 Credits) Professional Issues in Audiology

Issues related to ethics and practice in the field of audiology, multicultural sensitivity, legal rights and responsibilities. Components:Lecture

CDIS5335(3 Credits) Fluency Disorders

Research data and theoretical models regarding the etiology and characteristics of fluency disorders (primarily stuttering) are integrated to form the foundation for clinical management. Treatment approaches for children and adults are presented.

Components:Lecture

CDIS5336(3 Credits) Clinical Practicum in Speech Disorders

Components:Discussion, Practicum

CDIS5337(1 - 6) Clinical Practicum in Hearing

Discussion. May be repeated for credit. Formerly COMS 337. Components:Discussion, Practicum

CDIS5342(3 Credits) Aphasia

The differential diagnosis of acquired neurogenic communication disorders as well as research, theory, and efficacy of language interventions for aphasia in adults. Formerly COMS 342. Components:Lecture

CDIS5343(3 Credits) Cognitive-Communicative Disorders

Cognitive-communicative disorders in adults secondary to right hemisphere damage, traumatic brain injury, and dementia. Emphasis on differential diagnosis and theories and research pertaining to clinical management including the efficacy of interventions. Formerly COMS 343. Components:Lecture

CDIS5344(3 Credits) Pediatric Rehabilitative Audiology

Auditory-based components of managing hearing loss in children; the role of the family and cultural environment in service delivery. Formerly COMS 344. Components:Lecture

CDIS5345(3 Credits) Motor Speech Disorders

The effects of acquired and developmental neuropathology on speech. Emphasis on differential diagnosis and clinical management. Formerly COMS 345. Components:Lecture

CDIS5346(1 - 3) Dysphagia

Dysphagia secondary to neurologic impairments, cancer, and degenerative disease. Anatomy and physiology of normal and disordered swallowing, evaluation including instrumental assessment techniques, and multidisciplinary management. Formerly

COMS 346. Components:Lecture

CDIS5348(3 Credits) Language Disorders I: Birth to 5 Years

The nature, assessment, and intervention of delayed and disordered language in children birth to five years of age. Components:Lecture

CDIS5349(3 Credits) Language Disorders II: School Age Population

The nature, assessment, and intervention of delayed and disordered language in school-age children. Components:Lecture

CDIS5351(3 Credits) Amplification for Residual Hearing

Introduction to hearing aids and assessment of the personal amplification needs of hearing-impaired individuals. Formerly COMS 351. Components:Lecture

CDIS5353(3 Credits) Articulation and Phonological Disorders

The nature, assessment, and intervention of anatomical, physiological, and language-based disorders affecting the production of speech. Components:Lecture

CDIS5354(3 Credits) Physiological and Psychological Acoustics

Anatomy, physiology and psychoacoustics of the auditory system. Formerly COMS 354. Components:Lecture

CDIS5355(3 Credits) Psychoacoustics

Basic principles of human perception of sound. Components:Lecture

CDIS5356(3 Credits) Audiological Assessment

The development and administration of advanced pure-tone and auditory discrimination tests; the interpretation of audiometric findings for adults and children. Formerly COMS 356. Components:Lecture

CDIS5357(3 Credits) Organic Disorders of Communication

Research and theory pertaining to speech and language disorders resulting from congenital structural anomalies. Formerly COMS 357.
Components:Lecture

CDIS5359(3 Credits) Voice Disorders

Normal anatomy and physiology of voice production including the effects of: aging across the lifespan, gender, and multicultural issues. Voice disorders, diagnostic procedures and management techniques to remediate voice disorders will be discussed.
Components:Lecture

CDIS5360(3 Credits) Laboratory Instrumentation

Presentation of basic concepts necessary for the application of electronic instrumentation to the study of speech and hearing. Description, analysis, and application of electronic and electro-acoustical instrumentation employed in communication science research. Formerly COMS 359.
Components:Laboratory, Lecture

CDIS5361(3 Credits) Advanced Speech Science I

Generation, transmission, detection, and analysis of the speech signal. Special attention is given to the myology of speech production and the physiological correlates of the acoustic output. Theoretical models of speech production are examined in light of recent empirical findings. Biomedical and other research techniques are employed in the laboratory setting to investigate the speech communication processes. Formerly COMS 361. Components:Laboratory, Lecture

CDIS5362(3 Credits) Advanced Speech Science II

A continuation of CDIS361. Formerly COMS 362. Components:Laboratory, Lecture
Requirement Group:Prerequisite: CDIS 5361 (RG246).

CDIS5372(3 Credits) Central Auditory Disorders

Assessment of auditory processing in adults and children. Effects of processing problems on communication and a discussion of management techniques. Electrophysiological measurement techniques are stressed. Formerly COMS 372. Components:Seminar

CDIS5373(3 Credits) Pediatric Audiology

Physiological and perceptual maturation of the auditory system from gestation through two years of age. Assessment of children's hearing, including difficult to test children, public school and neonatal screening. Formerly offered as COMS 373.
Components:Lecture

CDIS5374(3 Credits) Clinical Project in Speech-Language Pathology

Written report and oral presentation on a client's clinical intervention. The clinical project must be successfully completed to graduate with an M.A. in speech-language pathology via the non-thesis track.
Components:Independent Study

CDIS5375(3 Credits)Instructor Consent Required Auditory System: Anatomy and Physiology

Review of the structure and function of the human auditory system, with emphasis on the clinical/applied aspects of anatomy and physiology. Oriented towards relationships to various auditory disorders.
Components:Lecture

CDIS5376(3 Credits)Instructor Consent Required Language Impairments and Literacy

A research seminar covering the theories, assessment, and treatment of children with reading disabilities "from a language-based perspective. Open to graduate students in Communication Disorders, others with" permission. Recommended preparation: a course in normal language development and language disorders in preschool and school-age children. Components:Seminar

CDIS5377(3 Credits)Instructor Consent Required Introduction to Research

Introduction to research, experimental design, and statistics. Includes ethics in research, publishing, "grant writing, general research skills, and computerized statistics. Open to graduate students in" Communication Disorders, others with permission.
Components:Lecture

CDIS6300(1 - 6) Independent Study in Communication Disorders

This course is an independent study course in which periodic conferences with the instructor are required. May be repeated for credit. Components:Independent Study

CDIS6319(1 - 6) Practicum in Research

Practicum. May be repeated for credit.
Components:Practicum

CDIS6363(1 - 6) Seminar in Speech Pathology

1-6 credits. Seminar. May be repeated for credit with a change in content. Formerly COMS 363. Components:Seminar

CDIS6364(1 - 6) Seminar in Audiology

1-6 credits. Seminar. May be repeated for credit with a change in content. Formerly COMS 364. Components:Seminar

CDIS6365(1 - 6) Seminar in Speech Science

1-6 credits. Seminar. May be repeated with a change in content. Formerly COMS 365. Components:Seminar

CDIS6366(1 - 6) Seminar in Hearing Science

1-6 credits. Seminar. May be repeated for credit with a change in content. Formerly COMS 366. Components:Seminar

University of Connecticut - Communication Sciences - Subject: Communication Disorders

CDIS6367(1 - 3) Topics in Hearing and Speech Science

1-3 credits. Lecture. May be repeated for credit with a change in content. Formerly COMS 367. Components:Lecture

CDIS6368(1 - 3) Topics in Speech Pathology

1-3 credits. Lecture. May be repeated for credit with a change in content.
Components:Lecture

CDIS6369(1 - 3) Topics in Audiology

1-3 credits. Lecture. May be repeated for credit with a change in content. Formerly COMS 369. Components:Lecture

CDIS6370(3 Credits) Seminar in Psycholinguistics

Reports and discussion of current research on a selected topic each semester. May be repeated for credit with a change in content. Formerly COMS 370. Components:Seminar

CDIS6401(3 Credits) Amplification of Residual Hearing II

Theoretical and clinical issues related to hearing aid candidacy and fitting with an emphasis on advanced signal processing strategies. Components:Lecture Requirement Group:Prerequisite: CDIS 5351 (RG3367)

CDIS6402(3 Credits) Hearing Conservation / Industrial Audiology

Effects of noise on the structure and function of the auditory system. Elements of noise measurements, otoprotection, and key issues in establishment and maintenance of a hearing conservation program. Components:Lecture

CDIS6410(4)Instructor Consent Required Vestibular System: Clinical Aspects

Anatomy, physiology and functional assessment of the vestibular system including instrumentation, procedures, and interpretation of clinical tests. Hands-on laboratory exercises included. Components:Laboratory, Lecture Requirement Group:Open to graduate students in Audiology; others with permission (RG 4102).

CDIS6422(4) Electrophysiologic Techniques and Interpretation II

Methods of acquiring, averaging and analyzing cortical evoked and event-related potentials following auditory input. Emphasis on utilization of multi-channel recording devices for research and clinical purposes. Four credits. Lecture. Three class periods and one 1-hour laboratory period. Components:Laboratory, Lecture Requirement Group:Prerequisite: CDIS 5322 (RG3368)

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

Computer Science and Engineering

Department Head
Professor Reda Ammar

Professors
Barker, Cooper, Demurjian, Peters, Rajasekaran, Russel, Shin, and Shvartsman

Associate Professor
Bi, Cui, Gokhale, Greenshields, Huang, Kiayias, Mandoiu, McCartney, Michel, Shi

Assistant Professors
Wang, and Wu

Study leading to the Master of Science and Doctor of Philosophy degrees in Computer Science and Engineering is offered. This study can involve courses selected from the fields of computer science, engineering, mathematics, statistics and the natural sciences. Current research activities are in the areas of software engineering, reusability, databases, data mining, programming languages, artificial intelligence, decision support, robotics, security, cryptography, theory of computing, algorithms, distributed computing, quantum computing, computer networks, parallel computing, cluster computing, grid computing, performance modeling, queueing theory, bioinformatics, scientific computing, pattern recognition, image processing, computer graphics, computational geometry, and optimization.

Admission to the M.S. Program.

Normally it is expected that an applicant has a B.S. in Computer Science, Computer Engineering or a closely related field. Students with a degree in another area, but with a strong background in mathematics through calculus, extensive experience with one or more computer languages, and course work involving digital network design, computer organization, and programming systems also will be considered for admission. Students with little or no previous experience in the computer area will not be considered until they have acquired an adequate background. The following courses or their equivalents normally are expected:

(A) MATH 1131, 1132, 2110 (calculus), MATH 2410(differential equations), MATH 2210 (linear algebra), STAT 3025 (statistical methods);

(B) CSE 2100 (computing), CSE 2363 (digital systems organization), CSE 220

(microprocessor assembly language), CSE 4302 (computer organization), CSE 2102 (software engineering), CSE 3502 (automata); (C) CSE 3504 (probabilistic performance analysis), CSE 4100 (compilers), CSE 4500 (parallel systems), CSE 2500 (mathematics of discrete systems), CSE 4300 (operating systems), CSE 3500 (algorithms).

Outstanding students who are missing some of this background may be admitted before all of it is acquired but the first 2 calculus courses and all of (B) MUST be completed before acceptance. Students admitted to the program without an undergraduate degree in the computer area normally must take a number of undergraduate courses as background before starting their graduate studies. Some of these courses may be available during the summer session. These additional courses will lengthen the period of study necessary to earn the M.S. degree.

Requirements of the Ph.D. Program.

Decision for acceptance to the Doctor of Philosophy program is made by the graduate admissions committee in consultation with an advisor selected (if feasible) by the applicant. Admitted students must also submit evidence of capacity for independent study in the form of a master's thesis or comparable achievement.

Special Facilities.

Graduate Computing Facilities -- The Computer Science & Engineering Department maintains several computing labs for graduate training and research. These include labs consisting of Sun Workstations running Unix and Pentium platforms running a mixture of Linux, Solaris for Intel, and Windows operating systems. The facilities are managed by the department and used for various research projects. This is in addition to 10 specialized research labs located in the Information Technology Engineering building, maintained by individual faculty members supporting different projects in the department.

Additional Research Facilities

The Taylor L. Booth Engineering Center for Advanced Technologies maintains a modern set of networked laboratory facilities available to Computer Science and Engineering faculty and graduate students conducting research. Facilities available include several high performance supercomputing systems (an Altix 3700 BX2 with 64 nodes and an Altix 350 with 8 nodes)

and a 24-node cluster. In addition, there are numerous computing workstations which are available for small-scale and prototype research projects using platforms that range from Solaris to Windows to Linux.

For specific information with regard to the Computer Science and Engineering Program, fellowships, assistantships, and part-time instructorships, students should write to: Chair, Computer Science Graduate Admissions Committee
Department of Computer Science and Engineering, Unit 2155
Storrs, Connecticut 06269-2155

Information concerning assistantships in the University Computer Center should be addressed to the Executive Director.

Courses

CSE5095(3 Credits) Special Topics in Computer Science and Engineering
Classroom courses in special topics as announced in advance for each semester.
Components:Lecture

CSE5097(3 Credits) Seminar

Presentation and discussion of advanced computer science problems. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.)
Components:Seminar

CSE5099(1 - 6)Instructor Consent Required
Independent Study in Computer Science and Engineering

Individual exploration of special topics as arranged by the student with an instructor.
Components:Independent Study

CSE5101(3 Credits) Advanced Software Engineering

An in-depth study of methodologies for the specification, design, implementation, verification, testing, and documentation of large complex software systems. Special attention is given to the impact of programming language constructs on the quality of complex software. Recommended preparation: CSE 230 and CSE 244 and CSE 258, or the equivalent. Components:Lecture

CSE5102(3 Credits) Advanced Programming Languages

This course covers the theory and pragmatics of modern programming languages. Topics include syntax, semantics, type systems and control mechanisms. Key contributions from Functional and Logic Programming including first-order functions, closures, continuations, non-determinism and unification are studied. Study of declarative and operational semantics of recent entries in the field like Constraint Programming and Aspect Oriented Programming. Recommended preparation: CSE 233 and CSE 237 or the equivalent.
Components:Lecture

CSE5103(3 Credits) Software Performance Engineering

Study of performance engineering techniques for the development of software systems to meet performance objectives. Software performance principles, hierarchical performance modeling, and current research trends related to Software Performance Engineering. Methods for computer performance evaluation and analysis with emphasis on direct measurement and analytic modeling, including queuing networks, computation structure models, state charts, probabilistic languages, and Petri-nets. Case studies for the evaluation and analysis of software architecture and design alternatives. Recommended preparation: CSE 221 and CSE 228 or the equivalent.
Components:Lecture

CSE5105(3 Credits) Software Reliability Engineering

State-of-the-art as well as emerging reliability assessment techniques. Topics covered will include reliability modeling paradigms, software reliability growth models, software metrics and reliability, software testing and reliability, and architecture-based reliability assessment. Hands-on experience in the application of these techniques. Recommended preparation: CSE 221 and CSE 230 or the equivalent.
Components:Lecture

CSE5107(3 Credits) Distributed Component Systems

This course examines the methodologies, techniques, and tools that can be utilized to design, construct, and prototype a distributed application using a combined object- and component-based approach. Topics that are covered include object-oriented modeling, reusable components, software architectures, security, software agents, interoperation techniques, and deployment strategies. The role of emerging technologies

in support of these topics will also be considered. Recommended preparation: CSE 244 and CSE 258 or the equivalent. Components:Lecture

CSE5300(3 Credits) Advanced Computer Networks

This course covers advanced fundamental principles of computer networks. Topics include network design and “optimization, protocol design and implementation, network algorithms, advanced network architectures,” “network simulation, performance evaluation, and network measurement. Recommended Preparation: CSE 245” and CSE 221. This course and ECE 335 may not both be taken for credit. Components:Lecture
Course Equivalents:ECE 6431 Requirement Group:This course and ECE 335 may not both be taken for credit (RG582).

CSE5302(3 Credits) Computer Architecture

This course provides an in-depth understanding of the inner workings of This course provides an in-depth understanding of the inner workings of modern digital computer systems. Traditional topics on uniprocessor systems such as performance analysis, instruction set architecture, hardware/software pipelining, memory hierarchy design and input-output systems will be discussed. Modern features of parallel computer systems such as memory consistency models, cache coherence protocols, and latency reducing/hiding techniques will also be addressed. Some experimental and commercially available parallel systems will be presented as case studies. Recommended preparation: CSE 249 or the equivalent. Components:Lecture

CSE5303(3 Credits)Instructor Consent Required Introduction to High-Performance Computing

The course is an introduction to High-Performance Computing (HPC) with programming in SMP and Cluster Architectures using middleware such as MPI and OpenMP, for science and engineering. The course selects from the following areas: Simulation and Modeling in Engineering and Science; Relevant Issues in Sequential Algorithm Design; Performance Models; HPC Architectures: SMP, Vector, Distributed and Petascale Systems; Grids and Cloud Computing; Relevant Issues in Parallel Algorithm Design; and, Parallel Programming Models, including PVM/MPI and OpenMP. Specific Parallel Algorithms (Linear Algebra; Graph Theory; Handling of

Data Structures in Parallel) will be explored. Components:Lecture

CSE5304(3 Credits) High-Performance Parallel Computing

Models of parallel computations, fundamental parallel algorithms and applications, scalable parallel/distributed programming paradigms on clusters and grids, performance measures and analysis of parallel computers, data flow/pipelined/multi-threaded/object-oriented processor design in parallel architectures. Recommended preparation: CSE249 and CSE 228 or the equivalent.. Components:Lecture

CSE5306(3 Credits) Advanced Operating Systems

Topics in modern operating systems with the focus on distributed computing, communication, and concurrency. Selected topics from current research in the theory, design, implementation, and verification of operating systems. Recommended preparation: CSE 4300 or the equivalent. Components:Lecture

CSE5500(3 Credits) Advanced Sequential and Parallel Algorithms

Computational complexity measures. Survey of major techniques used to design an efficient algorithm. These include divide and conquer, greedy, dynamic programming, and branch and bound techniques. Randomized algorithms. General characteristics of parallel computation models. General structure of parallel algorithms. Development techniques of efficient parallel algorithms. Recommended preparation: CSE 4500 or the equivalent. Components:Lecture

CSE5502(3 Credits) Fundamentals of Automata

A rigorous treatment of automata and formal language theory. Emphasis placed upon finite state automata, regular languages, context-free languages, push-down automata, and Turing machines. Components:Lecture

CSE5504(3 Credits) Probabilistic Methods in Digital Systems

Probabilistic methods used to describe random processes and queuing theory and their application to such areas as computer performance, scheduling algorithms, error correcting codes, and stochastic machines. Recommended preparation: CSE 3504 or the equivalent. Components:Lecture

CSE5514(3 Credits) Computational Geometry

Curve and surface definitions emphasizing the interplay between those mathematical

properties and efficient graphical display. Topics may include Bezier curves and surfaces, nonuniform rational B-spline (NURBS) curves and surfaces, Coons patches, Gordon surfaces, superquadrics, shape preservation, continuity/smoothness, differentiability, twist estimation, the convex hull property, and the treatment of supporting algorithms. Experimental projects are required. Recommended preparation: MATH 2110Q and MATH 2210Q or the equivalent. Components:Lecture

CSE5600(3 Credits) Computer Science and Engineering Research Laboratory
Experimental investigation of current research topics in computer science. May be repeated for credit with a change in content. Components:Lecture

CSE5701(3 Credits) Advanced Database Topics

Data models/languages including entity-relationship, functional, semantic, and object oriented. Database components including the different building blocks of a database system, concurrency, control, recovery, security, access methods, query optimization, and views. Database architectures including database machines, text-database systems, distributed database systems, multimedia systems, and performance metrics and methodologies. Database applications including CAD/CAM and CASE. Recommended preparation: CSE 255 and CSE 258 or equivalent. Components:Lecture

CSE5703(3 Credits) Advanced Computer Graphics

Computer graphics as a tool for effective human-machine communications. Graphical input and output devices and their relation to human perception. Software systems for image generation, display and manipulation. Languages for description of both static and moving pictures. Solutions to visible-surface and related problems. Computer animation. Models and methodologies for the design of interactive systems for various graphics-oriented applications. Experimental projects are required. Recommended preparation: CSE 4703 or the equivalent. Components:Lecture

CSE5705(3 Credits) Advanced Artificial Intelligence

Design and implementation of intelligent systems. Topics covered will include automated reasoning, natural language, learning, agents, probabilistic reasoning, and robotics. The course will include a substantial design project, and advanced independent study of at least one of the above topics. This

course and CSE 282 may not both be taken for credit. Components:Lecture

CSE5709(3 Credits) Image Processing

A formal approach to continuous variable and discrete variable imaging. Continuous and discrete transforms. Image enhancement. Image analysis including multidimensional edge-primitive theories, shape analysis. Multispectral imaging and applications. Image modelling. Syntactical analysis, aspects of image database theories. The course involves exposure to multispectral and extraterrestrial imagery. A substantial programming project is assigned. Recommended preparation MATH 227 or the equivalent. Components:Lecture

CSE5711(3 Credits) Distributed Database Systems

Architecture of distributed database systems and their major design problems. Topics include efficient data distribution, distributed views, query processing and optimization, and distributed synchronization. Particular attention is paid to the issue of concurrency control and reliability for distributed transaction processing. Backend database processors and database servers for local area networks are also discussed. Recommended preparation: CSE 255 and CSE 258 or the equivalent. Components:Lecture Requirement Group:Prerequisite: CSE 5701 (RG249).

CSE5713(3 Credits) Data Mining

An introduction to data mining algorithms and their analysis. Application of and experimentation with data mining algorithms on real-world problems and domains, with a dual focus on addressing the solution quality issue and the time efficiency issue. Components:Lecture

CSE5715(3 Credits) Semantic Data Models

Conceptual data models, semantic and object-oriented data base systems, formal representation methods for data and knowledge, models of active and passive information. Recommended preparation: CSE 3502and CSE 4701 Components:Lecture

CSE5800(3 Credits) Bioinformatics

Advanced mathematical models and computational techniques in bioinformatics. Topics covered include genome mapping and sequencing, sequence alignment, database search, gene prediction, genome rearrangements,

phylogenetic trees, and computational proteomics. Components:Lecture Course Equivalents:BME 5800

CSE5850(3 Credits) Information and Data Security

Introduction to computer security and the design of secure systems. Security and threat modeling. Entity authentication and privacy, data integrity and confidentiality. Cryptographic tools: symmetric and asymmetric encryption, digital signatures, message authentication codes, hash functions. Security at the operating system level, access control, security enforcement, memory protection. Network security, firewalls, internet worms and viruses, intrusion detection. Digital rights management, software security, program obfuscation, implementation flaws, buffer overflow attacks. Case studies in topical areas. Recommended preparation: CSE 255 and CSE 258 or the equivalent. Components:Lecture

CSE5852(3 Credits) Modern Cryptography: Foundations

This course covers the foundations of modern cryptography introducing basic topics such as computational hardness, one-way functions, computational indistinguishability, trapdoor permutations and interactive proof systems. The course will cover fundamental cryptographic constructions such as hardcore predicates, security amplification, and pseudorandom generators; these are applied to develop generic, secure public-key encryption schemes and zero-knowledge proof systems. Recommended preparation: CSE 3500, CSE 3502, and CSE 3504, or the equivalent. Components:Lecture

CSE5854(3 Credits) Modern Cryptography: Primitives and Protocols

This course covers modern cryptography emphasizing provable security and concrete constructions based on the hardness of specific computational problems. The cryptographic primitives that will be covered include various public and private key encryption schemes, hash functions and digital signature algorithms. The protocols include identification and key-exchange schemes, distributed key generation, e-cash, blind signatures and electronic voting systems. Recommended Preparation: CSE 3500, CSE 3502, and CSE 3504, or the equivalent. Components:Lecture

CSE6300(3 Credits) Research Topics in Computer Networks

“Current research issues in the Internet, wireless and mobile networks, as well as emerging concepts such as” sensor networks. Overview of the fundamental design principles underlying these networks. Discussion and exploration of the advanced research topics in these and other areas. Components:Lecture Requirement Group:Prerequisite: CSE 5300 (RG252).

CSE6504(3 Credits) Linear Algebraic Queueing Theory

Brief survey of Markov Chains, and their application to simple queues, with some emphasis on their transient behavior. Matrix operators are then introduced to represent the behavior of non-exponential servers. This algebraic structure is applied to the steady-state and non steady-state behavior of both open and closed M/G/1 queues. Then G/M/1 queues are examined in detail. As time permits additional advanced topics will be covered. Applications to computer and telecommunications system performance modeling will be studied. Components:Lecture

CSE6510(3 Credits) Fault-Tolerant Parallel Computing

Advanced topics in fault-tolerant parallel algorithms. Shared memory and message-passing models of computation. Models of failure. Formal treatment of complexity measures, such as time, space, communication, work, and speedup. Lower bounds for parallel fault-tolerant computation. Design and analysis of efficient fault-tolerant algorithms. Combining efficiency and fault-tolerance in parallel and distributed algorithms. Components:Lecture Requirement Group:Prerequisite: CSE 5304 (RG253).

CSE6512(3 Credits)Instructor Consent Required Randomization in Computing

Introduction to the theory and practice of randomization and randomized algorithms as a technique for science and engineering problem solving. Topics to be covered include: probability theory, types of randomization, sorting and selection, hashing and skip list, fingerprinting, packet routing, geometry and linear programming, graph algorithms, combinatorial optimization, and external memory algorithms. Components:Lecture Requirement Group:Prerequisite: CSE 5500 (361) (RG3877)

CSE6514(3 Credits) Computational Topology
Topology has traditionally generalized concepts of real analysis to metric spaces and set axioms. The new field of computational topology has great potential for encompassing abstractions to unify domain-specific techniques now used in computational geometry, geometric modeling, visualization, image processing, engineering analyses and molecular simulation. The course will include perspectives from traditional topology and show how these need to be modified for realistic use in modern computing environments. Topics and emphases will vary. Components:Lecture
Requirement Group:Prerequisite: MATH 5310 and 5311 (RG3085).

CSE6705(3 Credits) Natural Language Processing

An artificial-intelligence approach to computational linguistics. Representation of meaning and knowledge in computer-usable form. Understanding and generation of natural-language sentences and text. Theories of inference and application of world knowledge. Organization of large knowledge-based text-processing systems for applications in summary and paraphrase, question-answering, machine translation, conversation and computer-aided instruction. "Real" text-processing systems are demonstrated, and a term project is required. Components:Lecture Requirement Group:Prerequisite: CSE 5705 (RG 3087).

CSE6800(3 Credits)Instructor Consent Required Computational Genomics
"Advanced computational methods for genomic data analysis. Topics covered include motif finding, gene" expression analysis, regulatory network inference, comparative genomics, genomic sequence variation and linkage analysis Components:Lecture Course Equivalents:BME 6160 Requirement Group:Prerequisite: CSE 5800 (377) or BME 5800 (380) (RG3876)

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Dental Science

Department Head

Professor Arthur Hand

Professors

Agar, Beazoglou, E. Eisenberg, Frank, Freilich, Goldberg, Gronowicz, Hand, Lurie, MacNeil, Meiers, Mina, Nanda, Nichols, Pilbeam, Reisine, Rossomando, Safavi, and Taylor

Associate Professor

D'Ambrosio, Dealy, Dean, Dongari-Bagtzoglou, Duncan, Kazemi, Kuhlberg, Pendrys, Wagner, and Zhu

Assistant Professors

Chun-Hsi, Diaz, Ioannidou, Jenkins, Jiang, Kalajzik, Kaufman, Kuhn, Rogina, Rungrunganunt, Schincaglia, and Thibodea

Master of Dental Science Degree Program.

Students in residency and specialty training in the School of Dental Medicine may also pursue a Master of Dental Science degree in the Graduate School. This program offers an opportunity for study and research in dental science, the basic life sciences, and the allied health fields and leads to the degree of Master of Dental Science. It is designed to fill the gap between the Ph.D. program in Biomedical Science and the various residency and specialty training programs provided by the School of Dental Medicine. A major objective of the Master of Dental Science program is to provide instruction in dental science that will enhance the student's ability to instruct and undertake research in dental schools. Courses of study are flexible with major emphasis on the accomplishment of research. Possibilities for interdisciplinary research are enhanced by cooperative activities with several university departments. Students may combine their work in this program with advanced training in Endodontics, Oral and Maxillofacial Radiology, Oral Medicine, Orthodontics, Pediatric Dentistry, Periodontics, and Prosthodontics. Further information and an application may be obtained from the School of Dental Medicine, Office of Admissions, Room AG030, University of Connecticut Health Center, Farmington, Connecticut 06030-3905.

M.P.H. and M.S. in Clinical and Translational Research Degree Programs.

As an alternative to the Master of Dental

Science degree, students in residency and specialty training in the School of Dental Medicine may pursue either the Master of Public Health degree or the Master of Science degree in Clinical and Translational Research in the Graduate School. For further information, see the descriptions of these programs in this catalog.

Dual D.M.D./Ph.D. in Biomedical Science Degree Program.

Program Director: Ming Mina

This program leads to the awarding of dual D.M.D. and Ph.D. degrees. It is designed for a small number of outstanding students who have clearly defined career goals of research and teaching in the general area of the biological and biomedical sciences and who have the motivation and ability to pursue a rigorous training program in this area. The program provides basic science and research training as well as the standard dental curriculum and is designed to produce individuals who are likely to make important contributions to the solution of problems of significance to the health sciences.

The overall program is administered by the Graduate Programs Committee of the Health Center. The student applies as a dual-degree applicant to the Dual D.M.D./Ph.D. Committee of the Office of Admissions of the School of Dental Medicine. The Dual D.M.D./Ph.D. Committee operating in conjunction with the admission committee of the School of Dental Medicine reviews the application and admits the student. The student normally completes both programs, including the dissertation in a period of approximately eight academic years, including summers.

Ph.D. in Biomedical Science Degree Program.

This is a rigorous academic program designed for students who have chosen career paths in research and teaching. The degree may be pursued independently or in conjunction with residency/specialty training in the School of Dental Medicine. For further information, see Biomedical Sciences.

Ph.D. Degree Program in Materials Science: Dental Materials.

Students with research interests in the field of dental materials may pursue a Ph.D. degree in Materials Science. Similar to other special interdisciplinary programs in Materials Science, students study the broad areas of thermodynamics, kinetics, analysis and structure/property relations. The program also provides overviews of

the structure of dental and oral tissues; the epidemiology, etiology and manifestations of dental diseases; and the treatment of dental diseases. These overviews are obtained in the formal course work at the Health Center. A primary objective of the program is to help the student develop an understanding of the manner in which the prevention and clinical treatment of dental disease is integrated with the limitations of the materials employed. The dissertation may involve study of any materials-related problem, but normally addresses a particular dental material or material-oral tissue interaction. Applicants would typically have backgrounds in materials science, metallurgy, polymer science or a related field and specific career goals in dentistry. For further information, see Materials Science.

Courses

DENT5414(3 Credits) Introduction to Biomaterials and Tissue Engineering A broad introduction to the field of biomaterials and tissue engineering . Presents basic principles of biological, medical, and material science as applied to implantable medical devices, drug delivery systems and artificial organs. Components:Lecture

DENT5430(2)Instructor Consent Required Advanced Oral Histology

Oral tissues, their embryological origin, histology and function. Structure of developing teeth, alveolar bone, temporomandibular joint, oral mucosa, gingiva and salivary glands. Lecture, slide review, and student-led discussions of papers from the research literature. Components:Lecture

DENT5431(2)Instructor Consent Required Adv Oral Path & Diag

Seminars on current developments in oral disease processes, with an emphasis on the clinical. Student presentations and lectures covering principles of Oral Diagnosis. Components:Seminar

DENT5432(2)Instructor Consent Required Biomaterials for Dental Graduates

Literature review/seminar covering various subjects of current interest in dental materials. Some prior knowledge of dental materials or of materials science is assumed. Components:Lecture

DENT5434(2)Instructor Consent Required Functional Oral Anatomy

Anatomic structures and relationships of the head and neck emphasizing surgical anatomy for oral, periodontal and endodontic surgery. Lectures and dissections. Components:Lecture

DENT5435(2)Instructor Consent Required General Pathology

General Pathology Components:Lecture

DENT5437(2)Instructor Consent Required Principles of Oral Microbiology & Infections

Oral flora with emphasis on recent research developments. Ecology of the oral cavity, dental caries and periodontal disease, viral and yeast infections. Prior knowledge of microbiology and biochemistry assumed. Lectures and discussions, term paper required Components:Lecture

DENT5438(2)Instructor Consent Required Craniofacial Growth and Development

Part of a core series in the postgraduate program of orthodontics. Provides systematic coverage of basics in growth and development of the human face. Review and critique of selected articles from the research literature of the following areas: Physiology of facial growth, theories in growth mechanisms, pre- and postnatal growth of the face, normal and abnormal courses of the facial growth. Components:Lecture

DENT5439(3 Credits) Research Methods in Epidemiology and Behavioral Sciences

This course is intended to provide students with an applied understanding of behavioral science research methods, building off of concepts introduced in Biostatistics D456. Featured topics include: theoretical and methodological issues in research design; data collection strategies, focusing on survey measurement and the design and evaluation of survey questions; population sampling; data entry and variable construction; strategies for analyzing quantitative data, focusing in particular on regression analysis with dichotomous outcomes; and issues in analyzing longitudinal data. Prerequisite: DENT 5456 or equivalent. Components:Lecture Requirement Group:Prerequisite: DENT 5456 (RG 3134)

DENT5440(3 Credits)Instructor Consent Required Biodontics: Integrating Biotechnology with Clinical Dentistry

The goal of the Biodontics educational program is to explore the process of

introduction of biotechnology based innovations into clinical dentistry. The course will focus on a variety of innovations, including those considered “disruptive”, and explore the laboratory and clinical studies underlying their translation from the bench to chairside. The course will also consider the process of “diffusion” of innovations into dental practice and examine the barriers to acceptance by dental office personnel. Students, working in teams, will be required to present a business plan for the development and marketing of a new dental product. Components:Lecture

DENT5441(4)Instructor Consent Required Biomechanics in Dental Science

Physics and engineering principles applied to clinical and research problems in dentistry. Principles of statics and mechanics of materials. Engineering analysis of orthodontic appliances. Lectures, seminars, and demonstrations. Components:Lecture

DENT5442(3 Credits)Instructor Consent Required Biomechanics in Dental Science

History and critical review of orthodontic appliance systems. The relationship between treatment planning and therapy is explored. Detailed biomechanical analysis of appliance therapy. Lectures, seminars and demonstrations. Components:Lecture Requirement Group:Prerequisite: DENT 5441 (RG188).

DENT5443(3 Credits)Instructor Consent Required Biology of Tooth Movement

Hard and soft tissue responses to tooth movement caused by orthodontic appliances; theory of related bone resorption and apposition from a morphological and biochemical standpoint. Seminars. Components:Lecture Requirement Group:Prerequisite: DENT 5441 (RG188).

DENT5444(2)Program Director Consent Req'd Epidemiology of Oral Diseases: Interpreting the Literature

The goal of this course is to provide the student with a basic understanding of epidemiologic principles to enable the critical review of the literature and to provide a methodological framework with which to better understand basic statistics. An overview of the specific epidemiology of oral diseases will be provided. Components:Seminar Requirement Group:Open to dental residents in the MDentSci program (RG3215).

DENT5448(3 Credits)Instructor Consent
Required Periodontal Pathobiology I

The first of a two-part course spanning the full year covering the structure and function of the periodontal tissues and the pathogenesis of diseases affecting these tissues. Special emphasis is placed on the role of oral bacteria and the host response to these bacteria in the initiation and progression of inflammatory periodontal disease. Lectures and seminars. Components:Lecture

DENT5449(3 Credits)Instructor Consent
Required Periodontal Pathobiology II

The second of a two-part course spanning the full year covering the epidemiology, natural history, diagnosis, prevention, treatment planning, and treatment of periodontal diseases. Components:Lecture

DENT5452(4)Instructor Consent Required
Oral Maxillofacial Diagnostic Imaging and Interpretation

Seminar course examining interpretation of images produced by various techniques used in diagnosis of diseases involving the oral maxillofacial complex. Components:Lecture

DENT5455(2)Instructor Consent Required
Scientific Writing

This course consists of three parts. The first reviews syntax and the elements of clear written expression. The second deals with the forms and functions of manuscripts, review articles, grant applications, and dissertations. The final component addresses rewriting, abstracting, and editing to improve clarity and conciseness. Components:Lecture

DENT5456(2) Biostatistics

This course is intended to provide an introduction to biostatistics and overview of key concepts. The student is introduced to concepts of data measurement and summarization, probability, populations & samples, drawing inferences, and specific statistical analyses for testing differences in means and proportions, correlation, regression, multivariate analysis, and survival analysis. Special attention is placed upon understanding how to evaluate the appropriateness of and best interpret specific statistical tests and measures. An introduction to study design and the critical review of the literature is provided with emphasis on interpretation of presented statistics. Components:Lecture

DENT5457(2)Instructor Consent Required
Evid Based Dent-Crit Reading of Sys
Reviews, Meta-Analyses and Expert Panel
Rpt

The goal of this course is to provide the dental resident with the information necessary to (3 Credits) de-mystify the methods typically used under the heading of evidence based dentistry and (2) to be able to critically assess those methods, so as to best be empowered to integrate evidence based information into their day to day practices. Components:Lecture Requirement Group:Prerequisite DENT 5444 & 5456

DENT5495(1 - 6)Instructor Consent
Required Independent Study

A reading course for those wishing to pursue special topics in dental science under faculty supervision. Components:Independent Study

DENT6461(2)Instructor Consent Required
Clinical Radiation Sciences: Physics and
Biology I

A continuous pair of semester lecture/seminar courses which examines the physical and biological principles underlying the uses of radiation and allied radiation sciences in clinical diagnosis and therapy. Characteristics of imaging systems, Nuclear Medicine, Radiation Therapy, biological effects of ionizing radiation, radiation measurement and dosimetry and quality assurance will be covered through critical readings in texts and the literature. Components:Lecture, Seminar

DENT6462(2)Instructor Consent Required
Clinical Radiation Sciences: Physics and
Biology II

A continuous pair of semester lecture/seminar courses which examines the physical and biological principles underlying the uses of radiation and allied radiation sciences in clinical diagnosis and therapy. Characteristics of imaging systems, Nuclear Medicine, Radiation Therapy, biological effects of ionizing radiation, radiation measurement and dosimetry and quality assurance will be covered through critical readings in texts and the literature. Components:Lecture, Seminar Requirement Group:Prerequisite: DENT 6461 (RG 4513).

Dramatic Arts

Department Head
Professor Gary English

Professors
Crow, Hunter, McDonald, Molette, Sabatine,
Rocoberton, Rose, Ryker, Saternow, and
Stern

Associate Professor
McDermott and Nardi

The Department of Dramatic Arts offers two graduate degree programs: the Master of Arts and the Master of Fine Arts.

The Master of Arts degree generally is considered a preparatory program for an advanced degree at a level between baccalaureate study and a terminal degree in Dramatic Arts. Our department offers the Master of Arts degree in Production, an applied study program with two areas of emphasis: Puppetry and Costuming.

Pursuit of the MA in production (with either the Puppetry or the Costuming emphasis) requires fulfillment of the admission requirements of the Graduate School and three letters of recommendation. All applicants for the MA (which requires a minimum of 30 credits) should consult the Department concerning program availability, personal interview with the program director, and portfolio review. Further information may be obtained by contacting the Department of Dramatic Arts.

The Master of Fine Arts degree generally is considered a terminal degree for students preparing for professional careers in commercial, regional, and educational theatre. Areas of concentration include: Acting, Design (Lighting, Costume and Scenery), Puppetry, and Technical Direction. Admission to this program requires fulfillment of the admission requirements of the Graduate School. Three letters of recommendation are required. Practical experience may be accepted in lieu of some course work. A personal interview on campus is required for residents of New England, New York and New Jersey. An audition is required for Acting applicants, and a portfolio is required for Design and Puppetry. Interview, audition and portfolio requirements can be fulfilled by applicants to the University Resident Theatre Association (U/RTA) finals in New York City, Evanston, Illinois, and Irvine, California. The Department admits a new class of MFA students in Acting once every three years. Prospective applicants for the MFA in Acting must consult the Department

concerning program availability prior to applying. The Master of Fine Arts is a three year process-oriented program requiring a minimum of 60 graduate credits. A final project to be determined by student and advisors is required in all areas. A production record-book is required in all areas. Further information may be obtained by contacting the Department of Dramatic Arts.

Curricular Opportunities and Special Facilities. Through practicums and independent studies, students in the Department may expand the area of training beyond that indicated by the list of course offerings. Supplemental course work may be taken in humanistic and scientific disciplines appropriate to the concentration. The production program of the Department affords ample opportunity for students to supplement their work with practical experience in the many productions offered the public throughout the year. Opportunities for students in particular programs to act, direct, design and technically produce are available in various facilities. Opportunities also are offered for original creative work.

The Department has at its disposal three well-equipped theatres. The Harriet S. Jorgensen and the Nafe Katter Theatres, seating 493 and 237 respectively, house the Main Stage Series productions. Both are air-conditioned. The Studio Works Series is presented in the Studio/Mobius Theatre, a 116 seat space, that also provides additional opportunities for theatrical experimentation. In addition, there are facilities for film and television production work.

Courses

DRAM5000(3 Credits)Instructor Consent Required Studies in Voice and Diction Voice-related topics and skills not included in DRAM 5001-5007. May include work in specialized areas of applied speech such as (but not limited to) analysis of heightened text, spoken choral performance, and oral interpretation of poetry or narrative prose. Components:Laboratory

DRAM5001(3 Credits)Instructor Consent Required Voice and Diction I

Development of breath support, vocal expressiveness, and basic diction, articulation, and phonetics skills. Components:Laboratory

DRAM5002(3 Credits)Instructor Consent Required Voice and Diction II

Developing vocal range and intelligibility with text and emotional content. Continued

work with consonant and vowel sounds. Components:Laboratory

DRAM5003(3 Credits)Instructor Consent Required Voice and Diction III

Developing analytical and performance skills in heightened language and poetic text to be applied primarily to the works of Shakespeare and other classical playwrights. Components:Laboratory

DRAM5004(3 Credits)Instructor Consent Required Voice and Diction IV

Applying diction and phonetics skills to specialized speech styles including accents and dialects. Components:Laboratory

DRAM5005(3 Credits)Instructor Consent Required Voice and Diction V

Applying voice and diction skills to additional classical and contemporary dramatic forms. Components:Laboratory

DRAM5006(3 Credits)Instructor Consent Required Voice and Diction VI

Exploring additional vocal skills and resources required for professional acting. Components:Laboratory

DRAM5007(3 Credits)Instructor Consent Required Singing for Actors

Developing singing skills required for performance in musical theatre productions. Components:Laboratory

DRAM5130(1 - 3)Instructor Consent Required Introduction to Graduate Studies in Stage Design

Projects in scenery, lighting and costume design for first-year graduate students in stage design and puppetry. Reading and discussion of various 20th century works on design theory for the theatre. Components:Laboratory

DRAM5131(1 - 3)Instructor Consent Required Studies in Theatre History

Components:Lecture

DRAM5134(1 - 3)Instructor Consent Required Design Drawing

Studio course in figure drawing and perspective drawing as foundation for students in theatre costume, scenic, and lighting design and puppetry arts.

Components:Laboratory

DRAM5159(1 - 3)Instructor Consent Required Practicum in Theatre Studies

Special projects in Theatre Studies, usually related to a production of the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Practicum

DRAM5189(1 - 6)Instructor Consent Required Field Studies Internship in Design/ Technical Theatre

Supervised practical experience in professional/regional theatres or academic institutions. Components:Independent Study

DRAM5190(0)Instructor Consent Required Internship in Dramatic Arts

Internships in acting, costuming, lighting, management, media, puppetry, pedagogy and technical theatre. Components:Practicum Requirement Group:Open only to Dramatic Arts graduate students holding a dramatic arts graduate assistantship (RG602).

DRAM5192(1 - 3)Instructor Consent Required Independent Study in Theatre Studies

Independent study under the direction of an appropriate faculty member. Components:Independent Study

DRAM5197(1 - 3)Instructor Consent Required Special Topics in Theatre Studies

A reading course under the direction of an appropriate staff member. Components:Independent Study

DRAM5200(1 - 3)Instructor Consent Required Studies in Technical Production

Study of any topics in in Stagecraft, Technical Production, or sound not included in DRAM 5201-5213. Components:Laboratory

DRAM5201(3 Credits)Instructor Consent Required Production Drafting

Emphasis on preparation of plans appropriate for scenic studio bidding procedures. Components:Lecture

DRAM5202(3 Credits)Instructor Consent Required Technical Direction

A study of the planning, management and execution of all technical aspects of production. Components:Lecture

<p>DRAM5204(3 Credits)Instructor Consent Required Technical Analysis</p> <p>Analysis of scenic structures and materials, including stress and vector analysis, static and dynamic loading of beams and battens, truss design, and time/cost studies. Components:Lecture</p>	<p>Required Shop Technology</p> <p>Use of materials, equipment and processes required in special fabrication techniques. Components:Lecture</p>	<p>Traditional American Musical. This topic will be looked at from both historical and contemporary points of view. Components:Laboratory</p>
<p>DRAM5205(3 Credits)Instructor Consent Required Audio Production</p> <p>Audio recording and playback techniques used in the preparation of theatrical sound scores. Components:Lecture</p>	<p>DRAM5213(3 Credits)Instructor Consent Required Stage Technology</p> <p>Power sources and drive mechanisms for stage machinery including electro-mechanical, hydraulic and pneumatic systems. Components:Lecture</p>	<p>DRAM5304(3 Credits)Instructor Consent Required Scenic Design: The Musical II</p> <p>The examination and study of scenery-design solutions for complex musicals in unconventional spaces. Components:Laboratory Requirement Group:Prerequisite: DRAM 5303 (RG 4721).</p>
<p>DRAM5206(3 Credits)Instructor Consent Required Sound Technology</p> <p>Application of signal processing devices and signal modification for specialized audio effects for production. Components:Lecture</p>	<p>DRAM5292(1 - 3)Instructor Consent Required Independent Study in Technical Theatre</p>	<p>DRAM5305(3 Credits)Instructor Consent Required Scenic Design: Art Direction for TV and Film</p>
<p>DRAM5207(3 Credits)Instructor Consent Required Electricity and Electronics for the Theatre</p> <p>Study of current electrical technology and applications, including AC theory and codes. Components:Lecture</p>	<p>An independent project course under the direction of an appropriate staff member. Components:Independent Study</p>	<p>Developing skills for relating traditional scenic design to feature films and television with an emphasis on creating storyboards. Components:Laboratory</p>
<p>DRAM5208(3 Credits)Instructor Consent Required Computer Applications</p> <p>Survey of current software available for application to production management and technical design and production. Components:Lecture</p>	<p>DRAM5296(1 - 6)Instructor Consent Required MFA Project in Technical Theatre</p>	<p>DRAM5306(3 Credits)Instructor Consent Required Scenic Design: Opera and Ballet</p>
<p>DRAM5209(3 Credits)Instructor Consent Required Studies in Theatre Design</p> <p>Investigates the physical problems and codes involved in integrating theatre technology into the architectural requirements of a performance facility. Components:Lecture</p>	<p>A major technical direction project for a production in the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Independent Study</p>	<p>Operas and Ballets from around the world will be analyzed and designed for various proscenium theatres. Components:Laboratory</p>
<p>DRAM5210(3 Credits)Instructor Consent Required Properties Construction</p> <p>Fabrication of unusual stage properties and study of the application of experimental materials. Components:Lecture</p>	<p>DRAM5297(1 - 3)Instructor Consent Required Special Topics in Technical Production</p>	<p>DRAM5310(3 Credits)Instructor Consent Required Scenic Design: Event Planning</p>
<p>DRAM5211(3 Credits)Instructor Consent Required Advanced Rigging Techniques</p> <p>Technology and materials used in conventional and specialized rigging systems. Components:Lecture</p>	<p>A reading course under the direction of an appropriate staff member. Components:Independent Study</p>	<p>Examining approaches to designing special events for unique spaces. Components:Laboratory</p>
<p>DRAM5212(3 Credits)Instructor Consent</p>	<p>DRAM5300(1 - 3)Instructor Consent Required Studies in Scenic Design</p>	<p>DRAM5311(3 Credits)Instructor Consent Required Scenic Design: Design Drafting</p>
	<p>Study of any topics in Scenic Design not included in DRAM 5301-5320. Components:Lecture</p>	<p>The study of hand-drafting styles and conventions as they apply to American Scenographic Techniques. Components:Laboratory</p>
	<p>DRAM5301(3 Credits)Instructor Consent Required Scenic Design: Single Set Plays</p>	<p>DRAM5312(3 Credits)Instructor Consent Required Scenic Design: Perspective Drawing and the Pencil Sketch</p>
	<p>Exploration of the various methods of solving the scenic design for plays requiring only one location. Components:Laboratory</p>	<p>A study of one point, two point, three point and measured perspective in order to create pencil sketches for the theatre. Components:Laboratory</p>
	<p>DRAM5302(3 Credits)Instructor Consent Required Scenic Design: Multi-Set Play</p>	<p>DRAM5313(3 Credits)Instructor Consent Required Scenic Design: The Color Sketch</p>
	<p>Investigating the range of methods of solving the scenic design for plays with several locations. Components:Laboratory</p>	<p>Techniques and skills for building a scale model for a scenic design using a variety of materials and methods. Components:Laboratory</p>
	<p>DRAM5303(3 Credits)Instructor Consent Required Scenic Design: The Musical I</p>	
	<p>Solutions for designing scenery for the</p>	

<p>DRAM5314(3 Credits)Instructor Consent Required Scenic Design: Model Building Techniques</p>	<p>Components:Lecture</p> <p>DRAM5355(1 - 3)Instructor Consent Required Studies in Television</p>	<p>to the post-modern form and character rather than being specific to any given period. Components:Laboratory</p>
<p>Techniques and skills for building a scale model for a scenic design using a variety of materials and methods. Components:Laboratory</p>	<p>Components:Lecture</p> <p>DRAM5392(1 - 3)Instructor Consent Required Independent Study in Scenic Design</p>	<p>DRAM5404(3 Credits)Instructor Consent Required Costume Design: Fantasy and Opera</p>
<p>DRAM5315(3 Credits)Instructor Consent Required Scenic Design: Rendering with Watercolor</p>	<p>Independent study under the direction of an appropriate faculty member. Components:Independent Study</p>	<p>Focusing on line and silhouette to enhance height and exaggeration when using the proportion and scale required for the opera stage and other very large theatre or coliseum spaces. Components:Laboratory</p>
<p>The study of how to use watercolor to create the theatrical sketch. Components:Laboratory</p>	<p>DRAM5396(3 - 6)Instructor Consent Required MFA Project in Scenic Design</p>	<p>DRAM5405(3 Credits)Instructor Consent Required Costume Design: Dance and Musicals</p>
<p>DRAM5316(3 Credits)Instructor Consent Required Scenic Design: Computer Rendering for the Theatre</p>	<p>The design of costumes for a production in the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Independent Study</p>	<p>Using costume colors and shapes to pull focus to one figure among many. Balancing the musical stage with color groups. Components:Laboratory</p>
<p>The use of mainstream computer programs to create digital renderings and media for the theatre. Components:Laboratory</p>	<p>DRAM5397(1 - 3)Instructor Consent Required Special Topics in Scenic Dsgn</p>	<p>DRAM5406(3 Credits)Instructor Consent Required Costume Design: Performance Art</p>
<p>DRAM5317(3 Credits)Instructor Consent Required Scenic Design: 3D Computer Rendering for the Theatre</p>	<p>A reading course under the direction of an appropriate staff member. Components:Independent Study</p>	<p>Exploring the role of the designer/director. Learning to conceive of non-scripted performance in terms of installation & design with human bodies and space. Components:Laboratory</p>
<p>The use of mainstream 3D programs to render and draft scenic designs for the theatre. Components:Laboratory</p>	<p>DRAM5400(1 - 3)Instructor Consent Required Studies in Costume Design</p>	<p>DRAM5407(3 Credits)Instructor Consent Required Costume Design: Film</p>
<p>DRAM5318(3 Credits)Instructor Consent Required Scenic Design: Creating a Portfolio On and Off Line</p>	<p>Study of any topics in Costume Design art and theory not included in DRAM 5401-5407. May be repeated with a change in topic. Components:Lecture</p>	<p>Developing group plates and collages for large scenes and details of the costume, accessories and hair for close-ups. Additional focus on the terminology of the set, the shops, and jobs relating to Costume Design. Components:Laboratory</p>
<p>Students will create a dynamic, interesting portfolio for off-line presentations and then turn that portfolio into a web site. Components:Laboratory</p>	<p>DRAM5401(3 Credits)Instructor Consent Required Costume Design: Poetic Realism</p>	<p>DRAM5410(1 - 3)Instructor Consent Required Studies in Applied Costume Craft</p>
<p>DRAM5319(3 Credits)Instructor Consent Required Scenic Design: Styles of Ornamentation</p>	<p>Focusing on a design style developed in NYC during the 70s and 80s. Applying the principles of realism with expanded color control and heightened poetic choices to the plays of Chekhov, Strindberg and O'Neill. Components:Laboratory</p>	<p>Study of any topic in applied costume craft not included in DRAM 5411-5421. May be repeated with change in topic. Components:Laboratory</p>
<p>An exploration of architecture and period style from the earliest times to the present. Components:Laboratory</p>	<p>DRAM5402(3 Credits)Instructor Consent Required Costume Design: Comic Exaggeration</p>	<p>DRAM5411(3 Credits)Instructor Consent Required Color Theory / Light & Fabric</p>
<p>DRAM5320(3 Credits)Instructor Consent Required Scene Painting</p>	<p>Design dealing with the comedic effects of body shape and exaggerated proportions; generating wit and whimsy using styles from Commedia to Vaudeville to Modern Dress. Components:Laboratory</p>	<p>Using the qualities of different fabrics for period and drape. Exploring color theory and the interaction of colored light on fabrics of varying colors and textures. Components:Laboratory</p>
<p>Scene painting using a variety of media and techniques. The student also explores a number of faux finish techniques. Components:Laboratory</p>	<p>DRAM5403(3 Credits)Instructor Consent Required Costume Design: Tragedy and Post Modernism</p>	<p>DRAM5412(3 Credits)Instructor Consent Required Dyeing and Fabric Modification</p>
<p>DRAM5329(3 Credits)Instructor Consent Required Technical Research and Writing</p>	<p>Focusing on light, shadow, and texture to create dramatic tragedy. Emphasis is specific</p>	<p>Focusing on dyes and their interaction with</p>
<p>Application of writing techniques and research methods used in preparation of technical reports and project documentation.</p>		

various fabrics and selecting the correct dyes and the colors to achieve the desired effects. Investigating new fiber-modification technology. Components:Laboratory

DRAM5413(3 Credits)Instructor Consent Required Computer Costume Rendering and Web-site Design

The use of mainstream computer programs to create digital renderings as part of the costume-design process. Learning how to use those images along with computer manipulated production photos for presentation on the web. Components:Laboratory

DRAM5414(3 Credits)Instructor Consent Required Costume Design: Period Costume Rendering

Exploring rendering techniques with pencil, ink, and gouache while learning to describe period fabrics and styles using primary source images for research and inspiration. Components:Laboratory

DRAM5415(3 Credits)Instructor Consent Required Advanced Make-up: Prosthetics and Wigs

Acquiring techniques for creating period effects in make-up and hairstyles. Learning proper wig ventilation and safe casting practices for gelatin and latex prosthetics. Components:Laboratory

DRAM5416(3 Credits)Instructor Consent Required Costume Design: Millinery Techniques

Acquiring techniques for designing and constructing a different type and styles of men's and women's hats from various historic periods. Components:Laboratory

DRAM5417(3 Credits)Instructor Consent Required Costume Design: Flat Pattern Costume Drafting

Focusing on the art and mathematical formulas that create a basic sloper for patterning garments. Understanding shaping through dart manipulation, curved seams, and inserted panels or shapes. Components:Laboratory

DRAM5418(3 Credits)Instructor Consent Required Costume Design: Draping Patterns

Developing techniques, for draping shapes and patterns over a dress-maker's mannequin, using the drape of various fabrics and the

straight of the grain (versus the bias) to create specific effects. Components:Laboratory

DRAM5419(3 Credits)Instructor Consent Required Tailoring Period Costumes for the Theatre

Exploring the traditional art of tailoring and various patterning techniques for constructing garments from the major historical periods often depicted on the stage or screen. Components:Laboratory

DRAM5492(1 - 3)Instructor Consent Required Independent Study in Costume Design

Independent study under the direction of an appropriate faculty member. Components:Independent Study

DRAM5496(3 - 6)Instructor Consent Required MFA Project in Costume Design

The design of costumes for a production in the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Independent Study

DRAM5497(1 - 3)Instructor Consent Required Special Topics in Costume Design

A reading course under the direction of an appropriate staff member. Components:Independent Study

DRAM5500(1 - 3)Instructor Consent Required Studies in Lighting Design

Study of any topics in Lighting Design not included in DRAM 5501-5514. Course may be repeated with change in topic. Components:Laboratory

DRAM5501(3 Credits)Instructor Consent Required Lighting Design: The Single Set Play

The development of lighting designs for single set dramas and musicals. Components:Laboratory

DRAM5502(3 Credits)Instructor Consent Required Lighting Design: Opera

The design process for Operatic Theatre, emphasizing concepts and visual metaphors for the lighting of Opera. Components:Laboratory

DRAM5503(3 Credits)Instructor Consent Required Lighting Design: Dance

The methods and process of creating a dance lighting design while learning how to document and communicate ideas, analyze movement, and understand the vocabulary of the dance world. Components:Laboratory

DRAM5504(3 Credits)Instructor Consent Required Lighting Design: The Broadway Musical

The design process for Musical Theatre productions, developing concepts and visual metaphors to be used in lighting Musicals. Components:Laboratory

DRAM5505(3 Credits)Instructor Consent Required Lighting Design: Non-Proscenium Spaces

The design process for productions within Non-Proscenium and Non-Traditional spaces, emphasizing production concepts and visual metaphors for lighting thrust stages, black box spaces, hotel ballrooms, arenas, public spaces, and outdoor venues. Components:Laboratory

DRAM5506(3 Credits)Instructor Consent Required Lighting Design: Angles and Systems

Tracing how, from initial concept to final plot, Lighting Concept and Visual Metaphor influence lighting angles, textures, and the positioning of fixtures. Using side light, back light, booms, ladders, box booms, coves, & cyc lighting to realize the range of designer choices. Components:Laboratory

DRAM5507(3 Credits)Instructor Consent Required Lighting Design: Angles and Systems

Tracing how, from initial concept to final plot, Lighting Concept and Visual Metaphor influence lighting angles, textures, and the positioning of fixtures. Using side light, back light, booms, ladders, box booms, coves, & cyc lighting to realize the range of designer choices. Components:Laboratory

DRAM5508(3 Credits)Instructor Consent Required Lighting Design: From Concept to Opening Night

Following a lighting design from its conception through to its opening night. Exploration of multiple genres of theatre including drama, musicals, dance, opera, events and concerts. Components:Laboratory

DRAM5509(3 Credits)Instructor Consent Required Lighting Design: Concept

<p>Development</p> <p>Importance of lighting concept and visual metaphor in developing a show's design. Tools and strategies (scene break-down, mood boards, concept statement, concept presentation, and others) for communicating with the director and other production personnel. Components:Laboratory</p> <p>DRAM5510(3 Credits)Instructor Consent Required Color Theory and Light</p> <p>Examining the characteristics of color: hue, value, saturation, color perception, and the psychology of color to aid in the artistic choice of colors for theatrical productions. Components:Laboratory</p> <p>DRAM5511(3 Credits)Instructor Consent Required Digital Design for Projection and LED</p> <p>Exploring the emerging world of digital media, video projection design and LED system design with emphasis on the philosophy, software, hardware and technology used to create digital imagery. Components:Laboratory</p> <p>DRAM5512(3 Credits)Instructor Consent Required Lighting Technology</p> <p>Applying the technologies for lighting, dimming, video projection, and LED imaging design to the protocols used in contemporary lighting and projection design for theatre, live events, and architecture. Components:Laboratory</p> <p>DRAM5513(3 Credits)Instructor Consent Required Lighting Computer Applications</p> <p>Developing skills in 2D and 3D digital animation using current media programs for theatrical, concert, corporate and architectural projection. Components:Laboratory</p> <p>DRAM5514(3 Credits)Instructor Consent Required Production Lighting Design and Business Practices</p> <p>Advanced study of a lighting designer's role and the design process from interview through completed design. Additional focus on the marketing, financial, and personnel elements of the lighting-design business. Components:Lecture</p> <p>DRAM5530(1 - 3)Instructor Consent Required Studies in Digital Media</p> <p>Study of any topics in visual Digital Media</p>	<p>not included in DRAM 5531-5535. Course may be repeated with a change in topic. Components:Lecture</p> <p>DRAM5531(3 Credits)Instructor Consent Required Digital Design for Projections I</p> <p>Advanced exploration of the philosophy, software, hardware, and technology used to create digital imagery, including video-projection and LED system designs. Special emphasis is on the aesthetics of media design and the systems for displaying digital imagery. Components:Laboratory</p> <p>DRAM5532(3 Credits)Instructor Consent Required Digital Design for Projections II</p> <p>Building on Projections I, students conceive, design, and produce digital media for video projection using LED systems; particular emphasis on exploring and developing aesthetics of digital media design. Components:Laboratory</p> <p>DRAM5533(3 Credits)Instructor Consent Required 2D Digital Animation I</p> <p>With 2D animation and compositing programs currently used in film, television, commercial and corporate production, students will explore digital media development and design; beginning with principles of composition, design, and production and moving on to the composition of 2D graphic elements. Components:Laboratory</p> <p>DRAM5534(3 Credits)Instructor Consent Required 2D Digital Animation II</p> <p>Expanding on 2D Animation I, students will explore 3D space (or the "Z dimension"), learning to manipulate the camera around objects in space. This study will focus on the basics of the digital camera, virtual lighting, and the value of shadow relative to image development and recognition. Components:Laboratory</p> <p>DRAM5535(3 Credits)Instructor Consent Required 3D Digital Animation I</p> <p>Using professionally current 3D computer-animation programs, this study begins with virtual scene development. Students will then construct a 3-dimensional space, model 3D objects within that space, create and map textures and finishes onto that object, and then animate it. Components:Laboratory</p> <p>DRAM5592(1 - 3)Instructor Consent Required Independent Study in Lighting</p>	<p>Design</p> <p>Independent study under the direction of an appropriate faculty member. Components:Independent Study</p> <p>DRAM5596(3 - 6)Instructor Consent Required MFA Project in Lighting Design</p> <p>The lighting design for a production in the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Independent Study</p> <p>DRAM5597(1 - 3)Instructor Consent Required Special Topics in Lighting Design</p> <p>A reading course under the direction of an appropriate staff member. Components:Independent Study</p> <p>DRAM5597(1 - 3)Instructor Consent Required Special Topics in Lighting Design</p> <p>A reading course under the direction of an appropriate staff member. Components:Independent Study</p> <p>DRAM5600(1 - 3)Instructor Consent Required Studies in Puppet Arts</p> <p>Study of any topics in puppet design, construction, or performance not covered in DRAM 5601-5618. May be repeated for credit with a change in topic. Components:Laboratory</p> <p>DRAM5601(3 Credits)Instructor Consent Required Advanced Mask</p> <p>Study of Mask design, construction and performance through practical work with face casting, neutral masks, exaggerated masks, and Commedia dell'Arte masks. Components:Laboratory</p> <p>DRAM5602(3 Credits)Instructor Consent Required Advanced Paper Sculpture</p> <p>Practice in design, sculpting, patterning, and finishing techniques using the "Roser Papier Methode" for Puppetry leading to full realization and performance of the sculptures as puppets. Components:Laboratory</p> <p>DRAM5603(3 Credits)Instructor Consent Required Puppet Theatre Production</p> <p>Strategies for developing and executing the skills involved in mounting Puppet Productions, includes planning, scripting, designing, scheduling, budgeting, and identifying appropriate personnel.</p>
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<p>Components:Laboratory</p> <p>DRAM5604(3 Credits)Instructor Consent Required Advanced Rod Puppet Theatre</p> <p>Consideration of a world-wide range of design, construction, and manipulation techniques for several forms of Rod Puppets, with emphasis on Chinese performance skill development. Components:Laboratory</p> <p>DRAM5605(3 Credits)Instructor Consent Required Advanced Puppetry in Television</p> <p>Research and practical exploration of techniques for presenting Puppet Arts on television; includes planning, design, construction and performance of a short program and development using current video editing software. Components:Laboratory</p> <p>DRAM5607(3 Credits)Instructor Consent Required Advanced Materials Techniques</p> <p>Puppet Character design using a full range of fabrication techniques (including sculpting, molding, cast-ing, painting, and carving) to design and fully realize a puppet character. Components:Laboratory</p> <p>DRAM5608(3 Credits)Instructor Consent Required Marionette Performance</p> <p>Exploration and skill development with the pendular attributes of a string puppet using several different performance figures. Components:Laboratory</p> <p>DRAM5609(3 Credits)Instructor Consent Required Marionette Construction</p> <p>Design, construction and performance of a full figure string puppet.. Components:Laboratory</p> <p>DRAM5610(3 Credits)Instructor Consent Required Advanced Hand Puppet Theatre</p> <p>Consideration of a world-wide range of design, construction, and manipulation methods for Hand Puppetry, Glove Puppetry, and mouth-moving skills. Components:Laboratory</p> <p>DRAM5611(3 Credits)Instructor Consent Required Advanced Ultraviolet Light/Czech Black Theatre</p> <p>Exploration of U.S. applications of UV (Black Light) and Czech Black Theatre (Curtain of Light) and its practical application to Puppet Theatre. Components:Laboratory</p>	<p>DRAM5612(3 Credits)Instructor Consent Required ISM;s: Art Movements of the Early 20th Century</p> <p>Examination of Puppet Arts; contributions to the Art Movements of the Early 20th Century, including the production of a Puppet Arts event within a selected ;ism.; Components:Laboratory</p> <p>DRAM5613(3 Credits)Instructor Consent Required Advanced Shadow Theatre</p> <p>Research and study of all design, story, construction, and performance elements within worldwide Shadow Theatre for both direct-screen and projected presentations. Components:Laboratory</p> <p>DRAM5614(3 Credits)Instructor Consent Required Puppet Production Seminar</p> <p>Dramaturgical, directorial and design research and study related to current department productions using Puppetry. Components:Laboratory</p> <p>DRAM5615(3 Credits)Instructor Consent Required Puppet Arts Aesthetics</p> <p>Research and study of the myriad forms of Puppet Arts expression and the aesthetics that guide them. Components:Laboratory</p> <p>DRAM5616(3 Credits)Instructor Consent Required Trends in Contemporary American Puppet Theatre</p> <p>An in-depth study of Puppetry as it has been practiced in North America from pre-colonial days to the present. Components:Lecture</p> <p>DRAM5617(3 Credits)Instructor Consent Required World Puppet Theatre</p> <p>A worldwide survey of the Puppet Arts as they are practiced in religious expression, societal commentary, cultural celebration, and public entertainment. Components:Lecture</p> <p>DRAM5618(1 - 3)Instructor Consent Required Production Planning & Development</p> <p>Students independently research, conceptualize, and prepare preliminary scripts or designs for future performance projects. Components:Independent Study</p> <p>DRAM5692(1 - 3)Instructor Consent Required Independent Study in Puppet Arts</p> <p>Independent study under the direction</p>	<p>of an appropriate faculty member. Components:Independent Study</p> <p>DRAM5696(3 - 6)Instructor Consent Required MFA Project in Puppetry</p> <p>Major artistic contribution(s), (writing, designing, building, directing) to a puppetry production or related theatre or film project in the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Independent Study</p> <p>DRAM5697(1 - 3)Instructor Consent Required Special Topics in the Puppet Arts</p> <p>A reading course under the direction of an appropriate staff member. Components:Independent Study</p> <p>DRAM5700(1 - 3)Instructor Consent Required Studies in Professional Acting</p> <p>Topics and skills not taught in DRAM 5701-5706. May include work with the techniques of specific master acting teachers such as (but not limited to) Sanford Meisner, Stella Adler, Tadashi Suzuki, and Utah Hagan. May be repeated with change of topic. Components:Laboratory</p> <p>DRAM5701(3 Credits)Instructor Consent Required Professional Acting I</p> <p>Acquiring core tools and exploring skills required for professional acting. Applying basic skills to a full-length Shakespeare performance project. Components:Laboratory</p> <p>DRAM5702(3 Credits)Instructor Consent Required Professional Acting II</p> <p>Exploring and applying the core techniques required for acting in realistic and naturalistic plays; including the principles of characterization. Components:Laboratory</p> <p>DRAM5703(3 Credits)Instructor Consent Required Professional Acting III</p> <p>Developing and applying skills for acting through poetic language with particular attention paid to acting Shakespeare and the Folio's Guide for the Actor. Components:Laboratory</p> <p>DRAM5704(3 Credits)Instructor Consent Required Professional Acting IV</p> <p>Working with techniques and styles for performing comedy; both in scripted plays and other performance modes. Components:Laboratory</p>
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DRAM5705(3 Credits)Instructor Consent
Required Professional Acting V

Additional work in analyzing and performing contemporary scripts written for both stage and screen. Components:Laboratory

DRAM5706(3 Credits)Instructor Consent
Required Professional Acting VI

Preparation for the world of professional theatre, including development of audition techniques, learning the workings of the industry, and establishing career connections. Components:Laboratory

DRAM5711(1 - 3)Instructor Consent
Required Studies in Directing

Components:Lecture

DRAM5721(1 - 3)Instructor Consent
Required Performance Techniques

Performance study and practice in selected areas of dramatic arts. Components:Lecture

DRAM5759(1 - 3)Instructor Consent
Required Practicum in Performance

Special projects in performance, usually related to a production of the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Laboratory

DRAM5792(1 - 3)Instructor Consent
Required Independent Study in Performance

Independent study under the direction of an appropriate faculty member. Components:Independent Study

DRAM5796(3 - 6)Instructor Consent
Required MFA Project in Performance

Research and preparation for an assigned MFA performance project, usually acting a major role in a production of the Department of Dramatic Arts/Connecticut Repertory Theatre. Components:Independent Study

DRAM5800(1 - 3)Instructor Consent
Required Studies in Movement for the Actor

Topics and skills not normally included in DRAM 5801-5807. Content may include (but is not limited to) stage violence, armed or unarmed combat, gymnastics, and Tai Chi. May be repeated with changes in topic. Components:Laboratory

DRAM5801(3 Credits)Instructor Consent

Required Movement for the Actor I

Exploration of the actor's physical instrument. Components:Laboratory

DRAM5802(3 Credits)Instructor Consent
Required Movement for the Actor II

Physical conditioning and techniques of characterization. Components:Laboratory

DRAM5803(3 Credits)Instructor Consent
Required Movement for the Actor III

Exploration of theatrical styles in the dramatic space, including work in the Commedia form. Components:Laboratory

DRAM5804(3 Credits)Instructor Consent
Required Movement for the Actor IV

Physical expression for the actor through expressive mask work and physical storytelling. Components:Laboratory

DRAM5805(3 Credits)Instructor Consent
Required Movement for the Actor V

Developing styles of comedic physical movement, including the art of clowning. Components:Laboratory

DRAM5806(3 Credits)Instructor Consent
Required Movement for the Actor VI

Continued development of styles and techniques for expressive movement and their application to the world of Physical Theatre. Components:Laboratory

DRAM5806(3 Credits)Instructor Consent
Required Alexander Technique for the Actor

Body alignment, release, and constructive rest techniques developed by F. M. Alexander are applied to actors; posture, movement, and breathing. Components:Laboratory

DRAM5807(3 Credits)Instructor Consent
Required Alexander Technique for the Actor

Body alignment, release, and constructive rest techniques developed by F. M. Alexander are applied to actors; posture, movement, and breathing. Components:Laboratory

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

Ecology and Evolutionary Biology

Department Head

Professor Kentwood Wells

Professors

Adams, C. Jones, Caira, Chazdon, Colwell, Goffinet, Henry, Holsinger, Les, Schlichting, Schwenk, Silander, Simon, Thorson, Trumbo, Turchin, Wagner, Willig, and Yarish

Associate Professor

Bush, Coe, Crespi, Jockusch, L. Lewis, Elphick, P. Lewis, Rubega, Schultz, Taigen

Assistant Professors

Urban

Ecology and Evolutionary Biology emphasizes the diversity and evolution of animals and plants; as well as their interactions with the environment. Research in the department covers a wide range of fields, including behavioral ecology of vertebrates and invertebrates, systematics and evolution of plants and animals, population and community ecology, functional morphology and development, and conservation biology. Faculty members and graduate students work on nearly all of the major groups of organisms, including algae, mosses and lichens, aquatic plants, desert plants, tropical and temperate forest trees, the parasites of sharks and rays, insects, spiders, fish, amphibians, reptiles, birds, and mammals. Current research projects span the globe, with investigators working throughout North America, Costa Rica, Panama, Nicaragua, Brazil, Borneo, Madagascar, South Africa, Australia, New Zealand, Japan and many other countries.

Biodiversity and Conservation Biology

Biodiversity refers to the variation in life's forms, from genes to ecosystems. Conservation biology is the science of understanding and protecting the earth's biodiversity. Practitioners in this field require a solid grounding in ecology and evolutionary biology, combined with an understanding of the societal factors that influence ecological systems.

The B.S./M.S. Program.

The Master of Science degree in Biodiversity and Conservation Biology is administered by the Department of Ecology

and Evolutionary Biology. The Biodiversity and Conservation Biology M.S. is a Plan B degree, based primarily on coursework. Students are required to participate in a vocational internship and a research project as part of their plan of study, but no research thesis is required. The M.S. is designed to be earned jointly with the EEB B.S. degree, with M.S. level classes integrated into a student's plan of study during their final two years. Students who have already completed an equivalent B.S. degree may confine their study to the M.S. portion of the degree program. Coursework combines education in ecology, evolution, systematics, and natural history, with relevant training in public policy, economics, and ethics.

Students are prepared for a diversity of career tracks, ranging from conservation planning to endangered species management, environmental education to museum curation, ecological consultancy to environmental law.

Potential employers include non-governmental organizations, state and federal agencies, and environmental industries. More detailed information about the program is available at the EEB department's web site <http://hydrodictyon.eeb.uconn.edu/department/BSMS/>.

Interdisciplinary Study

Plant Biology.

Course work and research opportunities in plant biology are offered in three separate departments. Plant systematics and evolution, plant ecology, plant physiological ecology, plant morphology, and plant molecular systematics and evolution are offered in the Department of Ecology and Evolutionary Biology. Plant physiology, cellular and molecular biology are offered in the Department of Molecular and Cell Biology. Additional course offerings in plant biology are available in the Department of Plant Science.

Marine Sciences.

Research and teaching facilities for marine sciences are located at the Avery Point campus of the University of Connecticut, and on the main campus in Storrs. Major areas of research include the ecology, physiology, behavior, and systematics of marine organisms; physical and chemical oceanography; sedimentology; and climatology. Recirculating sea water systems are available for maintaining marine organisms over extended periods for research. Direct inquiries to: Department Head, Marine Sciences, University of Connecticut at Avery Point, Groton, Connecticut 06340-6043.

Organization for Tropical Studies.

The University of Connecticut is a member of the Organization for Tropical Studies, which offers graduate courses on tropical ecology in Costa Rica. Qualified graduate students in biology and related areas are eligible to participate in the February-March and July-August sessions. For information, write to Director of Graduate Studies, Department of Ecology and Evolutionary Biology, Unit 3043, Storrs, Connecticut 06269-3043.

Courses

EEB5200(4) Instructor Consent Required
Biology of Fishes An introduction to the biology of fishes, with an emphasis on adaptation and evolutionary diversification. Topics include the evolution of major groups, morphology, physiology, behavior, and population and community ecology. Lectures, critical discussions of current journal articles, student presentations, and exercises in the field and laboratory. A research paper and class presentation are required on a topic pre-approved by the instructor. Components: Laboratory, Lecture

EEB5203(4) Developmental Plant Morphology

Exploration and analysis of diversity in plant form using basic principles of plant construction and development. A research paper is required, in which the principles learned in lecture are applied to the analysis of the development of a plant from seed through reproductive maturity. Components: Laboratory, Lecture

EEB5204(4) Aquatic Plant Biology

Field and laboratory-oriented study of the anatomy, morphology, ecology, physiology, systematics and evolution of vascular aquatic and wetland plants. A research paper and class presentation are required on a topic pre-approved by the instructor. Components: Laboratory, Lecture

EEB5209(3 Credits) Soil Degradation and Conservation

Causes and consequences of soil degradation in agricultural and natural ecosystems, including salinization, erosion, nutrient impoverishment, acidification, and biodiversity loss. Historical perspectives and current strategies for soil conservation. Readings in original literature will be

emphasized. Components:Lecture

EEB5215(3 Credits)Instructor Consent
Required Physiological Ecology of Animals

Physiology of animals in an evolutionary context. Lectures and critical discussions of current journal articles. A research paper and class presentation are required on a topic pre-approved by the instructor. Components:Lecture

EEB5220(3 Credits) Evolution of Green Plants

Introduction to morphological, ultrastructural, and molecular characters used for inferring evolutionary relationships of green plants, from the green algae to the flowering plants, with emphasis on evolutionary changes involved in the transition from aquatic to terrestrial habitats. Components:Lecture

EEB5221(3 Credits)Instructor Consent
Required Evolution of Green Plants
Laboratory

Study of morphological and anatomical characters of extant and fossil plants. Phylogenetic inferences from morphological and molecular characters. Discussion of primacy literature. Components:Laboratory
Requirement Group:Prerequisite: EEB 5220, which may be taken concurrently (RG 3169).

EEB5240(4) Biology of Bryophytes and Lichens

Diversity, evolution, ecology, development and taxonomy of the bryophytes (mosses, liverworts, and hornworts) and lichen-forming fungi. Components:Laboratory, Lecture

EEB5250(4) Biology of the Algae

Laboratory and field-oriented study of the major groups of algae, emphasizing structure, function, systematics, and ecology. Components:Laboratory, Lecture

University of Connecticut - Ecology & Evolutionary Biology - Subject: Biology: Ecology/Evolutionary

EEB5254(4) Mammalogy

Lectures cover diversity, natural history (including behavior, ecology, reproduction, etc.), and evolution of mammals; readings from original literature are included. Laboratories cover anatomy, systematics, and distribution of major groups of mammals.

Components:Laboratory, Lecture

EEB5265(4)Instructor Consent Required
Herpetology

Lectures cover environmental physiology, ecology, and behavior of amphibians and reptiles. Emphasis is on readings from the original literature. Laboratories cover evolution, systematics, and distribution of major groups of the world. Components:Laboratory, Lecture

EEB5269(3 Credits) Social Insects

Behavior, ecology, and evolution of social insects (especially wasps, bees, ants, and termites) with an emphasis on the evolution of social behavior and on the ecological impact of social insects. Components:Discussion, Lecture
Requirement Group:Open to graduate students in EEB, others with permission (RG798).

EEB5271(4)Instructor Consent Required
Systematic Botany

Classification, identification, economic importance, evolution and nomenclature of flowering plants. Laboratory compares vegetative and reproductive characteristics of major families. A research paper and class presentation are required on a topic pre-approved by the instructor. Components:Laboratory, Lecture

EEB5301(3 Credits) Population and Community Ecology

Overview of population and community ecology, including population regulation and dynamics, metapopulations, species interactions, biodiversity, community structure, and evolutionary ecology. Theoretical and case-history approaches, emphasizing plants, invertebrates, and vertebrates. Lecture, discussion, and exercises in analysis and modeling. Components:Lecture
Requirement Group:Open to graduate students in EEB, others with permission (RG798).

EEB5302(3 Credits) Organisms and Ecosystems

Overview of organismal and ecosystem ecology, including biophysical basics, resource utilization and allocation, life history patterns, energetics, matter and energy flow in ecosystems, and temporal and spatial dynamics at ecosystem and landscape scales. Theory, experiments, and computer

modeling. Components:Lecture
Requirement Group:Open to graduate students in EEB, others with permission (RG798).

EEB5307(4) African Field Ecology and Renewable Resources Management

An intensive, field oriented methods course conducted primarily in South Africa at the Basil Kent Field Station, Great Fish River Reserve in collaboration with the University of Fort Hare. An introduction to South Africa culture and history, ecology, and natural resources is provided in weekly meetings during the semester. This is followed by 3 weeks in South Africa. Topics covered include vegetation and faunal surveys, data collection and analysis, biodiversity monitoring, and conservation management. A research paper relating to an independent study conducted by the student in the field is required. Components:Field Studies

EEB5310(3 Credits) Conservation Biology

Case studies and theoretical approaches to conservation of biological diversity, genetic resources, plant and animal communities, and ecosystem functions. Topics emphasize ecological and evolutionary principles that form the scientific basis of this emerging, interdisciplinary field, as well as socio-political, legal, economic, and ethical aspects of conservation. Components:Lecture

EEB5333(3 Credits) Evolutionary Developmental Biology

An advanced course in evolutionary biology, emphasizing the underlying developmental bases of evolutionary change. Concepts of homology, constraint, and heterochrony, with examples from both animal and plant systems. Components:Lecture

EEB5335W(3 Credits) Vertebrate Social Behavior

Lectures and discussions dealing with various aspects of vertebrate social behavior, including territoriality, mating systems, sexual selection, and group behavior. The emphasis is on reading and critical analysis of original literature. Components:Lecture
Attributes:Writing Competency

EEB5347(4)Instructor Consent Required
Principles and Methods of Systematic Biology

The basic concepts and modern procedures employed in systematic biology: literature

retrieval, species description, phylogenetic inference, nomenclature, and current conceptual issues. Laboratories include computer techniques in phylogenetic analysis. Components:Laboratory, Lecture

EEB5348(3 Credits) Population Genetics

This course is designed to provide a theoretical background for studies in evolution. Emphasis is placed on understanding the conceptual foundations of the field and on the application of these concepts to an understanding of the roles of mutation, evolution of populations. Components:Lecture

EEB5349(4) Phylogenetics

Estimation of genealogies at the level of species and above, and their application and relevance to various biological disciplines, including systematics, ecology, and morphological and molecular evolution. Surveys both parsimony and model-based methods, but emphasizes maximum likelihood and Bayesian approaches. Components:Lecture Requirement Group:EEB 5347 or consent of instructor (RG 3167).

EEB5350(2)Instructor Consent Required Molecular Systematics

Exploration of key literature focusing on the practical aspects of incorporating knowledge of DNA sequence evolution into phylogenetic tree construction. Laboratory methods for collection of molecular data including management, extraction, amplification, and sequencing. Components:Laboratory, Lecture

EEB5360(3 Credits) Functional Ecology of Plants

Physiological, morphological, and structural responses of plants to the physical and biotic environment and to environmental change. Readings, lectures and discussions emphasize plant responses at all levels of organization, from cells to whole plants. Themes include: organismal integration, consequences and constraints in plant adaptation, and the functioning of plants within communities and ecosystems. Components:Lecture

EEB5369(3 Credits) Current Topics in Biodiversity

Analysis and discussion of current literature on biodiversity. Components:Seminar

EEB5370(3 Credits) Current Topics in

Conservation Biology

Analysis and discussion of current literature on conservation. Components:Seminar

University of Connecticut - Ecology & Evolutionary Biology - Subject: Biology: Ecology/Evolutionary

EEB5371(3 Credits) Current Topics in Molecular Evolution and Systematics

Current concepts, ideas and techniques in the field of molecular evolution, and theoretical problems peculiar to the phylogenetic analysis of molecular data. Components:Lecture Course Equivalents:MCB 5471

EEB5372(3 Credits) Computer Methods in Molecular Evolution

Practical aspects of molecular data analyses. Databank searches, sequence alignments, statistical analyses of sequence data. Parsimony, distance matrix, and spectral analysis methods. Students compile and analyze a data set of their choice. Components:Lecture Course Equivalents:MCB 5472

EEB5375(3 Credits)Instructor Consent Required Evolution and Ecology of Communities

The evolutionary consequences of ecological interactions between species and the role of evolution in shaping biological communities. Readings, lectures, and discussions emphasize the importance of descriptive, experimental, and theoretical approaches in community biology. Components:Lecture

EEB5445(4)Instructor Consent Required Advanced Invertebrate Zoology

The functional morphology, ecology and evolution of selected invertebrate groups. Field trips are required. Components:Laboratory, Lecture

EEB5447(4)Instructor Consent Required Mathematical Ecology

Theory and methods of mathematical modeling as applied to ecological systems. Modeling techniques developed around examples from ecological literature. Components:Laboratory, Lecture

EEB5449(3 Credits) Evolution

A review of our current understanding of the

patterns and processes of organic evolution. Class periods will include discussion and critical analysis of primary literature. Components:Lecture

EEB5452(2)Instructor Consent Required Field Ecology

A field of study of the biotic communities in selected areas of eastern North America. Components:Lecture

EEB5453(3 Credits)Instructor Consent Required Helminthology

Morphology, taxonomy, and physiology of the parasitic worms. Methods of culture, preparation for study, and experimental determination of life cycles. Components:Laboratory, Lecture

EEB5459(3 Credits)Instructor Consent Required Aquatic Insects

Taxonomic, habitat, and life history studies of aquatic insects. Components:Laboratory, Lecture

EEB5462(4) Evolutionary Pattern and Process: Experimental Approaches

A rigorous introduction to the concepts and methods for systematic and evolutionary studies with an emphasis on genetic, molecular (proteins and DNA), and phylogenetic analyses. The laboratory portion provides the opportunity to gain experience in DNA extraction, amplification, sequencing, alignment, and phylogenetic analyses. Components:Laboratory, Lecture

EEB5463(4)Instructor Consent Required Plant Ecology

An advanced course in plant ecology with emphasis on the effects of environment on development of vegetation, metabolism of the ecosystem, cycling of nutrients, growth and succession. Principles of vegetation dynamics, classification and their ecological interpretation will be discussed. Components:Laboratory, Lecture

EEB5477(3 Credits) Insect Phylogeny

A review of our current understanding of the evolutionary relationships of the major orders and families of insects, including the phylogenetic position of Insecta within Arthropoda. Components:Lecture Attributes:Group 2W: 'W' Courses

EEB5889(1 - 6)Instructor Consent Required Research

Conferences and laboratory work covering selected fields of Ecology and Evolutionary Biology. Components:Independent Study

EEB5891(1 - 9)Instructor Consent Required Internship in Ecology, Conservation, or Evolutionary Biology

An internship with a non-profit organization, a governmental agency, or a business under the supervision of Ecology and Evolutionary Biology faculty. Activities relevant to the practice of ecology, biodiversity, evolutionary biology, or conservation biology will be planned and agreed upon in advance by the job site supervisor, the faculty coordinator, and the intern. One credit may be earned for each 42 hours of pre-approved activities up to a maximum of nine credits. Components:Practicum

EEB5894(1 - 3) Seminar

Study and discussion of current researches, books and periodicals in the field of Biology. Subtopic designations: Ec, Ecology; M, Mammalogy; Mec, Marine Ecology; Pr, Parasitology; En, Entomology; Bi, "Biogeography; Ev, Evolution; Sy, Systematics. Students taking this course will be assigned a final grade of" S (satisfactory) or U (unsatisfactory.) Components:Seminar

EEB5895(1 - 6)Instructor Consent Required Invest Sp Topics

Advanced study in a field within Ecology and Evolutionary Biology. Components:Lecture

EEB5899(3 Credits)Instructor Consent Required Independent Study

A reading course for those wishing to pursue special work in biology. It may also be elected by undergraduate students preparing to be candidates for degrees with distinction. Components:Independent Study

EEB6480(3 Credits) Seminar in Vertebrate Biology

Analysis and discussion of current literature in vertebrate biology. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

EEB6481(3 Credits) Seminar in Biodiversity

Provides the opportunity for students to

present research plans, reports of work in progress, and full-length seminars on completed research projects in ecology, systematics, and evolutionary biology to a supportive but critical audience. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

EEB6482(3 Credits) Seminar in Spatial Ecology

Analysis and discussion of current literature in spatial ecology. Components:Seminar

EEB6483(3 Credits) Seminar in Marine Biology

Analysis and discussion of current literature in marine biology. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

EEB6484(3 Credits) Seminar in Plant Ecology

Analysis and discussion of current literature in plant ecology. Components:Seminar

EEB6485(3 Credits) Seminar in Comparative Biology

Analysis and discussion of current literature in evolution and comparative ecology. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

EEB6486(3 Credits) Seminar in Systematics

Analysis and discussion of current literature in systematic biology. Components:Seminar

EEB6487(3 Credits) Seminar in Parasitology

Analysis and discussion of current literature in parasitology. Components:Seminar

EEB6490(3 Credits) Seminar in Behavioral Ecology

Analysis and discussion of current literature in behavioral ecology. Students in this course receive a grade of S (Satisfactory) or U (Unsatisfactory). Components:Seminar

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Economics

Department Head

Professor Dennis R. Heffley

Professors

Carstensen, Clapp, Cosgel, Cotterill, Hallwood, Knoblauch, Langlois, Miceli, Ray, Ross, Santerre, and Segerson

Associate Professor

Ahking, Alpert, Couch, Cunningham, Dharmapala, Harding, Harmon, Kimenyi, Landau, Lott, Minkler, Morand, Randolph, Tripathi, and Zimmerman

Assistant Professors

Aysun, and Matschke

Study leading to the Master of Arts and Doctor of Philosophy degrees is offered.

Requirements for the Master of Arts Degree.

The program of studies for the M.A. degree is not uniform for all students. The combination of courses depends on the candidate's objective. For some purposes, a broad spread of subject-matter courses may be advisable, while for other purposes a narrowly focused program may be appropriate. Economics 5201, 5202, 5301, and 5311 are required. Candidates with inadequate backgrounds in mathematics are required to take Economics 2301.

Requirements for the Doctor of Philosophy Degree.

Students in the Ph.D. program are required to pass Economics 6110, 6201, 6202, 6211, 6212 6301, 6311, 6312, or their equivalents.

If a supporting area of study is elected rather than a foreign language, it cannot include any of the courses used to satisfy the above requirements; it must consist of a coherent unit of work in one subject considered a special skill for economists, and it must include at least one course above the 4000's level.

Each student must pass the preliminary examination in economic theory before taking the field examination. Students choose from among the following: Industrial Organizations, International Economics, Macro/Money, and Public Economics. This field is then augmented with other course

offerings.

Special Facilities.

Computer time and assistance are available at the University Computer Center. In addition, there is a PC lab in the Department for use by graduate students. Research opportunities may be available in connection with faculty projects or at the Connecticut Center for Economic Analysis. Some students publish scholarly articles in partnership with faculty.

Courses

ECON5101(3 Credits) European Economic History

The economic development of Europe from the Industrial Revolution to World War I. Emphasis on the economic and social factors that led to the industrialization of Europe. Components:Lecture

ECON5102(3 Credits) American Economic History

The growth and development of the American economy and the evolution of its economic institutions from the colonial period to the present. Assessment of agriculture, industry, transportation, commerce, finance, government, and population; and of their interaction with the physical environment, technology, public policy, and the world economy. Components:Lecture

ECON5110(3 Credits) History of Economic Thought from 1890

The history and methodological underpinnings of modern economic theory. Topics include macroeconomics and business cycles; utility and demand theory; and industrial organization. Particular attention to Marshall and Keynes. Components:Lecture Attributes:Group 2W: 'W' Courses

ECON5128(3 Credits)Instructor Consent Required Economic Rights

Economic Rights include the right to an adequate standard of living, the right to work, and the right to basic income guarantees for those unable to work. These rights are grounded in international law - particularly in the Universal Declaration of Human Rights and the International Covenant on Economic, Social, and Cultural Rights. This class will explore the conceptual bases, measurement, and policy applications of economic rights. Specific topics will include: child labor, the right to development, non-governmental

initiatives, and the institutionalization of economic rights (e.g., constitutionalization versus statutory implementation versus discretionary policies). Components:Seminar Course Equivalents:HRTS 5390, POLS 5390

ECON5198(3 Credits)Instructor Consent Required Topics in Economic History

Focuses on critical episodes and salient turning points in the history of European, American, and Third World economic development; emphasis on institutional and technological factors. Evaluates different approaches. Components:Lecture Attributes:Group 2W: 'W' Courses

ECON5201(3 Credits) Microeconomics I

Beginning graduate microeconomics covering consumer and producer theory, price determination, economic efficiency, and welfare analysis. Components:Lecture Course Equivalents:ARE 5201

ECON5202(3 Credits) Macroeconomics I

Survey of the field: its historical foundations and development, conceptual framework, and application to current macroeconomic problems. Components:Lecture

ECON5298(3 Credits) Topics in Microeconomics

Topics in microeconomic theory. Students choose the material to be covered. Components:Lecture

ECON5301(3 Credits) Mathematical Economics

Optimization, comparative statics, envelope theorem, basic differential and difference equations. Components:Lecture

ECON5311(3 Credits) Econometrics I

Construction, estimation, and interpretation of economic behavioral and technical equations using data that are passively generated by a system of simultaneous, dynamic and stochastic relations. Components:Lecture Course Equivalents:ARE 5311

ECON5312(3 Credits) Econometrics II

Model estimation and hypothesis testing when standard assumptions of the classical regression model are violated. Pooled cross section and time series data; simultaneous equations; univariate and multivariate time series models; qualitative choice

models. Components:Lecture Requirement Group:Prerequisite: ECON 5311

ECON5348(3 Credits) Economic Development Policy

The role of government in the economic development of underdeveloped countries. Topics include: alternative paradigms of development and the resulting place for government in the economy; the theory, institutions, and policies of government in planning, fiscal, and monetary concerns; analysis of policy instruments influencing international trade and financial flows; and the influence of international organizations on the development process. Components:Lecture

ECON5411(3 Credits) Monetary Theory and Policy

Theoretical analysis of the role of money in the economy, including general equilibrium and monetarist frameworks, the demand for and supply of money, channels of monetary influence, and determinants of long-term and short-term interest rates. Problems of monetary policy, such as selection of instruments and targets, use of discretionary policy, and stability of the money multiplier. Components:Lecture

ECON5416(3 Credits) Issues in Monetary Theory and Policy

Contemporary theoretical and policy issues in money, such as portfolio theory, the money supply process, the mechanics of policy implementation, "crowding out," dynamic macro models, disequilibrium macro models, and rational expectations. Components:Lecture Requirement Group:Prerequisite: ECON 5411 (RG796).

ECON5421(3 Credits) International Trade: Theory and Policy

The economic aspects of international relations, including the pure theory of international trade and the instruments of commercial policy. Topics include comparative advantage; international economic policies; and regional economic integration. Components:Lecture

ECON5422(3 Credits) International Finance: Theory and Policy

Theoretical and historical analysis of international finance, including balance-of-payments adjustments, foreign-exchange markets, international capital flows, and the

effectiveness of macroeconomic policies in open economies. Components:Lecture

ECON5433(3 Credits) Federal Finance

Theories of government in the economy including general equilibrium, public choice and institutional economics. Government expenditures: budgeting, cost-benefit studies and analysis of specific expenditure programs. Taxation: equity and efficiency criteria for evaluating taxes, with application to major sources of revenue; public debt. Components:Lecture

ECON5434(3 Credits) State and Local Finance

Taxes and expenditures in a federal system, with particular emphasis on intergovernmental relationships. Rationale for federalism, problems of public choice, and tax incidence analysis. Components:Lecture

ECON5439(3 Credits) Urban and Regional Economics

Theoretical and empirical analysis of urban and regional systems in developed and developing economies. Special emphasis on the spatial characteristics and problems of metropolitan markets for housing, transportation services, productive factors, and final products; land-use controls, housing subsidies, public transit, and other forms of public sector intervention. Components:Lecture

ECON5441(3 Credits) The Labor Market

A thorough examination of the labor market. Topics include human capital, wage determination, public policy, and money wage rates. Components:Lecture

ECON5461(3 Credits) Industrial Organization

Survey of contemporary theory and models of the organization of industry. Topics include oligopoly; product differentiation; advertising; innovation; contestable markets; the financial theory of the firm; dynamic and evolutionary models; and transaction-cost economics. Components:Lecture

ECON5462(3 Credits) Topics in Public Policy Toward Industry

Theories of economic regulation. U.S. antitrust policy. Regulation of natural monopolies in theory and practice. Health and safety regulation. Components:Lecture

ECON5463(3 Credits) The Economics of Organization

Surveys the modern agency, transaction-cost, and evolutionary theories of organization. Topics include measurement and monitoring costs, asset specificity, incomplete-contracts theory, the dynamic capabilities approach, and alternative organizations. Components:Lecture

ECON5473(3 Credits) Economic Development

An examination of the problems facing the less developed nations. Comparisons of alternative paradigms of economic development (orthodox to political economy) and the strategies and policies they imply. Components:Lecture

ECON5474(3 Credits) Seminar in Development and Growth

A continuation of Economics 350. Topics include agriculture and industry in development, investment criteria, essentials of developing planning, the promotion of domestic saving and fixed investment, foreign aid, improvements in international trade, and human capital formation. Components:Seminar

ECON5479(3 Credits) Economic Growth and Fluctuations

Economic growth and business cycles in the economically advanced countries, with emphasis on both theory and evidence. Components:Lecture

ECON5494(3 Credits) Applied Research Seminar

A survey of research methods in economics and development of individual research projects. Components:Seminar

ECON5495(3 Credits)Instructor Consent Required Topics in Economics

Components:Seminar

ECON5499(1 - 3)Instructor Consent Required Independent Study in Economics

Components:Independent Study

ECON6110(3 Credits) History of Economic Thought

Advanced treatment of material in 320W and

322W. Components:Lecture

ECON6201(3 Credits) Microeconomics II

Microeconomic theory: contemporary economic analysis of decisions by consumers, producers, and other agents. Components:Lecture Requirement Group:Prerequisite: ECON 5201 or ARE 5201 (RG260).

ECON6202(3 Credits) Macroeconomics II

A rigorous course in macroeconomic modeling with policy applications. Focuses primarily on developments in the current literature, analytical techniques, and macroeconomic models. Includes an introduction to stochastic dynamic models. Components:Lecture Requirement Group:Prerequisite: ECON 5202 (RG263).

ECON6211(3 Credits) Microeconomics III

Markets, general equilibrium theory, efficiency, and advanced topics in microeconomics. Components:Lecture Requirement Group:Prerequisite: Completion of ECON 6201 with a grade of B- or better (RG264),

ECON6212(3 Credits) Macroeconomics III

Stochastic modeling, recent developments in the literature, and policy applications. Topics may include real business cycle theory, new classical economics, neo-Keynesian theory and growth models. Components:Lecture Requirement Group:Prerequisite: Completion of ECON 6202 with a grade of B- or better (RG265).

ECON6301(3 Credits) Advanced Mathematical Economics I

An introduction to advanced mathematical topics with applications to economics. Topics and applications may include set theory, logic, topology, difference and differential equations, game theory, preference theory and matching models. Components:Lecture

ECON6302(3 Credits) Advanced Mathematical Economics II

Topics and applications may include: dynamic programming, fixed-point theorems, measure theory, Markov chains and processes, functional analysis, and advanced optimization. Components:Lecture Requirement Group:Prerequisite: Completion of ECON 6301 with a grade of B- or better (RG661).

ECON6311(3 Credits) Econometrics II

Theoretical underpinnings of standard econometric methods of estimation and testing of single-equation models. Components:Lecture Requirement Group:Prerequisite: STAT 5415 (RG261).

ECON6312(3 Credits) Econometrics III

Special topics from single-equation models; simultaneous equations models; full information maximum likelihood methods; and recent advances in econometrics. Components:Lecture Requirement Group:Prerequisite: Completion of ECON 6311 with a grade of B- or better (RG262).

ECON6400(1 - 3) Independent Study

Students pursue an in-depth study of an area of interest under the guidance of a faculty member. Components:Independent Study

ECON6411(3 Credits) Advanced Monetary Theory and Policy I

Advanced treatment of material covered in ECON 346. Components:Lecture Requirement Group:Prerequisite: ECON 6212 (RG663)

ECON6412(3 Credits) Advanced Monetary Theory and Policy II

Advanced treatment of material covered in ECON 347. Components:Lecture Requirement Group:Prerequisite: ECON 6411 (RG664).

ECON6421(3 Credits) Advanced International Trade: Theory and Policy

Advanced treatment of material covered in ECON 342. Components:Lecture Requirement Group:Prerequisite: ECON 6211 (RG662).

ECON6422(3 Credits) Advanced International Finance: Theory and Policy

Advanced treatment of material covered in ECON 343. Components:Lecture Requirement Group:Prerequisite: ECON 6212 (RG663)

ECON6435(3 Credits) Government Expenditures

Theory and evidence of government expenditure policy. Components:Lecture Requirement Group:Prerequisite: ECON

6211 (RG662).

ECON6436(3 Credits) Government Revenues

Positive and normative analysis of alternative government resource uses. Components:Lecture Requirement Group:Prerequisite: ECON 6211 (RG662).

ECON6441(3 Credits) Advanced Labor Economics I

Labor supply with an emphasis on the family. Applications in the area of demography, development, and health. Components:Lecture Requirement Group:Prerequisite: ECON 6211 (428) (RG3880)

ECON6442(3 Credits) Advanced Labor Economics II

Labor demand and other applied topics in labor economics. Components:Lecture Requirement Group:Prerequisite: ECON 6211 (428) (RG3879)

ECON6461(3 Credits) Industrial Organization

Advanced treatment of material covered in ECON 381. Components:Lecture Requirement Group:Prerequisite: ECON 6211 (RG662).

ECON6463(3 Credits) Economics of Organization

Advanced treatment of material covered in ECON 386. Components:Lecture

ECON6466(3 Credits) Environmental Economics

Economic analysis of environmental problems and corrective policy instruments. Topics covered will include the theory of externalities and public goods, the role of uncertainty and imperfect information in policy design, benefit-cost analysis, and non-market valuation. Applications to various environmental problems (such as air and water pollution, hazardous waste, and occupational health and safety) will be discussed. Components:Lecture Course Equivalents:ARE 6466 Requirement Group:Prerequisite: ECON 5201 or ARE 5201 (RG260).

ECON6494(3 Credits) Graduate Seminar

Participation in departmental research seminars and presentation and discussion

of original research projects. Students taking this course will receive a grade of Satisfactory (S) or Unsatisfactory (U).
Components:Seminar

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Education

Department Head
Thomas C. DeFranco

Associate Dean
Associate Professor Marijke T. Kehrhahn

Assistant Dean
Associate Professor in Residence Yuhang Rong

The Neag School of Education offers graduate programs which lead to the degrees of Master of Arts, Doctor of Physical Therapy, Doctor of Education, and Doctor of Philosophy. In addition, the School of Education confers the Sixth-Year Diploma in Professional Education. Graduate courses in education are offered in the following academic departments: Curriculum and Instruction, Educational Leadership, Educational Psychology, and Kinesiology.

Master's degree study is available in most secondary school teaching areas as well as in agricultural, elementary, music, and special education teaching areas. In addition, the Teacher Certification Program for College Graduates (TCPCG) is a 45-credit program beginning with two summer sessions followed by a full year of additional work, which culminates in the award of the M.A. degree and the University's recommendation for certification. Additional information is available at <www.education.uconn.edu>.

Courses of study also are available for school service personnel in areas such as evaluation and measurement, gifted and talented education, educational technology, reading, school counseling, school psychology, special education, supervision and curriculum development.

Additionally, master's-level study is available in a variety of areas including adult learning, counseling, curriculum and instruction, educational administration, educational psychology, educational technology, kinesiology, and higher education and student affairs.

A program leading to the Sixth-Year Diploma in Professional Education provides an opportunity for advanced students who have the master's degree to increase their professional competence through further study under the guidance of a faculty member. For more information on Sixth-Year Diploma programs in EDCI, EDLR, and EPSY, see the department's section of the catalog.

The D.P.T. degree is offered in the field of

Physical Therapy through the Department of kinesiology.

The Ph.D. degree is offered in the following fields of study: adult learning, curriculum and instruction, educational administration, educational psychology, educational technology, kinesiology, and special education. The Ed.D. degree is offered in the field of educational leadership.

Admission Requirements for the Master of Arts Degree.

Applicants must have specific preparation for teaching adequate to meet the minimum professional requirements for obtaining a bachelor's degree through the Neag School of Education. College graduates with outstanding undergraduate records, but without such preparation, may apply for admission and if admitted, are expected to make up any deficiencies. Applicants wishing to specialize in elementary education must have completed an appropriate concentration of elementary education courses; applicants wishing to specialize in kinesiology should have an undergraduate major or the equivalent in kinesiology or related fields.

Applicants may be required to submit scores for the General Test of the Graduate Record Examinations and/or the Miller Analogies Test.

Admission Requirements for the Ph.D. Degree.

The Doctor of Philosophy degree program is intended to give persons of unusual ability and promise the opportunity to become scholars in their areas of specialization. Only outstanding individuals whose experience and background will allow them to carry on a scholarly program and to work professionally at a level commensurate with the degree after its completion are accepted into the program.

Applicants to doctoral programs in education must submit scores for the Graduate Record Examinations General Test. In addition, applicants to some programs may be required to submit scores for the Miller Analogies Test. These tests must have been taken within the last five years. International students may have these test requirements waived by the Admissions Committee of a given program or deferred until after admission.

Special Facilities in the Neag School of Education.

Several important services, facilities, and agencies contribute to the scholarship and research experiences of graduate students in

education.

There are opportunities in the Reading-Language Arts center for graduate students to pursue research studies of the many problems affecting the teachers of reading at all grade levels. The Institute for Urban School Improvement works with students, educators, school communities, local and state governing bodies, and scholars to meet the needs of urban youth and schools through collaboration and evidence-based practices. The University of Connecticut Center for Educational Policy Analysis serves to inform educational and public policy leaders about the development, analysis, and implementation of educational policies. The Center on Postsecondary Education and Disability educates preprofessionals and professionals in acquiring knowledge and skills and developing state-of-the-art practices in disability services. The Department of Kinesiology has laboratory facilities available for research in these areas: sport biomechanics, exercise physiology, sport disabilities, sport social sciences, and athletic training. In addition, the local public schools of Connecticut cooperate closely with the University and provide opportunities for internships, practica, and field studies.

Graduate Courses.

Education courses are listed under the sponsoring departments. Reference should be made to the offerings of the Departments of Curriculum and Instruction, Educational Leadership, Educational Psychology, Kinesiology, and Physical Therapy.

Education: Curriculum & Instruction

Department Head
Professor Mary Anne Doyle

Professors
DeFranco, Goodkind, and Leu

Associate Professor
Alfano, Glenn, Kaufman, Moss, Neelly, Reyes, and Settlage

Assistant Professors
T. Casa, Howard, Irizarry, Levine, Marcus, Rojas, Staples, and Truxaw

Graduate programs in Curriculum and Instruction lead to degrees of Master of Arts and Doctor of Philosophy. The Neag School of Education also confers a Sixth-Year Diploma in Professional Education. Master's and doctoral study is offered in bilingual and bi-cultural education, curriculum development, elementary education, and in most secondary school teaching areas. In addition, master's study is offered in Music

Education. Students should consult the statement under Education for information pertaining to admission requirements and special facilities available in the Neag School of Education.

Courses

Education: Curriculum & Instruction

EDCI5000(3 Credits) Teaching in the Affective Domain Study in the relationship between the affective and cognitive domains of education and how the affective domain influences student behavior in the learning process, self-awareness, and self-concept. Classroom activities, materials, and methods are featured. Components:Lecture

EDCI5002(3 Credits) History of Education in the United States

Development of educational ideas and practices in the United States from the colonial period to the present. Components:Lecture

EDCI5004(3 Credits) History of Educational Thought

Leading educational ideas and how these ideas influence theory and professional practice. The contributions of key individuals in the ancient, medieval and modern worlds are the basis for course organization. Components:Lecture

EDCI5006(3 Credits) Comparative and International Education

Education and educational systems in comparative and international perspective, with emphasis on the interaction of educational institutions with other social, cultural and political institutions in society. Components:Lecture

EDCI5008(3 Credits) Philosophical Analysis in Education

Introduction to philosophical analysis of significant educational concepts. Components:Lecture

EDCI5040(3 Credits) Experimentation in Music Education

Application of experimental techniques to a problem of learning or pedagogy in music. Components:Lecture

EDCI5045(3 Credits) Supervision and Administration of the School Music Program

Programming, scheduling, housing as they

apply to music in the schools; of community demands, public relations and legal commitments; of types of supervisory and in-service organization. Components:Lecture

EDCI5047(3 Credits) Curriculum Construction in School Music

Developing courses and music activities as resource units. Components:Lecture

EDCI5050(3 Credits)Program Director Consent Req'd TCPCG Seminar I: Student Teaching Seminar

Analysis of instructional practice in the clinical setting. Relationship of instruction to theory, and implications for instructional evaluation, are emphasized. Components:Seminar Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5055(3 Credits)Program Director Consent Req'd TCPCG Seminar II: Teacher as Professional

Culminating seminar experience in the TCPCG program. Components:Seminar Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5060(3 Credits)Program Director Consent Req'd Social and Multicultural Foundations of Education

An introduction to the social and multicultural foundations of contemporary public education in U.S. society. Includes discussion of the nature, organization and purposes of public education in a democratic society, cultural diversity in U.S. schools and society, the role of the classroom teacher, professional ethics, and contemporary issues in U.S. education. Components:Lecture Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5062(3 Credits) Evaluation in Vocational and Technical Education

Theories of evaluation; survey of practices and role of evaluation in educational programs; development of instruments and procedures for appraising educational programs and individual achievement. Components:Lecture

EDCI5063(3 Credits) Occupational Experience Programs

Theory of occupational adjustment; design of experience programs; community cooperation; labor legislation, integration with school programs; and role of coordinator. Components:Lecture

EDCI5064(3 Credits) Career Education: Theory and Practice

The need for and rationale of career education. Strategies and processes for implementing career education concepts and practices in schools and other educational settings. Components:Lecture

EDCI5065(3 Credits)Program Director Consent Req Learning Theories

Introduction to learning theories as they are applied to educational contexts. Topics include instructional objectives, behavioral analysis, social cognitive theory, cognitive psychology, social emotional development, and cognitive development. Components:Lecture Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5066(3 Credits) Principles and Philosophy of Vocational and Technical Education

Descriptive and normative principles of vocational and technical education with attention to their special, economic, psychological and political bases as a philosophical rationale. Components:Lecture

EDCI5067(3 Credits) Administrative Applications in Vocational Education

The application of administrative theories to programs of vocational education. Components:Lecture

EDCI5068(3 Credits) Instructional Strategies in Vocational and Adult and Human Resources Education

Innovative approaches to the improvement of learning; instructional techniques, materials and media. Components:Lecture

EDCI5070(3 Credits)Program Director Consent Req Methods of Instruction and Evaluation

Selection and organization of learning experiences, instructional activities and materials, and methods of instruction. Course activities include a combination of lecture and

seminar experiences. Components:Lecture Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5071(3 Credits) Program Planning and Curriculum Development in Vocational and Technical Education

Analysis of vocational/technical program planning and curriculum development theory, with emphasis on principles and current issues influencing program decisions. Components:Lecture

EDCI5072(1 - 3) Business Office Automation

Business office automation. Word processing and related practices. Teaching techniques. Components:Lecture

EDCI5075(3 Credits)Program Director Consent Req Meeting the Needs of Exceptional Learners

Introduction to the characteristics of and educational programming for students with exceptionalities. Components:Lecture Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5080(3 Credits)Program Director Consent Req Reading and Literacy in the Content Areas

Effective use of reading and writing to help students learning content material. Includes selection of reading materials that are appropriate for individual students with diverse reading abilities, understanding reading diagnosis provided by other professionals, using reading material in ways that facilitate comprehension and learning, and using written assignments to increase understanding and recall. Components:Lecture Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5085(3 Credits)Program Director Consent Req Subject Area Methods

Selection and organization of learning experiences, instructional activities and materials, and methods of instruction related to the subject area. Course activities include a combination of lecture and seminar experiences, as well as extensive practice teaching. Components:Lecture Requirement Group:Open to students in the Teaching Certification Program for College Graduates,

others with permission (RG2794).

EDCI5090(9)Program Director Consent Req TPCPG Directed Student Teaching

Supervised student teaching in a subject-specific content area. Components:Clinical Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EDCI5092(1 - 6) Practicum

The implementation and application of theory in the student's area of specialization. Open primarily to master's and Sixth-Year students. Components:Practicum

EDCI5094(1 - 3) Seminar

Analysis of the issues and research in the field of education. Open primarily to master's and Sixth-Year students. Components:Seminar

EDCI5099(1 - 3)Instructor Consent Required Independent Study in Education

Students requesting this course should have a significant background in education and should present to the instructor problems, well-defined and well laid out for investigation, which hold special interest for them and which will be pursued on the plan of advanced study. Components:Independent Study

EDCI5100(3 Credits) Teaching Reading and Writing in the Primary Grades

Processing unique to beginning reading and writing with emphasis on emerging literacy and promoting literacy development. Components:Lecture

EDCI5105(3 Credits) Teaching the Language Arts

Teaching integrated language arts including oral and written communication, creative language, and spelling development with an emphasis on current research. Components:Lecture

EDCI5110(3 Credits) Teaching Writing in the Elementary School, Grades K-6

A course for elementary teachers with emphasis on: teaching the writing process in persuasive, narrative and expository writing; evaluation of errors; developing appropriate curricular sequences; and research in the writing process. Components:Lecture

EDCI5115(3 Credits) The Teaching of Reading

An overview of process and program; theoretical models of the reading, guidelines for a total school reading program, definition of terminology and principles of instruction. Analysis of available material made when appropriate. Intended as a background course for teachers with no previous course work or experience in teaching reading. Components:Lecture

EDCI5120(3 Credits) Introductory Reading Clinic

Clinical practice in instruction of persons with corrective reading disabilities. Components:Practicum

EDCI5125(3 Credits) Teaching Reading and Writing in Middle and Junior High School

Process and problems unique to reading and writing needs in the middle and junior high school. Emphasis on the development of reading and writing strategies as well as diagnostic teaching methods appropriate to this level. Components:Lecture

EDCI5130(3 Credits) Teaching Children's Literature in the Elementary School

Literature for elementary school children, techniques for developing interest in independent and recreational reading. Components:Lecture

EDCI5135(3 Credits) Literacy in the Secondary School

Process and problems unique to literacy needs in the secondary school. Emphasis on differentiated instruction for students with diverse backgrounds and abilities. Components:Lecture

EDCI5140(3 Credits) Teaching Reading in the Content Areas

Emphasis upon the adaptation of materials, reading skills and study strategies applicable to the content areas; functional techniques for incorporating reading into subject matter instruction; the role of reading personnel within school settings. Components:Lecture

EDCI5145(3 Credits) Classroom Assessment and Correction of Reading Difficulties

Types of reading difficulties and the remediation methods appropriate for use by the classroom teacher. Components:Lecture

EDCI5150(3 Credits) Clinical Diagnosis and Correction of Reading Difficulties

Severe reading disabilities and clinical methods of remediation utilizing the case study approach. Components:Lecture

EDCI5155(6)Instructor Consent Required Advanced Reading/Language Arts Clinic

For prospective reading/language arts specialists. A laboratory course in planning and implementing remedial reading/language arts instruction for persons with severe or complex reading and writing disabilities. Components:Practicum Requirement Group:Prerequisite: EDCI 5150 (RG280).

EDCI5160(3 Credits)Instructor Consent Required Design, Management, and Supervision of Reading Programs

Designing, supervising and evaluating reading programs on a school and systemwide basis. Components:Lecture Requirement Group:Prerequisite: EDCI 5150 and EDCI 5155 (RG583).

EDCI5250(3 Credits) Teaching Literature to Adolescents

A study of competing theories of literary response with an emphasis on implications for the teaching of literature and research on the teaching of literature. Includes some reading of literature for young adults. Components:Lecture

EDCI5255(3 Credits) Teaching Composition (7-12)

A study of composition theory, with an emphasis on implications for the teaching of writing and research on the teaching of writing. Components:Lecture

EDCI5350(3 Credits) Teaching Elementary and Middle School Social Studies

A study of curriculum alternatives, techniques of individual and small-group instruction, evaluation and the development of teaching materials. Components:Lecture

EDCI5355(3 Credits) Trends in Social Studies Curricula

New curricula and developments. For teachers and supervisors of social studies. Components:Lecture

EDCI5360(3 Credits)Instructor Consent

Required Education and Popular Culture

This course examines important and timely issues around popular culture and education with a focus on film/television/music and students/teachers. The class will explore popular culture images of students and teachers and how these influence societal views of teaching and learning, analyze classroom practices with popular culture and develop skills and understanding applicable to teaching, study the history of film and television, and investigate issues of media literacy both in and out of the classroom. Components:Lecture

EDCI5369(3 Credits) The Teaching and Learning of Mathematical Problem Solving

This course will focus on the processes involved in mathematical thinking and mathematical problem solving. Classroom discussions will address those aspects associated with expert problem solving-domain knowledge, problem solving skills, metacognition (belief and issues of control), and aesthetic judgements. Students will have an opportunity to discuss and solve various types of mathematics problems and develop instructional strategies to teach and assess mathematical problem solving at the middle and secondary school levels. Components:Lecture

EDCI5450(3 Credits) The Teaching and Learning of Mathematics in the Secondary School

An examination of current approaches to the teaching and learning of mathematics in the secondary school. Emphasis will be placed on issues surrounding content knowledge, curriculum, pedagogy, epistemology, assessment, and technology with respect to recent national initiatives and instructional techniques impacting on the secondary school mathematics curriculum. Components:Lecture

EDCI5455(3 Credits) Curricula in Mathematics Education

Exploration of significant curricula in mathematics education for teachers and supervisors of mathematics. Emphasis is placed on research and development related to content and techniques. Components:Lecture

EDCI5460(3 Credits) The Teaching and Learning of Mathematics in the Elementary School

This course will investigate the teaching and learning of mathematics in the elementary school. Emphasis will be placed on issues surrounding content knowledge, curriculum, pedagogy, epistemology, assessment, and technology with respect to national initiatives and instructional techniques impacting elementary school mathematics. Components:Lecture

EDCI5465(3 Credits) The Teaching and Learning of Mathematics in the Middle School

This course will investigate the teaching and learning of mathematics in the middle school. Emphasis will be placed on issues surrounding content knowledge, curriculum, pedagogy, epistemology, assessment, and technology with respect to national initiatives and instructional techniques impacting middle school mathematics. Components:Lecture

EDCI5500(3 Credits) Teaching Science in the Middle and Secondary School

Materials and advanced methods in the teaching of science in grades 7-12. Components:Lecture

EDCI5505(3 Credits) Materials and Methods in the Teaching of Elementary School Science

A systematic examination of major science and curriculum program for the elementary school, the selection and design of materials, the development of teaching techniques. Components:Lecture

EDCI5550(3 Credits) Problems in the Teaching of Science

Theories of teaching science with emphasis on studies of research related to current problems. Components:Lecture

EDCI5555(3 Credits) Environmental Education

An exploration of state, national, and international environmental issues and instructional approaches for developing student awareness, knowledge, and concern for the environment, K-12. Includes classroom and field study. Components:Lecture

EDCI5600(3 Credits) Instructor Consent Required Methods for Teaching Foreign Languages in the Elementary Schools

An introduction to methods of teaching foreign languages in the elementary schools.

Includes FLEX, FLES, and immersion approaches. Components:Lecture

EDCI5605(3 Credits) Instructor Consent Required Second Language Acquisition in the Elementary School-Age Student

An introduction to current research related to second language acquisition in elementary school-age children, with emphasis on implications for foreign language instruction. Components:Lecture

EDCI5700(3 Credits) Foundations of Bilingual Education

Study of the political, social and legal aspects of bilingual education, including principles of second language acquisition. Components:Lecture

EDCI5705(3 Credits) Curricular Issues in Bilingual Education

Current approaches, methods and techniques with respect to curricular issues in contemporary bilingual education programs. Components:Lecture

EDCI5710(3 - 6) Spec Topics Bilingual Education

In-depth study of current topics related to bilingual education programs. Components:Lecture

EDCI5715(3 Credits) Bilingualism and Second Language Acquisition

Developmental sequences and theories of first and second language acquisition. Components:Lecture

EDCI5720(3 Credits) Bilingual Education and Bilingual Education

Current methods, strategies and techniques of reading in the mother tongue (L1); transfer of reading skills into English (L2); and, evaluation and adaptation of L1 and L2 reading materials. Principles of second language acquisition. Components:Lecture

EDCI5740(3 Credits) Latinos and U.S. Education

Conditions of schooling Latinos in the U.S. educational system via an historical and economic context, including principles of second language acquisition. Policy issues and theoretical discussions of underachievement. Relationship between dominant and subordinate cultures and

their effect on classroom discourses. Components:Lecture

EDCI5742(3 Credits) Sheltered English Instruction for English Language Learners

Current approaches and techniques with respect to academic language development in sheltered environments. This course attempts to disclose the most important issues surrounding content area teaching for English Language Learners (ELLs). Special attention is placed on the teaching of mathematics, science, and literacy in English for second language learners, including second language acquisition and development within the content areas. Components:Lecture

EDCI5745(3 Credits) International Perspective on Bilingual Education

Education of speakers of non-dominant languages in comparative and international perspective. Emphasis on issues of educational policy, curricula, teacher education, and evaluation as these relate to the schooling of cultural and linguistic minority populations in different societies. Components:Lecture

EDCI5750(3 Credits) Language Diversity and Literacy

Overview of issues and debates concerning the theory and practice of literacy development for non-native English speaking students in the United States. Includes principles of second language acquisition. Components:Lecture

EDCI5755(3 Credits) Teaching English as a Second Language

An examination of current research on the acquisition and learning of English as a second language (ESL) in school settings. Critical issues in the application of research on ESL to the bilingual classroom are discussed. Components:Lecture

EDCI5760(3 Credits) Research in Bilingual Education

Analysis of research in bilingual education, methods of research and design and implementation of research studies in bilingual education. Components:Seminar Requirement Group:Prerequisite: EDCI 5705 (RG266).

EDCI5765(3 Credits) Assessment of Bilingualism

Principles of assessment for bilingual learners, including language proficiency and dominance, (bi)literacy development, and academic content knowledge. Current assessment approaches for bilingual learners in different context (e.g., bilingual, ESL classes) and for various purposes (e.g., screening, placement, evaluation). Principles of second language acquisition. Components:Seminar

EDCI5770(3 Credits) Advanced Issues in Bilingual Education

Critical contemporary issues and topics related to bilingual education programs in the United States. Components:Seminar Requirement Group:Prerequisite: EDCI 5705 (RG266).

EDCI5775(3 Credits) Advanced Issues in Second Language Acquisition

Advanced clinically-based seminar focusing on research issues and practice in second language acquisition. Components:Seminar

EDCI5780(3 Credits) Social and Political Context Bilingual Education

Advanced seminar addressing the social and political context of contemporary bilingual education programs from a critical perspective. Components:Seminar Requirement Group:Prerequisite: EDCI 5705 (RG266).

EDCI5800(3 Credits) Applied Learning Research for Instructional Leaders

A study of learning principles and their manifestations in classroom settings; design and application of goals and objectives; instructional methods and programming which complement and extend learning style preferences and collective and individual needs. Components:Lecture

EDCI5802(3 Credits) Lectures in Education

A course in which staff members and authorities in education and related fields discuss selected problems. Components:Lecture

EDCI5804(3 Credits) Curriculum Planning

Examines teachers' issues and problems from real-life cases with theoretical perspectives and pedagogical methods. Components:Lecture

EDCI5808(3 Credits) Curriculum

Development Processes

A study of the processes, strategies, and techniques used to bring about planned curriculum development in any educational setting. Components:Lecture

EDCI5810(1 - 3) Workshop in Education

Professional personnel to work cooperatively on problems arising out of actual school situations. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Practicum

EDCI5812(3 Credits) Managing and Motivating Students in the Classroom

Classroom management from the perspective of motivation theory. Whole group, as well as individualized, interventions for increasing students' task-attentiveness and academic interest. Components:Lecture

EDCI5814(3 Credits) Addressing Individual Needs and Talents in the Heterogeneous Classroom

Instructional and managerial techniques that can be used in the grade level classroom to meet the individual learning needs and talents of all students. Strategies for improving the effectiveness of large group, individual and small group instructional practices. Current and promising practices, as well as relevant research. Components:Seminar Course Equivalents:EPSY 5740

EDCI5815(3 Credits) Teaching the Elementary School Child

Study of the development of the elementary school child, the relationship between theory and practice, balancing traditional expectations with current concerns, and the selection and implementation of successful learning experiences in both school and non-school settings. Components:Lecture

EDCI5820(3 Credits) Media Literacy in an Information Age

A study of the growing field of media literacy and the media's influence upon our culture and education. Includes major principles, development of media analysis skills, and integration with the school curriculum. Components:Lecture

EDCI5824(3 Credits) Educational Ethnography

Methodology and content of socio-

cultural case studies dealing with education in a variety of cultural contexts. Components:Seminar

EDCI5825(3 Credits) Enhancing Classroom Curriculum with Computers and Electronic Media

Effective use of microcomputers and other electronic media to strengthen and enhance classroom instruction in the basic content and skill areas. Emphasis upon specific curriculum applications of technology rather than on its basic operation, mechanics, and programming. Components:Laboratory

EDCI5830(1 - 6) Curriculum Laboratory

Open to teachers and administrators seeking practical solutions to curriculum problems in elementary and secondary schools. Reorganization of courses, reorientation of the program of studies, articulation of administrative units, and development of new materials are considered in relation to the local situation. Students make individual studies of their specific problems, and group studies of related problems. Components:Practicum

EDCI5845(3 Credits) Seminar in International Education

Concentrated study of culture and education in a major geographical region such as Africa, Asia, or Latin America; or cross-cultural studies of educational issues. Components:Seminar

EDCI5850(3 Credits) Introduction to Curriculum

Philosophy, theory, and practice employed in curriculum development and change. Components:Lecture

EDCI5855(3 Credits) Elementary School Curriculum

Analysis of the elementary school curriculum. Emphasis on curriculum development and educational alternatives. Components:Lecture

EDCI5870(3 Credits) Curriculum Theory and Design

Elements and formation of theory and application in the curriculum field. Components:Lecture

EDCI5875(3 Credits) Multicultural Education

Interrelationships between education and

various sociocultural aspects of cultural diversity and cultural pluralism, including language acquisition and diversity.
Components:Lecture

EDCI5880(3 Credits) Contemporary Educational Theories

Examination of the work of selected major contemporary educational theorists, as well as of significant trends and developments in modern education. Components:Seminar

EDCI5885(3 Credits) Introduction to Critical Pedagogy

Theory and practice in teaching for social justice with an emphasis on issues of class, race, gender and ethnicity.
Components:Lecture

EDCI5890(3 Credits) Educational Linguistics

Overview of the study of language and linguistics, and especially applied linguistics, with emphasis on their implications for classroom teacher. Includes principles of second language acquisition.
Components:Lecture

EDCI5895(3 Credits) Language Ideology & Education

Interrelationship among language, ideology, education and society, including examination of issues of social classes, ethnicity, gender, social context, power, and politics. Also covered are literacy, language prescriptivism and standardization, language policy and discourse in critical perspective. Principles of second language acquisition.
Components:Lecture

EDCI6000(3 Credits) Qualitative Methods of Educational Research

Purposes and nature of qualitative research, including selected techniques for conducting various types of qualitative and naturalistic research in educational settings.
Components:Lecture

EDCI6005(3 Credits) Advanced Methods of Qualitative Research

Field-based methods of collecting data in qualitative research studies in educational settings, coding and analysis of qualitative data, use of computer programs to analyze data, and methods and procedures for ensuring trustworthiness in qualitative research. Components:Lecture

EDCI6010(3 Credits) Writing for Educational Publications

Designing, writing, editing, and marketing material for professional publication.
Components:Lecture

EDCI6092(1 - 6) Practicum

The implementation and application of theory in the student's area of specialization.
Components:Practicum

EDCI6094(1 - 6) Seminar

Cooperative study of developments and problems in the student's area of specialization. Components:Seminar

EDCI6200(3 Credits) Theoretical Foundations of Teaching English

A sociocognitive perspective on teaching the English language arts, including the historical, sociological, linguistic, and psychological foundations of teaching English. Components:Lecture

EDCI6410(3 Credits) Learning Theories for Mathematics Instruction

This course will examine various learning theories and their influence on mathematics instruction. In particular, this course will be concerned with understanding the processes involved in mathematical thinking, the impact of learning theory on mathematics instruction, expert-novice models of mathematical behavior, and ways to enhance mathematics learning in the classroom. Components:Lecture Requirement Group:Prerequisite: EPSY 5510 (RG702).

EDCI6415(3 Credits) Research in Mathematics Education

Analysis of research in mathematics education, methods of research, and design and research studies. Components:Lecture

EDCI6500(3 Credits) Research in Science Education

An analysis of current research in science education. Emphasis on evaluation of research as well as the design and implementation of research.
Components:Lecture

EDCI6855(3 Credits) Sociocultural Theories for Educators

The study of selected sociocultural

theories and their application in education
Components:Seminar

EDCI6860(3 Credits) Research in Multicultural Education Advanced study Educational Leadership

Graduate programs in the Department of Educational Leadership lead to the degrees of Master of Arts and Doctor of Philosophy (Ph.D.) in the field of Learning, Leadership, and Education Policy and to the degree of Doctor of Education (Ed.D.) in the field of Educational Leadership. In addition, a Master of Arts is offered in Higher Education and Student Affairs (HESA). The Neag School of Education also confers a Sixth-Year Diploma in Professional Education and a Graduate Certificate in Adult Learning. Students should consult the statement under Education for information pertaining to admission requirements and special facilities available in the Neag School of Education.

The M.A. in in the field of Professional Higher Education Administration with an emphasis in Higher Education and Student Affairs (HESA) is designed to prepare students for professional careers in various higher education and student affairs positions. This full-time, two-year, cohort-based academic program combines traditional instruction with graduate assistantships and practicum experience. Major advisor and program coordinator: S. A. Saunders.

The Sixth-Year Diploma Program in Educational Administration – University of Connecticut Administrator Preparation Program (UCAPP) – is a special two-year administrator certification program preparing educators for school leadership positions. For additional information, contact the Department Office. UCAPP cohorts consist of students from various geographic regions across the state including: East Hartford, Farmington, Southeastern Connecticut, and Stamford. Director: D. Ullman.

The M.A. in Adult Learning program prepares individuals to critically assess learning needs of adults, groups, and organizations, design supportive learning environments and systems, facilitate learning activities to optimize adult learning, and evaluate learning outcomes at individual and organizational levels. Graduates can apply the skills, knowledge, and values they develop in the M.A. program to a wide variety of adult learning contexts. They are able to support decisions about how to best support adult learning using current theory and evidence-based best practices. The Graduate

Certificate in Adult Learning is a 12-credit program for students interested in expanding their preparation in and understanding of workplace and organizational learning. Major advisors are S. Bell, R. S. Grenier, and M. T. Kehrhahn.

The Learning, Leadership, and Education Policy Ph.D. offers two concentrations in (a) Adult Learning and (b) Leadership and Policy. These two concentration areas provide Ph.D. students with the opportunity to link their professional and academic goals to scholarship, faculty resources, and curriculum that are designed to meet their interests in adult learning, educational leadership, education policy, and higher education. With one concentration primarily focusing on learning theory, and the other on theories of policy and leadership, students can maintain distinct academic identities while simultaneously applying lenses of social justice and organizational change to their work in and with complex organizations. The Ph.D. program is foremost a research degree designed for those who aspire to conduct and critically apply research in their careers. Students pursuing this degree take on roles as faculty members, researchers, government employees, policy scholars, or organizational leaders. Major advisors are S. Bell, C. D. Cobb, M. L. Donaldson, R. Gonzales, R. S. Grenier, M. T. Kehrhahn, A. P. Mayer, S. A. Saunders, R. L. Schwab, S. Woulfin.

The Ed.D. in Educational Leadership that is intended to address the increasing need for visionary school leaders. Students in this cohort program are currently employed professionals seeking a terminal degree that combines theory, problem solving, and skill development to change and enhance the work of schools. Course work focuses on the critical analysis of problems of practice through collaborative learning communities that bring students together with faculty, local school staff/administrators, and veteran school district employees. UConn's Ed.D. is an inquiry-based program that capitalizes on one of the most powerful learning forums available to full-time professional educators—their work settings. Throughout the program these settings become “laboratories of practice” in which participants inquire actively into problems of practice. Classes meet at times designed to accommodate working professionals. Major advisors are S. Bell, C. D. Cobb, M. L. Donaldson, R. Gonzales, R. S. Grenier, A. P. Mayer, R. L. Schwab, D. Ullman, R. M. Villanova, and S. Woulfin.

The Department of Educational Leadership offers the Executive Leadership Program

Courses

Education: Educational Leadership

EDLR5001(3 Credits) Lectures in Education

A course in which staff members and authorities in education and related fields discuss selected problems.

Components:Lecture

EDLR5002(1 - 6) Workshop in Education

Professional personnel to work cooperatively on problems arising out of actual school situations. Components:Lecture

EDLR5015(3 Credits) Teacher Leadership and Organizations

Teachers' role in providing leadership that extends beyond the walls of the individual classroom and includes collaboration with other adults. Components:Lecture

EDLR5092(1 - 6)Instructor Consent Required Practicum: Administrative Field Experience

This course will provide an opportunity for educators who wish to become administrators of educational organizations to become familiar with the functions and tasks that certified administrators perform. It is intended primarily for Sixth-Year students. Components:Practicum

EDLR5094(3 Credits) Seminar

Analysis of the issues and research in the field of education. Open primarily to Master's and Sixth-Year students. Components:Lecture

EDLR5099(1 - 3)Instructor Consent Required Independent Study in Education

Students requesting this course should have a significant background in education and should present to the instructor problems, well-defined and well laid out for investigation, which hold special interest for them and which will be pursued on the plan of advanced study. Components:Independent Study

EDLR5102(3 Credits)Instructor Consent Required Assessment, Evaluation, and Research in Student Affairs I

The role of assessment and evaluation to address current student affairs issues in higher education settings. Focus on skill development in problem identification, research question formulation, qualitative design, interview protocol development,

and critique and applications of professional literature. Components:Lecture Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5103(3 Credits)Instructor Consent Required Assessment, Evaluation, and Research in Student Affairs II

Application of assessment and evaluation research methodologies to address genuine problems in student affairs contexts. Focus on development of theoretical framework, quantitative methods, reporting results, and formulating recommendations for improving practice and policy. Components:Discussion Requirement Group:Prerequisite: EDLR 5102 (302). Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3457).

EDLR5105(3 Credits)Instructor Consent Required Structured Group Interventions in Student Affairs

Basic approaches to structured group work in relation to goals, objectives, and group dynamics. Implications of group approaches to the personal and educational development of students and staff in Student Affairs Components:Discussion Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5107(3 Credits)Instructor Consent Required Resource Management in Student Affairs Administration

Analysis of higher education resource development and management with an emphasis on issues in student affairs administration; including, financial management and analysis, human resource management, and management of information technology resources. Components:Discussion Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5108(3 Credits)Instructor Consent Required Leadership Challenges in Higher Education

Application of leadership theory to challenges faced by higher education professionals. By developing critical thinking and problem solving skills, students will learn to identify a crisis, provide leadership for crisis management, and utilize methods of managing communication regarding

incidents. Components:Discussion
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5112(3 Credits)Instructor Consent
Required Alcohol and Other Drugs and their Influence on Higher Education

Examination of alcohol and other drug issues in higher education, substance abuse, and modalities of intervention for individual students. Includes current research on the complexity of environmental, cultural, and political issues of alcohol and other drug uses on college campuses. Components:Discussion
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5113(3 Credits)Instructor Consent
Required The Small College Experience

Seminar designed to explore and understand a unique form of Higher Education, the American Small College, from various perspectives including president, faculty, students, and student affairs professionals. Primary emphasis on the small, residential, liberal arts college, though other small college settings will be discussed. Components:Discussion
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5117(3 Credits) The College Student

Characteristics of today's college students. Student behavior theory. Impact of college on students. Components:Lecture
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5118(3 Credits) Seminar in Higher Education

Seminar designed to promote the integration of the core curriculum and practitioner experiences of the Master's degree program in Higher Education and Student Affairs and to prepare students for their transitions to a professional position within student affairs upon graduation. Components:Seminar
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5119(3 Credits) The Law, Ethics, and Decision-making in Student Affairs

Survey of case law and statutory provisions

related to higher education with a focus on student affairs administration. Students will develop an understanding of ethical decision making and its application to relevant student affairs scenarios. Components:Seminar
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5121(3 Credits) Introduction to Student Services in Higher Education

A survey of student services and personnel functions in higher education, including an examination of philosophies, goals, objectives and procedures. Components:Lecture
Requirement Group:Open to Students in Professional Higher Education Administration, others with permission (RG2077).

EDLR5122(3 Credits)Instructor Consent
Required College Student Development: Programs and Services

History and philosophy of student personnel work related to contemporary and projected student developmental programs and services. Rights, freedoms and responsibilities of students in relation to the college. Components:Lecture
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5123(3 Credits) Administration of Student Affairs in Higher Education

Administration of student affairs and services and applications of student development theory in the college community. Components:Lecture
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5124(3 Credits)Instructor Consent
Required Higher Education in Film

An exploration of the portrayals of higher education in film, this course will establish a theoretical base for evaluating film and apply the constructs as a means for understanding the college experience. Focus on applications of film as a tool for student learning and programming. Components:Seminar
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5125(3 Credits) Issues in Student Affairs Administration

An examination of issues which affect the new student affairs administrator. Topics vary per semester. Components:Lecture
Requirement Group:Open to Students in Professional Higher Education Administration, others with permission (RG2077).

EDLR5126(3 Credits) Leading Toward a Multicultural Educational Environment

American higher education continually struggles with issues of difference, particularly racial, ethnic, gender, ability, religion, sexual orientation, and other cultural differences. Course participants are challenged to reflect on their personal experiences and examine their values, beliefs, and attitudes with regard to multicultural difference as a means to deepen a critical understanding of multicultural issues in higher education. Components:Lecture
Requirement Group:Open to students enrolled in the Higher Education and Student Affairs master's degree program (RG3454)

EDLR5201(3 Credits)Instructor Consent
Required Influences on Adult Learning

Interaction of person and environment. Culture. Role of environment. Situational barriers. Motivation. Self-regulation. Personality. Gender. Life transitions. Self-directed learning. Components:Lecture

EDLR5202(3 Credits) Workplace Learning

Trends in workplace learning and workforce development. Conceptual models of performance improvement and transfer of training. Focus on individual, work team, and organizational variables related to learning, performance, and transfer of training. Components:Lecture

EDLR5203(3 Credits) The Brain, Experience, and Adult Learning

Four learning systems within the brain. Role of experience in learning. Implications for adult learning and professional development programs. Components:Lecture

EDLR5204(3 Credits) Organizational Learning

Group and collective learning in organizational settings, with an emphasis on adaptive and generative learning processes. Components:Lecture

EDLR5205(3 Credits) Professional Development

Using research on how adults learn best and principles of human resource development to implement effective, job-embedded professional development programs. Using professional development to advance organizational goals. Examination of best practices. Components:Lecture

EDLR5206(3 Credits)Instructor Consent Required Development of Programs for Adult and Human Resource Education

Program development for adult learners; emphasis on collaborative planning, needs assessment, effective learning strategies, transfer of training, evaluation, principles of good practice. Components:Lecture

EDLR5207(3 Credits) Methods for Facilitating Adult Learning

Recommended preparation: EDLR 5201. Focuses on principles and practices of adult learning facilitation, including situational and methodological factors that impact how adults learn in conventional and multimedia contexts. Components:Lecture

EDLR5301(3 Credits) The School Principalship (K-12)

Roles and functions of the principal, problem solving, decision-making, school culture, curriculum leadership. Components:Lecture

EDLR5302(3 Credits) Program Evaluation for School Improvement

Program evaluation issues critical to effective school leadership. Components:Lecture

EDLR5303(3 Credits) Supervision of Educational Organizations

Supervision models; teacher selection and induction; teacher evaluation; staff development and organizational change. Components:Lecture

EDLR5304(1 - 3) Curriculum Laboratory

Open to teachers and administrators seeking practical solutions to curriculum problems in elementary and secondary schools. Reorganization of courses, reorientation of the program of studies, articulation of administrative units, and development of new materials are considered in relation to the local situation. Students make individual studies of their specific problems, and group studies of related problems. Components:Lecture

EDLR5305(2) Legal Aspects of Education

Legal status of public schools; legal rights and responsibilities of administrators, parents, students, school board members, and teachers. Components:Lecture

EDLR5306(3 Credits) School Leadership and Administration of Educational Organizations

This course will introduce students to concepts and skills which are fundamental to the successful administration of educational organizations. The overarching goal of the course is to provide pragmatic knowledge which will give students an understanding and appreciation of the complexity of educational organizations. The course will use Bolman and Deal's conceptual framework (multi-frame thinking) which borrows ideas from sociology, management science, psychology, political science as well as social and cultural anthropology. Components:Lecture

EDLR5307(3 Credits) Contemporary Educational Policy Issues

Study of current educational policy issues. Components:Lecture

EDLR5308(3 Credits) Psychological Foundations of Education

Learning and related psychological theories and their implications for curriculum, teaching methods, and other aspects of educational practices. Components:Lecture

EDLR5340(3 Credits) Educational Planning

An overview of the educational planning process and its relationship to the concepts of systems and futurism. Attention will be given to specific planning models and techniques such as needs assessment, PERT, PPBS, MBO, delphi, ZBB, and cost benefit analysis. Components:Lecture

EDLR5342(3 Credits) Effective Departmental Leadership

Concepts and practices required of departmental leaders in today's secondary schools. Components:Lecture

EDLR5343(3 Credits) Women, Education and Social Change

Examination of the lives of girls and women as students, teachers and academics. Emergence of teaching as a hierarchically

sex-segregated profession. Effect of gender on the status and organization of the profession. Changing women's roles and social ideologies as related to women's educational aspirations, career achievement and leadership. Components:Seminar

EDLR5344(3 Credits) Time Management and Personal Organization

Principles and practices of time management. Including interdisciplinary studies relating time usage to organizational behavior and personal effectiveness. Components:Lecture

EDLR5346(3 Credits) Personnel Evaluation

Issues critical to the design and implementation of effective personnel evaluation programs. Components:Lecture

EDLR5347(3 Credits) Improving Teacher Evaluation Practice

Improving the teacher evaluation skills of principals and department heads through guided practice experiences that allow them to reflect on what they are doing now in light of promising alternatives. Components:Lecture

EDLR5349(3 Credits) Issues in Teacher Assessment and Evaluation

Critical review and analysis of current issues and emerging methodologies in teacher assessment and evaluation. Components:Lecture

EDLR5351(3 Credits) Budgeting and Resource Management

Analysis of educational budget formats: program, capital, function, objective and zero based; budget planning, procedures, forms, documents, codes; political-economic issues in educational budgeting; case studies of program budgeting and site-based budgeting in education; cost reduction and analysis; resource management research. Components:Lecture

EDLR5354(3 Credits) Human Resources Administration

Study of personnel management in education, including current laws, policies, practices and problems such as recruitment, tenure, promotion, retirement; performance evaluation; motivation; salary, benefits, welfare; staff development; data collection; layoff procedures; grievances; contract administration. Components:Lecture

<p>EDLR6050(3 Credits)Program Director Consent Req'd Dissertation Proposal/ Prospectus Development I</p>	<p>analysis and interpretation of the research literature to the practice of school leadership. Components:Seminar Requirement Group:Open to students in the Ed.D. program in Educational Leadership (RG2751).</p>	<p>agency officials. Components:Seminar EDLR6302(3 Credits)Instructor Consent Required School District Policy, Politics, and Governance</p>
<p>Open to students enrolled in doctoral programs. Systematic development of dissertation proposal components, including Introduction, Problem Statement, Conceptual Framework and/or Review of Literature, and Research Questions. Components:Seminar Requirement Group:Open to students enrolled in doctoral programs offered by the Department of Educational Leadership.</p>	<p>EDLR6055(3 Credits)Instructor Consent Required Inquiry and Research in Educational Leadership I: Implementation, Analysis, and Discovery</p>	<p>Study of educational policy and school governance; the politics of educational administration; reform; finance; and the processes of district policy formulation, implementation, and analysis. Specific school district policy and governance issues are examined. Components:Seminar</p>
<p>EDLR6051(3 Credits)Program Director Consent Req'd Dissertation Proposal/ Prospectus Development II</p>	<p>A continuation of Understanding, Inquiry and Research in Educational Leadership I. Elaborates the strategies and tools used to conduct meaningful research in schools with emphasis in the actual conduct of research in school settings. Explores the link between research findings and the improvement of practice. Components:Seminar Requirement Group:Open to students in the Ed.D. program in Educational Leadership (RG2751).</p>	<p>EDLR6303(3 Credits)Instructor Consent Required Data-Driven Decision Making for School Improvement and Policy Development</p>
<p>Open to students enrolled in doctoral programs. Systematic development of dissertation proposal components, including Methodology, Methods, Procedures, Limitations, all related appendices, IRB application, and proposal defense. Components:Seminar Requirement Group:Open only to students enrolled in Ph.D. programs offered by the Department of Educational Leadership (RG284).</p>	<p>EDLR6092(1 - 9)Instructor Consent Required Practicum</p>	<p>The purpose of this course is to provide school leaders with the knowledge necessary to improve instructional programs and improve policy by relying on data-driven strategies and tools. The course meets in seminar/lab format with students working on data-driven problems, analyses and developing action plans as a result. Students work on several case studies and a major project of personal, professional significance. Components:Seminar</p>
<p>EDLR6052(3 Credits) Qualitative Methods of Educational Research II</p>	<p>The implementation and application of theory in the student's area of specialization. Components:Practicum</p>	<p>EDLR6304(3 Credits)Instructor Consent Required Financial and Human Resources Management in Education</p>
<p>This course is a companion to EDCI 6000, Qualitative Methods of Educational Research. It provides the opportunity for students to more closely examine qualitative methodology and methods to ensure that students are able to synthesize an analysis of qualitative data. Specifically, students will generate credible units from narrative and visual data and develop categories from the units through comparing, contrasting, aggregating, and ordering data. Students will present findings in a chronological or thematic case example or case history, in an essay formulated around topics or theses, or in an alternative format appropriate to the analysis. Components:Seminar Requirement Group:Prerequisite: EDCI 6000 (365) (RG4039)</p>	<p>EDLR6094(1 - 3) Seminar</p>	<p>Study of human resources development practices in school systems, with emphases on central office and school unit responsibilities for attracting, selecting, developing, evaluating, and retaining competent faculty and staff. This course also includes the study of concepts in school finance and school business management. Attention is given to national, state, and local issues. Emphasis is also given to school support services including transportation, faculty planning and maintenance, food service, and risk management. Components:Seminar</p>
<p>EDLR6054(3 Credits)Instructor Consent Required Inquiry and Research in Educational Leadership I: Foundations, Design, and Use</p>	<p>Cooperative study of developments and problems in the student's area of specialization. Components:Seminar</p>	<p>EDLR6311(3 Credits) Organizational Behavior in Educational Administration</p>
<p>Explicates knowledge production through systematic inquiry in education, including processes, questions, and strategies used to conduct meaningful research in schools. Explores the intersection of theory and practice with emphasis placed on the critical</p>	<p>EDLR6201(3 Credits)Instructor Consent Required Strategic Applications of Adult Learning</p>	<p>Advanced course focusing on interdisciplinary research about organizations, leadership behavior, and management processes. Components:Lecture</p>
	<p>Case study analysis and live case study consultation to develop innovative approaches to adult learning to address the challenges of employee development in corporate, education, public sector, and private sector settings Components:Seminar Requirement Group:Prerequisite: EDLR 5201, EDLR 5202, EDLR 5203, and EDLR 5204. Open to students in the Adult Learning graduate program (RG2750).</p>	<p>EDLR6312(3 Credits)Instructor Consent Required Leadership for Teaching and Learning: The Role of the Leader in School Improvement</p>
	<p>EDLR6202(3 Credits) Research Seminar in Adult and Vocational Education</p>	<p>Explores leadership skills required to improve</p>
	<p>Advanced research issues in adult learning. Components:Seminar</p>	
	<p>EDLR6301(3 Credits) School District Executive Leadership</p>	
	<p>Seminar and practicum experiences focusing on leadership and policy issues facing school superintendents, central office administrators, and senior state education</p>	

instruction and student learning in the school and district. Students develop and apply models to address an instruction/achievement issue in practice. Components:Seminar

EDLR6313(3 Credits) Educational Policy and Politics

Study of educational policy; the politics of educational administration; and the processes of policy formulation, implementation and analysis. Specific educational policy areas are examined. Components:Seminar

EDLR6314(3 Credits)Instructor Consent Required Legal Issues in Organizational Management

The legal process and understanding of legal issues in education involving students, teachers, and boards of education. Components:Seminar Requirement Group:Open to students in the Ed.D. program in Educational Leadership (RG2751).

EDLR6320(3 Credits)Instructor Consent Required Micro Theories for Policy Research

Theoretical perspectives on policy formulation and implementation. Case examples illuminate the origin, development, and interpretation of policies by various policy actors across a range of contexts. Components:Seminar

EDLR6321(3 Credits)Instructor Consent Required Evaluation Theory

Addresses conceptual underpinnings of contemporary approaches to evaluation. Major theories of evaluation in education policy are examined through a case study approach. Components:Seminar

EDLR6322(3 Credits)Instructor Consent Required Economics of Education and School Finance

Use of economic theory and statistical analysis to explore current issues in education policy. Topics may include school finance, school finance reform, standards, assessment, class size, charter schools, tuition tax credits, and vouchers. Open to all graduate students in the Neag School of Education. Components:Seminar

EDLR6323(3 Credits)Instructor Consent Required Seminar in the History of K-12 Education Reforms, 1890-present

Seminar examining the history of K-12 education reforms from the 1890s to the

present day. Components:Seminar

EDLR6460(3 Credits) Collective Bargaining in Education

This course concerns resolving conflict through self-help, negotiations and arbitration, understanding the Teacher Negotiations Law and methods of dealing with impasses under the law. The course also deals with preparing for negotiations by teacher unions and boards of education. Components:Lecture

EDLR6461(3 Credits)Instructor Consent Required Resources Management II

Students will apply the principles of financial and human resources management to advanced educational leadership positions. Components:Seminar

EDLR6462(3 Credits)Instructor Consent Required Legal Issues in Human Resources Administration for School Leaders

Provides legal bases for human resources decision-making through reading of primary source materials (statutes, administrative decisions, judicial decisions) and related materials, and related class discussion. Provides students with practical experience in analysis and advocacy in human resource disputes, through mock negotiations, writing model briefs and conducting mock hearings. Components:Seminar

EDLR6464(3 Credits) Seminar: Leadership and School Organizations

Study of organizations and leadership from the perspective of the humanities and the social and behavioral sciences. Components:Seminar

EDLR6465(3 Credits) Educational Administration Issues and Research

Designing educational research studies; current topics in school administration. This course ordinarily meets for ten full days for special research activities. Components:Seminar Requirement Group:Prerequisite: EPSY 5605, EPSY 5607, and EPSY 6601 (RG289).

EDLR6466(3 Credits)Instructor Consent Required Policies for Improvement: Mobilizing School and Community

Advanced seminar explores perspectives on the policy environment for school improvement. Students identify policy issues,

collect data, conduct analyses, and propose actions. Components:Seminar

EDLR6467(3 Credits)Program Director Consent Req'd Social Justice Leadership, Equity and School Change

Exploration of various tenets, theoretical tensions, and transformative applications of social justice leadership in American education. Components:Seminar

Education: Educational Psychology

Department Head
Professor Hariharan Swaminathan

Professors

Bray, Brown, Chafouleas, Karan, Kehle, Leu, O'Neil, Reis, Rogers, and Sugai

Associate Professor

Alfano, Britner, Colbert, Coyne, Gavin, Gubbins, Little, Madaus, McCoach, Pérusse, Siegle, Yakimowski, and Young

Assistant Professors

T. Casa, Faggella-Luby, Olinghouse, Sanetti, Simonson-Gaines, Stephens, and Welsh

Graduate study in the Department of Educational Psychology (<http://www.epsy.uconn.edu>) leads to the Master of Arts and the Doctor of Philosophy degrees in the fields of study of Educational Psychology, Educational Technology, and Special Education. In addition, the Department offers the Sixth-Year Diploma in Professional Education conferred by the Neag School of Education.

The Field of Educational Psychology.

The M.A. and Ph.D. degrees in Educational Psychology may be taken with concentrations in the areas of Cognition/ Instruction; Counselor Education and Counseling Psychology (Ph.D. only); Gifted and Talented Education; Measurement, Evaluation, and Assessment; School Counseling (M.A. only); and School Psychology.

The Concentration in Measurement, Evaluation and Assessment (MEA) prepares graduates to become leaders in educational measurement, program evaluation, large-scale and classroom-based assessment practice, and educational statistics and research methods. The program integrates theory and practice to promote the scientific uses of measurement within the field of education and related disciplines. Coursework emphasizes the development of professional competencies within the area of MEA, and focuses on current and emerging topics including

instrument development, measurement theory and applications, multilevel modeling, item-response theory, sampling methods, and educational assessment. Faculty support strong student/faculty interactions to promote research excellence and the development of significant contributions to the field. Contact H. Jane Rogers at Unit 2064 for more information.

The Ph.D. Concentration in Counselor Education and Counseling Psychology is intended to prepare Counselor Educators. Mandatory bi-monthly seminars including all the program's doctoral students and full-time faculty are an integral part of the program and are intended to promote a mutually supportive community of scholars that are actively addressing critical issues in the field. To build their credentials as future professors, all the program's Ph.D. students are expected to assist the faculty in teaching a minimum of two graduate courses in our master's degree program in school counseling; to make presentations at state, regional, and/or national professional conferences; and to collaborate with faculty and their peers on research studies resulting in publishable manuscripts. Doctoral students are involved in all aspects of our master's program. The mission of the master's program is to prepare professional school counselors to work with students of all age levels with special emphasis on poor and minority youth. It leads to state certification as a school counselor.

The doctoral program includes core academic requirements designed to enhance the students' research skills as well as a variety of specialty tracks from which students may choose the one that best meets their professional interests and career goals. The specialty tracks are in the following areas: (1) program evaluation, (2) qualitative research methodology, (3) primary prevention, (4) gifted and talented education, (5) positive behavioral supports, (6) licensure as a professional counselor, and (7) licensure as a counseling psychologist. Contact O. Karan at Unit 2064 for more information.

The Concentration in School Psychology is accredited by the American Psychological Association. The Master's/Sixth Year program also is approved by the National Association of School Psychologists. The program adheres to the scientist-practitioner model of graduate education which assumes that the effective practice of school psychology is based on knowledge gained from established methods of scientific inquiry. Emphasis is on the preparation of competent practitioners who are skilled and dedicated researchers who will contribute to the knowledge base in school psychology. In

addition, the program is designed to acquaint students with the diversity of theories and practices of school psychology, allowing the student sufficient intellectual freedom to experiment with different delivery systems and various theoretical bases. The atmosphere is intended to foster student-faculty interaction, critical debate, and respect for theoretical diversity of practice, thus creating a more intense and exciting learning experience. The faculty believe that such an environment encourages and reinforces the student's creativity and intellectual risk-taking that are fundamental in the further development of the professional practice of school psychology. Contact T.J. Kehle at Unit 2064 for more information.

The Concentration in Cognition/Instruction links psychological theory with research and educational practice. The program emphasizes learning, cognition, instructional design, research, and theoretical perspectives on new literacies and instruction. Course work typically includes the study of instructional theories and models from cognitive psychology, motivation, emerging technologies and research methods. Additionally, research experiences are encouraged both at the University and in more applied settings. Contact the Graduate Program Coordinator at Unit 2064 or visit <http://www.education.uconn.edu/departments/epsy/COGN/COGN.cfm> for additional information.

The Concentration in Gifted and Talented Education prepares individuals for leadership roles as gifted education program coordinators, curriculum development specialists, regional or state gifted education agency directors, and for positions as teachers and researchers in higher education settings. The program of study includes course work on strategies and program models for developing student talent, field experiences in school settings, and research investigations that provide worthwhile and creative contributions to the literature. Contact E. J. Gubbins at Unit 3007 for more information. The Field of Educational Technology.

The program in Educational Technology emphasizes the study of the use of various media to promote learning and instruction. Special emphasis is placed on research, and development and design of instruction based on the latest instructional technologies. Students completing the program may work in academic or in training settings. The Field of Special Education.

The program in general Special Education is an individualized program, containing a number of emphases, including study in

teacher education, transition, behavioral disorders, school reform, learning disabilities, literacy, developmental disabilities, and secondary and postsecondary education and services for students with disabilities, among others. Our commitment is to inspire and prepare professionals in special education to create and broaden opportunities for individuals with disabilities. Students are encouraged to develop their interests in educating learners at risk across a wide range of disabilities incorporating a lifespan perspective. The doctoral program is designed to enhance independent thinking and leadership qualities through an individualized program embedded in a thorough knowledge of theory and the existing literature and culminating in active research to guide, direct, and inform the field. Contact M. Coyne at Unit 2064 for more information

Courses

Education: Educational Psychology

EPSY5092(1 - 6) Practicum The implementation and application of theory in the student's area of specialization. Open to master's and Sixth-Year students. Components:Practicum

EPSY5107(3 Credits) Curriculum Issues in Special Education

Program and curriculum planning for students with moderate to mild disabilities with particular attention given to relating individual education plans to school curricula. Components:Lecture

EPSY5108(3 Credits) Instruction for Students with Special Needs in the Mainstream

Focus on planning for and working with students with special needs in schools. Components:Lecture

EPSY5113(3 Credits) Beginning Reading Supports for Students with Learning Difficulties

This course is designed to provide graduate level students with knowledge and skills related to supporting "early reading success for students with disabilities and at risk for experiencing learning difficulties. " Components:Lecture

EPSY5114(3 Credits) Adolescent Reading Supports for Students with Learning Difficulties

This class will investigate research-based instructional interventions and infrastructure

supports (e.g., SRBI, RtI) necessary to improve reading comprehension outcomes for struggling adolescent readers including students with high-incidence disabilities. Components:Lecture

EPSY5115(3 Credits) Writing Supports for Students with Learning Difficulties

This course will investigate writing instruction and assessment designed to support K-12 students who are at-risk for or experiencing learning difficulties or disabilities, with an emphasis on incorporating evidence-based methods into a rich, engaging, and meaningful writing curriculum. Components:Lecture

EPSY5116(3 Credits) Individual Pupil Assessment

Diagnosis and prescription for children with special learning and behavioral disabilities, including administration, scoring and interpretation of pupil assessment instruments. Components:Lecture

EPSY5119(3 Credits) Policy, Law, and Ethics in Special Education

The impact of policy and law on the professional role of special educators. Components:Lecture

EPSY5121(3 Credits) Developmental Foundations of Exceptionality

An exploration of the link between normative theory and research in child development with assessment, understanding, and intervention for children and youth with exceptionalities. Components:Lecture

EPSY5123(3 Credits) Instructional Strategies and Adaptations for Students with Special Learning Needs

Principles and practices for the provision of effective instruction for students with special learning needs. Components:Lecture

EPSY5127(3 Credits) Adm Supv Special Ed

Adm Supv Special Ed Components:Lecture

EPSY5135(3 Credits)Instructor Consent Required School-wide Proactive Discipline and Positive Behavior Supports

The purpose of this course is to give school administrators processes and practices for establishing and sustaining implementation of a systems approach

to school-wide proactive discipline and positive behavior support (SWPBS). Emphasis is focused on the establishment, activities, and features of positive behavioral interventions and supports. Four elements will be emphasized: (a) data-based decision making, (b) research-validated practices, (c) meaningful outcomes, and (c) efficient systems. Components:Lecture Requirement Group:Open to students admitted to UCAPP (RG 4362).

EPSY5138(3 Credits) Responding to Violence in the Schools

Addresses how incidences of violence in the schools can be prevented, contained, and kept at a minimum with prevention programs, and immediate interventions to contain incidents of violence. Components:Seminar

EPSY5140(3 Credits) Transition Planning for Students with Disabilities

An examination of relevant legislation and recommended practices related to person-centered transition planning for students with disabilities in post-school and adult life, including postsecondary education, employment, community participation, and independent living. Components:Lecture

EPSY5141(3 Credits) Classroom and Behavior Management for Special Educators

An introduction to Positive Behavior Interventions and Supports (PBIS), including theoretical and empirical support, three-tiered model, and implementation strategies. Components:Lecture

EPSY5142(3 Credits) Individualized Positive Behavior Support

Approaches for adapting programs to the behavioral, social and emotional needs of exceptional learners. Components:Lecture Requirement Group:Prerequisite: EPSY 5141 (RG 4509).

EPSY5145(3 Credits) Issues in Postsecondary Disability Services

An examination of issues relating to the assurance of equal educational access for students with disabilities in postsecondary settings. Components:Lecture

EPSY5160(3 Credits) Considerations in the Provision of Assistive Technology

Emphasis will be on the consideration of assistive technology in the educational

environment and will encompass the scope of activities involved in considering whether assistive technology is needed for a student to receive a free and appropriate education. This course is a required prerequisite for all other course work in the assistive technology emphasis. Components:Lecture

EPSY5161(3 Credits) Assistive Technology for Access

This course will provide an introduction to alternate access to the computer as a tool for the performance of educational tasks. Included will be an exploration of alternate and adaptive pointing and keyboard devices as well as software to enhance accessibility and productivity for persons with motor impairment, sensory challenges, and cognitive difficulties. Emphasis in the course will be on assistive technology solutions and applications for persons with significant disabilities in the educational environment. Components:Lecture

EPSY5163(3 Credits) Assistive Technology for the Struggling Learner

This course will explore the use of assistive technology tools across a continuum of low to mid to high tech aid in the efficiency, organization, and productivity of the struggling learner. Components:Lecture

EPSY5183(3 Credits) Lectures in Education

A course in which staff members and authorities in education and related fields discuss selected problems. Components:Lecture

EPSY5187(1 - 6) Clinical Experiences in Integrated Settings

An intensive supervised clinical experience that provides opportunities for students to plan and deliver integrated programs for students with and without special needs. A cooperative venture between the School of Education and the Professional Development Centers (public schools). Components:Practicum

EPSY5188(6)Instructor Consent Required School-based Practicum in Communication Disorders

100 clock hours of practicum in assessment, treatment, and prevention of communication disorders in children PreK-Grade 12. Components:Practicum Requirement Group:Open only to MA in Communication Disorders. (RG4759)

<p>EPSY5194(3 Credits) Seminar</p> <p>Analysis of the issues and research in the field of education. Open to master's and Sixth-Year students. Components:Seminar</p> <p>EPSY5195(1 - 3) Workshop in Education</p> <p>Professional personnel to work cooperatively on problems arising out of actual school situations. Components:Lecture</p> <p>EPSY5198(1 - 6) Curriculum Laboratory</p> <p>Reorganization of courses, reorientation of the program of studies, articulation of administrative units, and development of new materials are considered in relation to the local situation. Students make individual studies of their specific problems, and group studies of related problems. Components:Practicum</p> <p>EPSY5199(1 - 3)Instructor Consent Required Independent Study in Education</p> <p>Students requesting this course should have a significant background in education and should present to the instructor problems, well-defined and well laid out for investigation, which hold special interest for them and which will be pursued on the plane of advanced study. Components:Independent Study</p> <p>EPSY5210(3 Credits) Learning with Technology</p> <p>Uses a problem-based design format to integrate learning theory and principles with educational technology to develop an integrated lesson plan in a content area. Students select meaningful authentic problems to integrate. Components:Lecture</p> <p>EPSY5220(3 Credits) Introduction to Educational Technology</p> <p>Instructional applications of productivity software and educational technology. Components:Lecture</p> <p>EPSY5230(3 Credits) Web-Based Learning</p> <p>Design, development, delivery and evaluation of web-based instruction. Components:Lecture Requirement Group:Prerequisites: EPSY 5240, EPSY 5510, EPSY 5220, and EPSY 5520(RG706).</p> <p>EPSY5235(3 Credits) Design and Production of Multimedia Presentations</p>	<p>Students will prepare presentations using slides, motion pictures, audiotapes and overhead transparencies; and will explore application of other technological developments to multimedia uses. Components:Lecture</p> <p>EPSY5240(3 Credits) Interactive Learning Environments</p> <p>This course is a broad overview of the interactive learning environments (ILEs) that are being used in Education. It will introduce students to current research in development and implementation of ILEs. Components:Lecture Requirement Group:Prerequisites: EPSY 5220 and EPSY 5510 (RG705).</p> <p>EPSY5250(3 Credits) Software Design and Evaluation</p> <p>This course provides students with the knowledge and experience in design and evaluation of educational software. Components:Lecture</p> <p>EPSY5301(3 Credits) Group Processes in Counseling</p> <p>Experiential and theoretical introduction to group process and dynamics. Components:Lecture</p> <p>EPSY5304(3 Credits) Foundations and Contents of School Counseling</p> <p>Basic philosophical and professional premises of the counseling profession. History of counseling profession, counselor's roles and functions, role of research/theory in counseling, and professional ethics. Individual group, and preventive counseling approaches. Components:Lecture</p> <p>EPSY5306(3 Credits) Principles of Career Development in Counseling</p> <p>Career development and career psychology. Adolescents and adults. Components:Lecture</p> <p>EPSY5307(3 Credits) Professional Orientation of School Counseling</p> <p>Principles and practices of pupil personnel work in educational institutions including all aspects of pupil personnel services; the role of the school counselor as a pupil personnel worker; and as a consultant on teacher-pupil relations. Components:Lecture</p> <p>EPSY5308(3 Credits) Counseling: Theory</p>	<p>and Practice</p> <p>Contemporary theories and practices of essential helping skills. Components:Laboratory, Lecture Requirement Group:Prerequisite: EPSY 5307 (RG291).</p> <p>EPSY5309(3 Credits) Gender Role Conflict Issues for Helping Professionals</p> <p>Intensive review of gender role socialization in a workshop setting, emphasizing men's and women's gender role conflicts across the life span. Lectures, readings, discussions, self assessments, and media are used to explicate core concepts and themes. Components:Lecture Course Equivalents:HDFS 5341</p> <p>EPSY5313(3 Credits) Multi-Cultural Parent-Professional Alliances</p> <p>Alliance-building processes between helping professionals and parents. Multi-cultural relationship development. Components:Lecture</p> <p>EPSY5314(3 Credits) Appraisal Procedures in Counseling</p> <p>Use of instruments for estimating abilities, achievements, interest and personality; interpretation of appraisal procedures in counseling. Components:Laboratory Requirement Group:Prerequisite: EPSY 5306 and EPSY 5602 (RG307).</p> <p>EPSY5315(3 Credits)Instructor Consent Required Counseling: Advanced Practice</p> <p>Continuing the work begun in EPSY 316; to strengthen and extend helping skills. Components:Lecture Requirement Group:Prerequisite: EPSY 5308 (RG308).</p> <p>EPSY5316(3 Credits) Cross-Cultural Counseling</p> <p>Theories, skills and practices of counseling with culturally different persons in mental health settings. Components:Lecture Requirement Group:Prerequisite: EPSY 5308 and EPSY 5315 (RG311).</p> <p>EPSY5317(3 Credits)Instructor Consent Required Field Work in Counseling and Personnel</p> <p>Supervised experience in counseling and related practices in schools and agencies with a concurrent supervisory seminar. Components:Practicum</p>
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EPSY5318(3 Credits)Program Director Consent Req'd Human Growth and Development over the Lifespan: Implications for Counselors

A review of human growth and development over the lifespan using psychosocial theory with an emphasis on individual and family transitions, learning processes, personality, developmental crises, gender role conflicts and transitions, ethical issues, and strategies to optimize human potential. Components:Lecture

EPSY5319(3 - 6)Instructor Consent Required School Counseling Internship

Post practicum experience in school counseling under the supervision of a fully trained and certified professional school counselor for the duration of one school year along with an accompanying on-campus seminar. All core courses in the school counseling program must be completed prior to beginning the internship. This course may be repeated once for a maximum of 12 credits. Components:Practicum

EPSY5320(3 Credits)Instructor Consent Required Critical Issues in School Counseling

This course covers three main topics. These include an introduction to the broad profession of counseling; the ethical standards of the American Counseling Association and the American School Counseling Association; and a review and analysis of the critical and emerging issues/incidents facing today's professional school counselors. Components:Seminar

EPSY5339(3 Credits) Assistive Technology for Curriculum Access

This course will explore the range of assistive technology devices and software for curriculum access from the preschool through secondary environments. Components:Lecture

EPSY5396(9)Instructor Consent Required Directed Student Teaching for Students in the Teacher Certification Program for College Graduates

Supervised student teaching in special education. Components:Clinical Requirement Group:Open to students in the Teaching Certification Program for College Graduates, others with permission (RG2794).

EPSY5402(3 Credits) Individual Differences

in Learners

Foundations for individual differences among elementary and secondary school pupils. Components:Lecture

EPSY5403(3 Credits)Instructor Consent Required Intellectual Assessment

Administration of the standard instruments of intellectual assessment and synthesis of the test information into an assessment report. Components:Lecture Requirement Group:Prerequisite: EPSY 5602, which may be taken concurrently, and enrollment in the School Psychology program (RG293).

EPSY5404(3 Credits)Instructor Consent Required Pupil Behavior: Studies in Clinical Diagnosis

Diagnosis of school problems, report writing for school purposes, and an analysis of needs for referral. Components:Lecture

EPSY5405(3 Credits) Applied Behavior Analysis

Introduction to theories and application of behavioral techniques. Components:Lecture

EPSY5406(3 Credits) Consultation Theories and Practices

Theories and practices of professional consultation with an emphasis on actual interventions in schools, corporations and social service agencies. Components:Lecture

EPSY5408(3 Credits) Ethics in Educational and Professional Psychology

Explores the nature of professional virtue in psychology and related educational and human service disciplines. Components:Lecture

EPSY5491(3 - 6)Instructor Consent Required School Psychology Internship

Post practicum experience in School Psychology under the supervision of a fully trained and certified professional School Psychologist for the duration of one school year along with an accompanying on-campus seminar. All core courses in the School Psychology program must be completed prior to beginning the internship. This course may be repeated once for a maximum of 12 credits. Components:Practicum, Seminar

EPSY5510(3 Credits) Learning: Its Implic. for Education

Nature and types of learning, transfer of training, motivation, nature of instructional outcomes, with particular attention to individual differences among elementary and secondary school pupils. Components:Lecture

EPSY5515(3 Credits) Professional Seminar in Cognition & Instruction

A professional seminar designed to present topics, paradigms, models, and theories in the various fields of educational psychology. The current research programs of the graduate faculty in Cognition and Instruction are presented for discussion in a seminar format. Components:Seminar

EPSY5520(3 Credits) Instructional Design

Overview of the field of instructional design: instructional theories, prescriptive models, instructional strategies, issues and trends as they relate to the comprehensive development of instructional systems. Components:Lecture

EPSY5530(3 Credits) Theories of Learning, Cognition and Instruction

Behavioral and cognitive psychology as it applies to instruction. Components:Lecture

EPSY5540(2) Research Ethics in Education and Psychology

Ethical issues related to educational and psychological research, including working with institutional review boards, informed consent, deception research, conducting research, reporting research findings, sharing and storing data, record keeping, and APA, APS, ACA, and AERA ethics policies. Components:Seminar

EPSY5601(3 Credits) Principles and Methods in Educational Research

Methods of research in education designed for Master's level students. Components:Lecture

EPSY5602(3 Credits) Educational Tests and Measurements

The development of measurement and evaluation techniques. Components:Lecture

EPSY5603(3 Credits) Methods of Inquiry

Fundamentals of qualitative and quantitative research in education. Components:Lecture

EPSY5605(3 Credits) Quantitative Methods

<p>in Research I</p> <p>Quantitative procedures and analysis of computer output including descriptive and inferential statistics through one-way analysis of variance. Components:Lecture</p> <p>EPSY5607(3 Credits) Quantitative Methods in Research II</p> <p>Quantitative procedures and analysis of computer output including factorial analysis of variance, analysis of covariance, and multiple regression. Components:Lecture</p> <p>EPSY5610(3 Credits) Applied Regression Analysis for the Education Sciences</p> <p>Multiple regression analysis and related techniques with applications to research in education. Topics include assumptions and inference; matrix representations; diagnostics and remedial measures; polynomial regression and interaction models; treatment of categorical independent variables, autocorrelation of errors in time series data, problems of missing values and selection bias, and logistic and ordinal regression models. Components:Lecture</p> <p>EPSY5613(3 Credits) Instructor Consent Required Multivariate Analysis in Educational Research</p> <p>An extension of EPSY 313. Practical emphasis on multiple regression, canonical correlation, multivariate analysis of variance and covariance, discriminant function analysis, and factor analysis. Components:Lecture</p> <p>EPSY5621(3 Credits) Construction of Evaluation Instruments</p> <p>The theory and construction of assessment instruments in the affective domain. Components:Lecture</p> <p>EPSY5645(2) Computer Methods in Educational Research</p> <p>Introduction to the UConn mainframe and microcomputers, data preparation and verification, Job Control Language, XEdit procedures, and SPSS-X. Components:Laboratory Requirement Group:Prerequisite: EPSY 5605 (RG785).</p> <p>EPSY5671(3 Credits) School-Based Systems Interventions</p> <p>Examination of current professional issues, theoretical models, and research related to the</p>	<p>design interventions. Components:Lecture</p> <p>EPSY5710(3 Credits) Introduction to Gifted Education and Talent Development</p> <p>Issues encountered in developing giftedness and talents in students: the nature of exceptional abilities, the history of special provisions, major scientific studies dealing with superior abilities, and contemporary educational systems and models. Components:Lecture</p> <p>EPSY5720(3 Credits) Developing Schoolwide Enrichment Programs</p> <p>An overview of the theory and research behind and components within the Schoolwide Enrichment Model. Practical techniques for implementing the model in classrooms and school districts. Components:Lecture</p> <p>EPSY5740(3 Credits) Strategies for Differentiating the Grade Level Curriculum</p> <p>Instructional and managerial techniques for use within or between classrooms to address learning differences among students. Strategies for improving academic achievement and success of diverse learners. Current and promising practices, as well as relevant research. Components:Lecture Course Equivalents:EDCI 5814</p> <p>EPSY5750(3 Credits) Creativity</p> <p>The identification of creative thinking and problem solving and the development and implications of creativity training materials and teaching strategies. Components:Lecture</p> <p>EPSY5760(3 Credits) Improving Students' Thinking Skills</p> <p>Designed for teachers and administrators who wish to acquire more information about current research, trends and practices within the field of thinking skills instruction. An overview of the field, with special emphasis on research-based practices, major programs, and models for the improvement of thinking skills. Components:Lecture</p> <p>EPSY5780(3 Credits) Social and Emotional Components of Giftedness and Talent Development</p> <p>Review of current research on affective growth and potential adjustment problems of gifted and talented youth. Vocational concerns, self-concept, self-esteem, and the teacher's role in preventing or remediating</p>	<p>affective problems related to giftedness. Components:Lecture</p> <p>EPSY6103(3 Credits) Grant Writing</p> <p>The grant procurement process is covered from identifying funding sources through initial grant management with a focus on actually writing a grant proposal. Components:Lecture</p> <p>EPSY6194(1 - 3) Doctoral Seminar</p> <p>Cooperative study of developments and problems in the student's area of study. Components:Seminar</p> <p>EPSY6220(3 Credits) Video Design for Learning</p> <p>Advanced principles of the video medium and its application to the learning process, instructional message design and the implementation of existing and emerging video delivery systems. Components:Lecture</p> <p>EPSY6230(3 Credits) Advanced Educational Technology</p> <p>Readings, research and development of instructional materials using applications of advanced educational technology. Components:Lecture</p> <p>EPSY6240(3 Credits) Academic Motivation: Theory, Research and Practice</p> <p>The purpose of this course is to examine theory, research and practice related to motivation, particularly the motivation to learn in academic settings. Specifically, the goals of this course are to introduce students to the field of the psychological study of motivation to learn in school settings; to explore the conceptual and practical value of framing of school and learning from a motivational and developmental perspective; to assist students in exploring how motivational theory and research may relate to their own areas of interest and help them in integrating motivational constructs into their research; and for participants to learn from each other and together read interesting new work on motivation to learn (a caring community is the crucible within which learning of enduring value unfolds). This course is designed for graduate students who are studying issues related to motivation to learn in school settings during the first two decades of life. Components:Seminar Requirement Group:Prerequisite: EPSY 5510 (335) (RG4148)</p>
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<p>EPSY6301(3 Credits)Instructor Consent Required Advanced Group Processes</p>	<p>Components:Seminar Requirement Group:Prerequisites: EPSY 5602, EPSY 5520, and EPSY 5530 (RG314).</p>	<p>item development, question format, ethics. Components:Lecture Requirement Group:Prerequisite: EPSY 5607 (RG703).</p>
<p>Participant/observers in a basic group course. Processing and analyzing of group processes. Components:Lecture</p>	<p>EPSY6601(3 Credits) Methods and Techniques of Educational Research</p>	<p>EPSY6635(3 Credits) Measurement in Cognitive Psychology</p>
<p>EPSY6302(3 Credits) Prevention and Intervention in Schools, Education, and the Community</p>	<p>A survey of the principal methods employed in the investigation of educational problems, including problem formulation, stating hypotheses, sampling, instrument design, types of research methods and design principles. Components:Lecture Requirement Group:Prerequisites: EPSY 5601 (341) (or master's level educational research class), EPSY 5605 (309), and EPSY 5607 (313) (RG3726)</p>	<p>Review of theory and research related to the measurement of variables in cognitive psychology such as domain knowledge, strategy knowledge, and motivation. Specific emphasis will be placed on the use of statistical theories and tools employed to study the reliability and validity of test scores. These tools include: generalizability theory, factor analysis, item response theory, and multidimensional scaling. Components:Lecture</p>
<p>The theory, practice, and science of primary prevention of human problems in schools, education, and the community. Prevention concepts and case studies are presented by the faculty. Students give analysis and critique of course content and develop personal perspectives on prevention interventions and skills in the context of their careers. Components:Lecture</p>	<p>EPSY6611(3 Credits) Hierarchical Linear Modeling</p>	<p>EPSY6636(3 Credits) Measurement Theory and Application</p>
<p>EPSY6469(3 Credits) Single Subject Research in Education</p>	<p>Theory and applications of hierarchical linear modeling, including organizational and longitudinal multilevel models. Components:Lecture</p>	<p>An advanced course in measurement and evaluation. The course emphasizes current issues in measurement and the scientific procedures reflected in the literature that suggest alternative solutions to these issues. Components:Lecture</p>
<p>Introductory and advanced content related to features, types, development, and use of "Single Subject Research Designs" to study of interventions and programs for improving the academic and social behavior outcomes for children and youth in schools. Components:Lecture</p>	<p>EPSY6615(3 Credits) Structural Equation Modeling</p>	<p>EPSY6637(3 Credits) Item Response Theory</p>
<p>EPSY6491(3 - 6) Doctoral Internship in School Psychology</p>	<p>This course provides an introduction to structural equation modeling. Students will learn to develop, modify, interpret a variety of structural equation models that are commonly used in social science research. To be covered are linear models with only observed variables (path analysis), latent variable models without causal paths (confirmatory factor analysis), and latent variable models with causal paths (structural equation modeling). The focus of the course is conceptual understanding, application, and interpretation of structural equation models. Components:Lecture</p>	<p>An advanced course in educational and psychological testing theory. This course emphasizes the principles and processes of the most sophisticated approach to educational test construction and scoring available today. Components:Lecture</p>
<p>Intensive, one year supervised experience in school psychology setting totalling 1,500 or 2,000 hours of service. Components:Practicum</p>	<p>EPSY6621(3 Credits) Program Evaluation</p>	<p>EPSY6638(3 Credits)Instructor Consent Required Advanced Topics in Item Response Theory</p>
<p>EPSY6494(1 - 6)Instructor Consent Required Doctoral Practicum</p>	<p>The implementation and application of theory in the student's area of specialization. Components:Practicum</p>	<p>Applications of IRT to measurement problems such as equating, detection of differential item functioning, and adaptive testing. Extensions of unidimensional dichotomous models to polytomous responses and multidimensional tests. Extensive use of Monte Carlo data to investigate psychometric issues. Components:Seminar Requirement Group:Prerequisite EPSY 6637</p>
<p>EPSY6550(3 Credits) Situated Cognition</p>	<p>An overview of quantitative and qualitative procedures used in the evaluation of educational programs. Current trends and practical applications are stressed. Components:Lecture Requirement Group:Prerequisite: EPSY 5605, EPSY 5607, and EPSY 6601 (RG289).</p>	<p>EPSY6770(3 Credits) Curricular Options for High Ability Learners</p>
<p>Theory, research and applications of situated cognition and situated learning. Components:Seminar Requirement Group:Prerequisite: EPSY 5520, EPSY 5510, and EPSY 5530 (RG309).</p>	<p>EPSY6626(3 Credits) Sampling Designs and Survey Research Methods in Education</p>	<p>Curriculum theory and techniques with special attention to the development of instructional materials. Components:Lecture</p>
<p>EPSY6560(3 Credits) Instructional Psychology</p>	<p>Probability and non-probability sampling, single- and multi-stage sampling, sampling errors, design effects, unit-of-analysis concerns, confidentiality/anonymity issues, questionnaire design, interview procedures,</p>	
<p>An advanced course relating theories of cognition, behaviorism and instructional design. Topics include thinking, problem solving, the development of expertise and both automatic and controlled processing.</p>		

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Electrical Engineering

Department Head
Professor Rajeev Bansal

Professors
Anwar, Bar-Shalom, Enderle, Jain, Javidi, Luh, Pattipati, Taylor, Willett, and Zhu

Professor-in-Residence: DeMaria

Research Professor
Boggs

Associate Professors
Ayers, Chandy, Donkor, and Escabi, Fei, Tehranipoor, Wang and, Zhou

Assistant Professor
Gokirmak, Park Silva, Zhang

The following areas of study and research leading to M.S. and Ph.D. degrees are offered: Electronics, Photonics, and Biophotonics; and Information, Communication, Decision, Biosystems. In addition, areas of emphasis in computer engineering (M.S. and Ph.D.) and nanotechnology (M.S.) are available. Students may also choose to pursue an M.S. degree in Electrical Engineering without a concentration.

The significant involvement of the Department of Electrical and Computer Engineering in interdisciplinary programs, e.g., Biomedical Engineering, is indicative of the broad scope of its basic interests and activities. Admission to one of the programs does not require an undergraduate degree in electrical engineering. It is quite common for graduate students with undergraduate degrees in other fields of engineering or in biology, mathematics, and physics to hold fellowships, assistantships, and part-time instructorships in the Department of Electrical and Computer Engineering. This mixing of faculty and graduate students with a variety of backgrounds integrates diverse ideas into departmental research projects.

Research and education in information, communication, decision, and biosystems includes human-machine systems, manufacturing systems, power systems, digital and optical signal processing, optical computing, image analysis and processing, optoelectronic neural networks computer-aided design, estimation theory, and stochastic communication and control. Activities in electronics, photonics, and biophotonics include research in diffractive

optics, optoelectronics, biophotonics, nanostructure engineering, sensor technology, electro-optics, quantum electronics, semiconductor lasers, semiconductor heterojunctions with application to integrated circuits, electronic materials, antenna design, microwave technology, power electronics, and high voltage engineering. Research in computer engineering includes computer systems, trustable computing, VLSI design and testing, computer architecture, low power embedded systems, molecular computing, and high-performance computing. Separate listings should be consulted for information concerning biomedical engineering as well as for collaborative fields such as computer science and materials science.

Special Requirements for the Ph.D. Program.

Admitted students must submit evidence of capacity for independent study in the form of a master's thesis or comparable achievement.

For information regarding fellowships, assistantships, and part-time instructorships, the applicant should address the chairperson of the Information, Communication, Decision, and Biosystems Graduate Admissions Committee, or the Electronics, Photonics, and Biophotonics Graduate Admissions Committee, depending upon the major interest of the applicant. The address in both cases is 371 Fairfield Way, Unit 2157, Room 450, Storrs, Connecticut 06269-2157. Further information about the Biomedical Engineering program is available from the Admissions Chair of the Biomedical Engineering field of study, 260 Glenbrook Road, Unit 2247, Storrs, Connecticut 06269-2247.

Special Facilities.

Departmental facilities include the following research laboratories: Biomedical Instrumentation Laboratory, Cyber Laboratory, Electrical Insulation Research Laboratory, Central Laboratory for Imaging Research, Micro/Opto-electronics Research Laboratory, Nanotechnology Laboratory, Optical Signal Processing/Computing Laboratory, Manufacturing Systems Laboratory, and the Photonics Research Laboratory. These laboratories contain a variety of computers and workstations, interface facilities, a clean room with semiconductor growth and characterization facilities, MBE and MOVPE facilities, and other specialized equipment. Fellowships, assistantships, and part-time instructorships are available. For more information, visit <www.engr.uconn.edu/ece/>.

Courses

ECE5101(3 Credits) Introduction to System Theory Modeling and analysis of linear systems. Introduction to functions of a complex variable. Linear algebra with emphasis on matrices, linear transformations on a vector space, and matrix formulation of linear differential and difference equations. State variable analysis of linear systems. Transform methods using complex variable theory, and time-domain methods including numerical algorithms. Recommended preparation: ECE 202. Components:Lecture

ECE5121(3 Credits)Instructor Consent Required Multivariable Digital and Robust Control Systems

Analysis and design of robust multivariable control systems incorporating a digital computer as the controlling element. Topics include: Mathematical models of discrete-time systems, Discretization of continuous-time systems, Measures of control system performance, Classical single input-single output design methods, Compensator design via discrete-equivalent and direct design methods, State variable design via discrete equivalent and pole placement methods, Linear quadratic regulator (LQR) control, H₂ and H-infinity optimal control, numerical optimization and nonlinear control. Components:Lecture

ECE5201(3 Credits) Electromagnetic Wave Propagation

Engineering application of Maxwell's field theory to electromagnetic wave propagation in various media. Reflection, refraction, diffraction, dispersion, and attenuation. Propagation in sea water and in the ionosphere. Components:Lecture

ECE5211(3 Credits) Semiconductor Devices and Models

Band theory, conduction in semiconductors, carrier statistics, deep levels, impurities with multiple charge states, heavy doping effects, non-uniform doping. Non-equilibrium processes, carrier scattering mechanisms, the continuity equation, avalanche multiplication, carrier generation, recombination, and lifetime. P-n junctions, non-abrupt junctions, various injection regimes, and device models. Metal semiconductor junctions, current transport mechanisms, and models. BJT, JFET, MESFET, and MOSFET, and device models. Components:Lecture

ECE5212(3 Credits) Fundamentals of Opto-

Electronic Devices

Absorption and emission mechanisms in direct and indirect semiconductors. Semiconductor optoelectronic devices such as light-emitting diodes, injection lasers, photocathodes, solar cells, and integrated optics. Components:Lecture

ECE5213(4) MOS Device & VLSI Fundamentals

Physics of MOS capacitors and transistors, derivation of V-I relation expressing subthreshold,threshold, and saturation region behavior; short-channel effects in scaled-down transistors; scaling laws; VLSI fabrication technologies; design and layout gates and gate arrays; physics, device layout and design of semiconductor memories including static and dynamic RAMs. Laboratory emphasizes introduction to nonvolatile RAMs; computer aids in VLSI design; schematic capture, SPICE simulation, layout of custom IC's, and VHDL. Components:Lecture

ECE5225(3 Credits)Instructor Consent Required Electron Device Design and Characterization

Recommended Preparation: ECE 4211 or equivalent course Design and evaluation of micro/nano electronic devices using state-of-the-art computer simulation tools, ex-perimental electrical characterization of semiconductor devices and overview of modern electronic devices such as high-performance MOSFETs, TFTs, solar cells, non-volatile memories, CCDs, thermoelectric power generators. The electronic device (such as nanometer scale field effect transistor) design project will involve use of Synopsys tools to simulate the fabrication process, device simulation and performance evaluation. Components:Laboratory, Lecture

ECE5231(3 Credits)Instructor Consent Required Fund Of Photonics

Principles of optics including rays, waves, beams, electromagnetics, polarization and statistics. Basic postulates, simple optical components, graded index and matrix optics, monochromatic waves, interference, polychromatic light, Gaussian beams and propagation, diffraction, Fourier transforms, holography, dispersion and pulse propagation, polarizing devices and applications. Concepts of coherence and partial coherence as applied to various light sources in optical experiments and systems. Components:Lecture

ECE5232(3 Credits) Optoelectronic Devices

Optoelectronic devices as applied to fiber optic communications, optical switching and interconnects. Semiconductor laser devices, including dc, ac smallsignal, ac large signal, and noise with emphasis upon analytical models. Vertical cavity devices and technology. Semiconductor optical amplifiers, waveguide and vertical cavity modulators, photodetectors, optical switches, receivers and transmitters. Techniques for OE integration and the relevance of bipolar and field-effect devices for monolithic integration. Technologies for optoelectronic integration for telecom and datacom optical interconnect. WDM techniques for optical networks. Components:Lecture

ECE5233(3 Credits) Optical Systems Engineering

Design and analysis of paraxial optical systems, including stable and unstable laser resonators, and the propagation of geometric beams, Gaussian beams, and plane waves through complex optical systems. Topics include ray optics; ray matrices; polarization of light; diffraction theory; the connection between geometrical optics and diffraction; and performance analysis. Components:Lecture

ECE5234(3 Credits) Optical Waveguides

Propagation of electromagnetic waves in dielectric slab and fiber waveguides as described by geometrical ray optics and normal mode analysis. Integrated optic guides, step and graded index fiber guides. Single mode vs. multimode transmission, coupling, and other system considerations. Components:Lecture

ECE5301(3 Credits)Instructor Consent Required Engineering Problems in the Hospital

Given in collaboration with staff from the University's School of Medicine and from hospitals in Hartford. Aim is to familiarize the student with engineering problems in a modern hospital. Role of the small computer in the hospital; implanted pace-makers; heart catheterization. Students are expected to investigate and solve an engineering problem associated with clinical medicine as a semester project. Components:Lecture Course Equivalents:BME 5050

ECE6094(3 Credits) Seminar

Presentation and discussion of advanced

electrical engineering problems. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.)
Components:Seminar

ECE6095(1 - 3) Special Topics in Electrical and Systems Engineering

Classroom and/or laboratory courses in special topics as announced in advance for each semester. Components:Lecture

ECE6099(1 - 6)Instructor Consent Required Independent Study in Electrical Engineering

Individual exploration of special topics as arranged by the student with an instructor of his or her choice. Components:Independent Study

ECE6101(3 Credits) Linear Multivariable System Design

Observability and controllability. Application of canonic forms in system design. Methods of pole placement. Observer design. Noninteracting multivariable systems. Components:Lecture Requirement Group:Prerequisites: ECE 5101 (RG330).

ECE6102(3 Credits)Instructor Consent Required Optimal and Model Predictive Control

Optimal Control, including optimization techniques for linear and nonlinear systems, calculus of variations, dynamic programming, the Pontryagin maximum principle, and computational methods. Linear Model Predictive Control, including process models and model prediction methods of state space description, transfer matrix representation, and neural network representation; and optimization methods without and with constraints. Nonlinear Model Predictive Control. Components:Lecture Requirement Group:Prerequisite: ECE 5101 and ECE 6111 (RG333).

ECE6103(3 Credits) Nonlinear System Theory

Stability of time-varying nonlinear systems. Liapunov's direct method. Describing functions. Popov's stability criterion. Adaptive control. Components:Lecture Requirement Group:Prerequisites: ECE 5101 (RG330).

ECE6104(3 Credits) Info Control & Games

Problems of static and dynamic optimization where more than one decision maker is

involved, each having own payoff and access to different information. Review of elementary decision and control theory, non-cooperative games, cooperative games, bargaining models, differential games, team decision theory, Nash games, Stackelberg games (leader-follower problems). Introduction to large-scale systems and hierarchical control. Components:Lecture Requirement Group:Prerequisite: ECE 5101 and ECE 6111 (RG333).

ECE6105(3 Credits) Man-Machine Systems Analysis

Role of the human as a decision and control element in a feedback loop. Mathematical models of human control characteristics and instrument monitoring behavior. Effects of human limitations upon overall task performance. Parallel discussion of measurement and experimental techniques. Validation of theoretical results by comparisons with existing human response data. Components:Lecture Requirement Group:Prerequisite: ECE 5101 and ECE 6111 (RG333).

ECE6106(3 Credits)Instructor Consent Required Experimental Investigation of Control Systems

A study of experimental techniques and advanced design of control systems. Components:Lecture Requirement Group:Prerequisite: ECE 6111 and ECE 6103 (RG334).

ECE6107(3 Credits) Stochastic Control

Methods of decision-making and control in a stochastic environment. Elements of utility theory. Principle of optimality and deterministic dynamic programming. Stochastic dynamic programming. Control of dynamic systems with imperfect state information. Certainty equivalence and the control's dual effect. Sequential hypothesis testing. Passive and active stochastic adaptive control algorithms. Decentralized control methods. Components:Lecture Requirement Group:Prerequisite: ECE 5101 or ECE 6111 (RG343).

ECE6108(3 Credits) Linear Programming and Network Flows

Computational methods for linear programming with special emphasis on sequential and parallel algorithms for Network Flow Problems. Standard and canonical forms of linear programming, revised Simplex methods, basis updates,

decomposition methods, duality, shortest paths, minimal spanning trees, maximum flows, assignment problems, minimum cost network flows, and transportation problems. Components:Lecture Requirement Group:Prerequisites: ECE 5101 (RG330).

ECE6111(3 Credits) Applied Probability and Stochastic Processes

Statistical methods for describing and analyzing random signals and noise. Random variables, conditioning and expectation. Stochastic processes, correlation, and stationarity. Response of linear systems to stochastic inputs. Applications. Components:Lecture

ECE6121(3 Credits) Information Theory

Basic concepts: entropy, mutual information, transmission rate and channel capacity. Coding for noiseless and noisy transmission. Universal and robust codes. Information-theoretic aspects of multiple-access communication systems. Source encoding, rate distortion approach. Components:Lecture Requirement Group:Prerequisite: ECE 6111 (RG331).

ECE6122(3 Credits) Digital Signal Processing

Discrete-time signals and systems. The z-transform. The Discrete Fourier Transform (DFT). Convolution and sectioned convolution of sequences. IIR and FIR digital filter design and realization. Computation of the DFT: The Fast Fourier Transform (FFT), algorithms. Decimation and interpolation. Parametric and nonparametric spectral estimation. Adaptive filtering. Finite word length effects. Components:Lecture

ECE6123(3 Credits) Advanced Signal Processing

Wiener filter theory. Linear prediction. Adaptive linear filters: LMS and RLS algorithms, variants, lattice structures and extra-fast implementation. Convergence properties. High resolution spectral estimation. Hidden Markov models, Monte-Carlo methods for signal processing. Multiresolution decomposition and wavelets. Blind methods. Components:Lecture Requirement Group:Prerequisites: ECE 6111 and ECE 6122 (RG332).

ECE6124(3 Credits) Advanced Signal Detection

Focus on discrete-time detection of signals

in noise which is not necessarily Gaussian. Topics include: classical Neyman-Pearson and Bayes theory, efficacy and asymptotic relative efficiency; some canonical noise models; quantized detection; narrowband signal detection; distance measures and Chernoff bounds; sequential detection; robustness; non-parametric detection; continuous-time detection and the Karhunen-Loève expansion. Components:Lecture

ECE6125(3 Credits) Digital Image Processing

Problems and applications in digital image processing, two-dimensional linear systems, shift invariance, 2-D Fourier transform analysis, matrix Theory, random images and fields, 2-D mean square estimation, optical imaging systems, image sampling and quantization, image transforms, DFT, FFT, image enhancement, two-dimensional spatial filtering, image restoration, image recognition, correlation, and statistical filters for image detection, nonlinear image processing, and feature extraction. Components:Lecture

ECE6126(3 Credits) Optical Information Processing

Two-dimensional signal processing using optical techniques. Topics include: review of two-dimensional linear system theory; scalar diffraction theory, Fresnel and Fraunhofer diffraction; Fourier transforming and imaging properties of lenses; image formation; frequency analysis of optical imaging systems; modulation transfer function; two-dimensional spatial filtering; coherent optical information processing; frequency-domain spatial filter synthesis; holography, Fourier and nonlinear holograms. Components:Lecture

ECE6141(3 Credits) Neural Networks for Classification and Optimization

This course provides students with an understanding of the mathematical underpinnings of classification techniques as applied to optimization and engineering decision-making, as well as their implementation and testing in software. Particular attention is paid to neural networks and related architectures. The topics include: Statistical Interference and Probability Density Estimation, Single and Multi-layer Perceptions, Radial Basis Functions, Unsupervised Learning, Preprocessing and Feature Extraction, Learning and Generalization, Decision Trees and Instance-based Classifiers, Graphical Models

for Machine Learning, Neuro-Dynamic Programming. Components:Lecture

ECE6142(3 Credits) Fuzzy and Neural Approaches to Engineering

Fuzzy sets, applications to fuzzy logic and fuzzy control, and concepts and methodologies for fuzzy optimization. Fundamental models of neural networks, learning rules, and basic recurrent networks for optimization. The integration of fuzzy systems with neural networks. Examples from engineering applications. Components:Lecture Requirement Group:Prerequisites: ECE 5101 (RG330).

ECE6143(3 Credits) Pattern Recognition and Neural Networks

Review of probability and stochastic processes. Statistical pattern recognition. Nonlinear signal processing and feature extraction. Correlation filters. Metrics for pattern recognition. Bayesian classifiers. Minimum probability of error processors. Supervised and unsupervised learning. Perception learning methods. Multilayer neural networks. Applications to security and encryption. Components:Lecture

ECE6151(3 Credits) Communication Theory

Design and analysis of digital communication systems for noisy environments. Vector representation of continuous-time signals; the optimal receiver and matched filter. Elements of information theory. Quantization, companding, and delta-modulation. Performance and implementation of common coherent and non-coherent keying schemes. Fading; intersymbol interference; synchronization; the Viterbi algorithm; adaptive equalization. Elements of coding. Components:Lecture Requirement Group:Prerequisite: ECE 6111 (RG331).

ECE6152(3 Credits) Wireless Communication

Introduces basic concepts in wireless communication and networks with emphasis on techniques used in the physical layer of current and future wireless communication systems. Covers channel modeling, modulation, spread spectrum techniques, multiuser communication theory, wireless network protocols, and current cellular and PCS systems. Special topics in equalization and array signal processing are included. Components:Lecture Requirement Group:Prerequisite: ECE 6122 and ECE 6151 (RG344).

ECE6161(3 Credits) Modern Manufacturing System Engineering

Issues and methods in modern manufacturing systems. Integrated product and process development. Design for quality, on-line quality control and improvement, reliability during product development, and design for testability. Computer-aided production management, production planning and scheduling, and optimization-based planning and coordination of design and manufacturing activities. Targeted toward students, professional engineers, and managers who want to have an impact on the state-of-the-art and practice of manufacturing engineering, and to improve manufacturing productivity. Components:Lecture

ECE6211(3 Credits) Antenna Theory and Applications

Analysis and synthesis of antenna systems including electric- and magnetic-dipole, cylindrical, helical, reflector, lens, and traveling-wave antennas. Theory of arrays including patterns, self and mutual impedances. Components:Lecture

ECE6212(3 Credits) Microwave Techniques

A theoretical analysis of microwave components, systems, and measuring techniques. Scattering matrix analysis is applied to microwave devices having two or more ports. Components:Lecture

ECE6221(3 Credits) Transport in Semiconductors

Topics include theory of energy bands in crystals; carrier scattering; the Boltzman equation and its approximations; low field transport; high field effects; transport in heterojunctions; quantum effects; and Monte Carlo simulation. Components:Lecture Requirement Group:Prerequisite: Physics 5401 (RG340).

ECE6222(3 Credits) Advanced Semiconductor Devices

Fundamental properties of heterostructures, strained-layer superlattices, NIPI structures, multiple quantum well, quantum wire, and quantum dot structures. Operation, modelling of the electrical characteristics, design, and applications of HBJT, HEMT, and resonant tunneling devices. Second-order effects in submicron MOSFETs and MESFETs. Components:Lecture

ECE6231(3 Credits) Advanced Optoelectronics

Review of optoelectronic devices and integrated circuit (IC) technologies (analog and digital); logic gates; self-electro-optic devices (SEEDs), microlasers, Fabry-Perot (F-P) etalons and optoelectronic IC (OEICs); modulators: F-P modulators (absorptive and refractive), spatial light modulators (SLMs) and their applications; bistable devices; bistable laser amplifiers, resonant tunneling transistor lasers, and polarization bistability; optical interconnects; architectural issues and optical processors based on S-SEED, optical neural networks, and other devices. Components:Lecture Requirement Group:Prerequisite: ECE 5212 (RG339).

ECE6232(3 Credits) Nonlinear Optical Devices

Wave propagation in nonlinear media, generation of harmonics in optical materials, optical parametric processes, stimulated emission and scattering processes. Device modeling and application of fiber and semiconductor lasers, optical amplifiers and modulators. Electro-optic, acousto-optic, and magneto-optic devices. Soliton generation and propagation. Components:Lecture Requirement Group:Prerequisite: ECE 5231 (RG342).

ECE6241(3 Credits) Electronic Materials

Physical and electronic properties, and device applications of disordered materials including amorphous semiconductors, liquid crystals, bubble-memory magnetic materials. Applications of amorphous semiconductors including xerography and solar cells. Components:Lecture Requirement Group:Prerequisite: MSE 5313 (RG335).

ECE6242(3 Credits)Instructor Consent Required VLSI Fabrication Principles

Semiconductor materials and processing, emphasizing compound semiconductors, optoelec-tronic materials, shallow devices, and fine-line structures. Semiconductor material properties; phase diagrams; crystal growth and doping; diffusion; epitaxy; ion implantation; oxide, metal, and silicide films; etching and cleaning; and lithographic processes. Components:Lecture

ECE6243(3 Credits) Nanotechnology

Nanoelectronic and optoelectronic devices: Quantum confinement in 1D, 2D and 3D (quantum wells, wires, and dots)

structures; density of states and carrier density in low-dimensional structures; fabrication methodology for quantum wire transistors and lasers; single-electron transistors/tunneling devices; growth and characterization of nanostructured materials with grain sizes in the range of 10-50 nm. Organic monolayers: Langmuir-Blodgett monolayers, Self-Assembled monolayers, Multi-layer structures, technological applications of organic thin films. Components:Lecture

ECE6244(3 Credits)Instructor Consent Required Nanotechnology - II (Laboratory Course)

Growth and characterization of carbon nanotubes using vapor phase nucleation; Growth of cladded quantum dots using liquid and/or vapor phase techniques; Characterization using AFM and TEM and Dynamic scattering techniques; Nano-device processing highlighting E-Beam lithography, and self assembly techniques; Project work involving fabrication of devices including LEDs, FETs and memor, detectors and sensors using quantum dots and nanotubes/ wires. Components:Laboratory, Lecture

ECE6247(3 Credits) Dielectric and Magnetic Materials Science

The macroscopic and microscopic views of dielectric and magnetic materials. Theories of spontaneous polarization and magnetization. Applications of anisotropic materials. Non-linear dielectrics at radio and optical frequencies. Superconductivity and superconducting magnets. Components:Lecture

ECE6301(3 Credits) Biomedical Instrumentation I

Origins of bioelectric signals; analysis and design of electrodes and low-noise preamplifiers used in their measurement. Statistical techniques applied to the detection and processing of biological signals in noise, including the treatment of nerve impulse sequences as stochastic point processes. Methods of identifying the dynamic properties of biosystems. Components:Lecture Course Equivalents:BME 6500 Requirement Group:Prerequisite: ECE 6111 (RG331).

ECE6302(3 Credits) Biomedical Imaging

Fundamentals of detection, processing and display associated with imaging in medicine and biology. Topics include

conventional and Fourier optics, optical and acoustic holography, optical and digital image enhancement, ultrasonography, thermography, isotope scans, and radiology. Laboratory demonstrations will include holography and optical image processing. Components:Lecture Course Equivalents:BME 6400

ECE6303(3 Credits) Advanced Ultrasonic Imaging Technique

Introduction to advanced techniques of ultrasonic image formation for biomedical applications. Introduction to acoustic wave propagation. A,B,C,M and Doppler ultrasonic imaging modes. Interaction of ultrasound with biological tissues. Acoustical holography. Ultrasonic transducer design and calibration. Transducer arrays. Ultrasound detection modes. Laboratory demonstrations will include Schlieren visualization of ultrasound fields and transducer calibration techniques. Components:Lecture Course Equivalents:BME 5329 Requirement Group:Prerequisite: EE 6302 or BME 6400 (RG345).

ECE6304(3 Credits)Instructor Consent Required Biomedical Instrumentation Laboratory

Experimental investigation of electrodes, transducers, electronic circuits, and instrumentation systems used in biomedical research and in clinical medicine. Components:Laboratory Course Equivalents:BME 6510

ECE6305(3 Credits) Medical Imaging Systems

Medical imaging principles and systems of x-ray, ultrasound, optical tomography, magnetic resonance imaging, positron emission tomography. The students are required to have the courses of instrumentation, signal analysis using Fourier Transform and Laplace transform. Students are also required to have advanced mathematics on differential equations and matrix calculations. Also offered as BME 360. Components:Lecture

ECE6311(3 Credits) Communication and Control in Physiological Systems

Processing, transmission, and storage of information in nerve systems. Mechanisms of neuro-sensory reception, coding and signal-to-noise ratio enhancement. Analysis of invertebrate and vertebrate visual systems. Neural spatio-temporal filters in

feature extraction and pattern recognition. Analysis of control systems and regulators associated with vision: e.g., gaze control, accommodation, pupil area, and intra-ocular pressure. Components:Lecture Course
Equivalents:BME 6120

ECE6421(3 Credits) Advanced VLSI Design

Advanced concepts of circuit design for digital VLSI components in state of the art MOS technologies. Emphasis is on the circuit design, optimization, RTL design, synthesis, and layout of either very high speed, high density or low power circuits and systems for use in applications such as micro-processors, signal and multimedia processors, memory and periphery. Other topics include challenges facing digital circuit designers today and in the coming decade, such as the impact of scaling, deep submicron effects, interconnect, signal integrity, power distribution and consumption, and timing. Recommended preparation: ECE 249 and ECE 252 (or equivalent).
Components:Lecture

ECE6422(3 Credits) VLSI CAD Algorithms

Very large scale integrated circuit (VLSI) computer-aided design (CAD) tools, optimization techniques, and design automation algorithms, such as branch and bound, genetic algorithms, simulated annealing, and linear programming. VLSI physical design process including partitioning, floorplanning, placement, routing, compaction, and pin assignment.
Components:Lecture

ECE6431(3 Credits) Advanced Computer Networks and Distributed Processing Systems

Design and evaluation of distributed computer communication and processing systems. Case studies, development of suitable queuing and other models to describe and evaluate design problems such as capacity assignment, concentration and buffering, network topology design, routing, access techniques, and line control procedures. Components:Lecture Course
Equivalents:CSE 5300 Requirement Group:This course and CSE 330 may not both be taken for credit (RG581).

ECE6432(3 Credits)Instructor Consent Required VLSI Design Verification and Testing

Introduction to the concepts and techniques of VLSI (very large scale integration)

design verification and testing, details of test economy, fault modeling and simulation, defects, automatic test pattern generation (ATPG), design for testability (DFT), scan and boundary scan architectures, built-in self-test (BIST) and current-based testing. State-of-the-art tools are used for ATPG, DFT, test synthesis and power analysis and management. Components:Lecture

ECE6433(3 Credits) Stochastic Models for the Analysis of Computer Systems and Communication Networks

Continuous and discrete-time Markov chains and their applications in computer and communication network performance and reliability evaluation. Little's theorem and applications; review of stochastic processes; simple Markovian queues; open, closed, and mixed product-form networks; computational algorithms for closed and mixed product form networks; flow-equivalence and aggregation; M/G/1 queue with vacations and applications to time-division and frequency-division multiplexing; reservations and polling; multi-access communication; reliability and performability models of computer systems. Components:Lecture Requirement Group:Prerequisite: ECE 6111 (RG331).

ECE6435(3 Credits) Advanced Numerical Methods in Scientific Computation

Development, application and implementation of numerically stable, efficient and reliable algorithms for solving matrix equations that arise in modern systems engineering. Computation of matrix exponential, generalized inverse, matrix factorizations, recursive least squares, eigenvalues and eigenvectors, Lyapunov and Riccati equations. Components:Lecture Requirement Group:Prerequisites: ECE 5101 (RG330).

ECE6437(3 Credits) Computational Methods for Optimization

Computational methods for optimization in static and dynamic problems. Ordinary function minimization, linear programming, gradient methods and conjugate direction search, nonlinear problems with constraints. Extension of search methods to optimization of dynamic systems, dynamic programming. Components:Lecture Requirement Group:Prerequisites: ECE 5101 (RG330).

ECE6439(3 Credits) Estimation Theory & Comp Alg

Estimation of the state and parameters of

noisy dynamic systems with application to communications and control. Bayesian estimation, maximum-likelihood and linear estimation. Computational algorithms for continuous and discrete processes, the Kalman filter, smoothing and prediction. Nonlinear estimation, multiple model estimation, and estimator Kalman, multiple model estimation, and estimator design for practical problems. Components:Lecture Requirement Group:Prerequisite: ECE 5101 and ECE 6111 (RG333).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Engineering

Dean
Professor Mun Choi

Assistant Dean for Graduate Studies and
Diversity
Associate Professor Jun-Hong Cui

Master of Engineering Degree Program.

The School of Engineering, in addition to the master's and doctoral degree programs described elsewhere in this Catalog, offers the M.Engr. degree with areas of concentration in: Civil and Environmental Engineering, Chemical Engineering, Computer Science and Engineering, Electrical and Computer Engineering, Materials Science and Engineering, and Mechanical Engineering.

The M.Engr. degree is designed to meet the needs of practicing engineering professionals who are employed full-time. Work toward this degree program can be completed on-site at company or at other convenient locations. Distance learning is available in select areas. The required curriculum consists of 28 graduate credits and completion of a project.

In addition to the general admission requirements of the Graduate School, the following also are required: verbal, quantitative, and analytical scores from the Graduate Record Examinations; evidence of demonstrated competence in the discipline, including but not limited to undergraduate research or field experience; and, whenever possible, a personal interview by a potential graduate advisor.

Courses

ENGR5300(1 - 6) Special Topics in
Engineering

Classroom and/or laboratory course in special topics as announced in advance for each semester. Components:Lecture

ENGR5311(3 Credits) Professional
Communication and Information
Management

Development of the advanced communication skills as well as information management required of engineers and engineering managers in industry, government, and business. Focus on (3 Credits) the design and writing of technical reports, articles, proposals and memoranda that address the needs of diverse organizational and

professional audiences; (2) the preparation and delivery of organizational and technical oral and multimedia presentations and briefings; (3 Credits) team building skills with an emphasis on communications; and (4) knowledge management.
Components:Lecture

ENGR5312(3 Credits)Program Director
Consent Reqd Engineering Project Planning
and Management

This course provides a methodology for managing engineering projects. Topics include project lifecycle, strategic planning, budgeting, and resource scheduling. Course work also includes work estimating, evaluating risk, developing the project team, project tracking and performing variance analysis. Case studies are used as class and homework assignments to focus the class on the topics presented. Components:Lecture
Attributes:Taught at a local business

English

Interim Department Head:

Wayne Franklin

Director of Graduate Studies: Veronica
Makowsky

Professors:

Barreca, Benson, Biggs, Bloom, Breen, Comprone, Dulack, Eby, Franklin, Harris, Hasenfratz, Higonnet, Hogan, Hollenberg, Jones, MacLeod, Makowsky, Marsden, Murphy, Peterson, Pickering, Recchio, Sonstroem, Tilton, and Wilkenfel

Associate Professors:

Bercaw Edwards, Brown, Burke, Campbell, Coundouriotis, Cramer, Cutter, Deans, Duane, Fairbanks, Hart, Hufstader, Jambeck, Kneidel, Lynch, Mahoney, Manning, Pelizzon, Phillips, Roden, Sánchez-Gonzalez, Semenza, Shaw, Shea, Smith, Storhoff and Winter

Assistant Professors:

Bailey, Bedore, Bystrom, Carillo, Codr, Gorkemli, King'oo, Knapp, Litman, Salvant, Schlund-Vials, Tonry, Vials

The Department of English (Web site: www.english.uconn.edu) offers courses in English language and composition theory, criticism, and literature written in English. Special research projects and courses of study in comparative literature, medieval studies, American studies, and linguistics are available in course sequences administered cooperatively with other departments. Comparative literature courses of study are conducted in cooperation with the Department of Modern and Classical Languages. The Medieval Studies Program is conducted in cooperation with the language department and the Departments of Art, Dramatic Arts, History, and Philosophy. The area of concentration in American Studies is offered in cooperation with the Departments of History, Political Science, and Sociology.

English courses numbered in the 5000's series normally are broad studies of literary schools, periods, and topics and are open to both doctoral and master's candidates. Enrollment is limited to ten students. Seminars are numbered in the 6000's series and are designed primarily for doctoral students, although they are open to a limited number of master's candidates. Enrollment in the seminars is limited to eight students. Independent study is available under English 6000.

Admission to the M.A. and Ph.D. Programs.

All applications for admission, together with letters, personal statement, writing sample and the Graduate Record Examination scores (for both General and Subject tests) should reach Storrs by January 1 to be competitive for teaching assistantships and fellowships. There is no special application for teaching assistantships.

The M.A. Program.

M.A. students are required to complete 31 credits, usually in this pattern: Seven credits in the first semester (English 5100: Theory and Teaching of Writing, 3 credits and English 5150: Research Models, 1 credit, plus another three-credit course; nine credits in the second semester, six credits in the third semester, and nine credits in the fourth semester. English 5100 and 5150 are required. There are no specific distribution requirements. The MA Examination is taken in January of the second year.

MA/Ph.D Program

A six-year program for students with a BA who are confident that they want to pursue a PhD and that their areas of specialization correspond to the UConn program's strengths. Students are required to complete 45 credits of course work at UConn for the Ph.D. including English 5100, 5150, and 5160

The Ph.D. Program.

Students are ordinarily required to complete 24 credits of course work at the Storrs Campus for the Ph.D., and at least 45 credits of total graduate work, including English 5160 and 5100, though 5100 may be waived with appropriate credentials. The usual course load for a full-time student in each semester is six-nine credits, (if the student is a teaching assistant), as approved by the Major Advisor. At least one course must be focused on a pre-1800 literary period or author, though ideally, students will enroll in more than one such. Before writing the dissertation, students take a doctoral examination, consisting of a field examination and a specialist examination.

Special Facilities.

Library collections include "little magazines" and alternative press publications, the Charles Olson archives, and extensive Short Title Catalogue holdings. The English Department sponsors the Connecticut Writing Project, a program for teachers at all levels throughout the State. Funds endowing the Department's Aetna Professorship in Writing make

possible a variety of innovative courses as well as prizes for outstanding student essays. Student creativity is encouraged in the yearly Wallace Stevens Poetry Prize competition, judged by a leading poet in a special presentation at Storrs. Faculty edit the journals *The Eighteenth Century: Theory and Interpretation*, *LIT*, *MELUS* (Multi-Ethnic Literature of the United States), *Children's Literature Association Quarterly*, and *Journal of Medieval Religious Cultures*.

Courses

ENGL5100(3 Credits) The Theory and Teaching of Writing An exploration of the relationship between the theories and practice of writing, with attention given to recent classroom practices in composition. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).

ENGL5120(3 Credits) Approaches to Literature

An introduction to practical criticism. The nature of literature; the use of biography, psychology, and other background subjects in literary criticism; problems in literary history and analysis. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).

ENGL5150(3 Credits) Advanced Research Methods

An introduction to advanced research in the humanities. History of and recent developments in humanities-based research; the use of electronic databases and traditional material resources; the collection and organization of materials; the formulation of an argument; the forms of professional academic writing. Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).

ENGL5160(3 Credits) Professional Development in English

Advanced training in such activities as dissertation writing, attending conferences, publishing book reviews and scholarly articles, and seeking employment in academe. Includes practical instruction on revising a seminar paper for publication. Components:Practicum Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).

ENGL5200(3 Credits) Children's Literature

A study of Children's Literature from the aesthetic, historic, psychological and sociological points of view. Major themes and genres. Standards of literary criticism. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).

ENGL5220(3 Credits) History of the English Language

The development of the sounds, forms, order, and vocabulary of Standard English; an introduction to the methods of modern descriptive linguistics, and to the application of linguistic fact and theory to the teaching of English. Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).

ENGL5240(3 Credits) The Bible as Literature

A study of major themes and literary characteristics of writing from the Hebrew Bible and New Testament. The Bible's relevance to modern literary criticism. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).

ENGL5270(3 Credits) Modern Poetry: Problems in Critical Analysis

Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).

ENGL5280(3 Credits) Modern Drama

Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).

ENGL5310(3 Credits) Old English

A study of the language and literature of pre-conquest England. Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).

ENGL5315(3 Credits) Medieval Literature

A study of medieval literature, exclusive of Chaucer. Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).

<p>ENGL5318(3 Credits) Chaucer</p> <p>Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>	<p>Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>Selected works of colonial and post-colonial literature from Africa, South Asia, the Caribbean, Australia, New Zealand, Canada, etc. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL5320(3 Credits) Shakespeare</p> <p>Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL5345(3 Credits) Studies in Victorian Literature</p> <p>Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL5550(3 Credits) Rhetoric and Composition Theory</p>
<p>ENGL5323(3 Credits) Renaissance Drama</p> <p>Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>	<p>ENGL5350(3 Credits) Modern British Writers</p> <p>Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>Classical and contemporary rhetorical theory, current research in composition. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL5325(3 Credits) Renaissance I: 1485-1603</p> <p>A study of major writers and literary traditions of the sixteenth century, exclusive of the drama. Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>	<p>ENGL5360(3 Credits) Irish Literature</p> <p>Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6000(1 - 6)Instructor Consent Required Independent Study</p> <p>A reading course normally open only to doctoral candidates. Components:Independent Study</p>
<p>ENGL5326(3 Credits) Seventeenth-Century Literature</p> <p>Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>	<p>ENGL5410(3 Credits) American Literature to 1776</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6200(3 Credits) Seminar in Children's Literature</p> <p>"Major authors, themes, or literary movements in American or British children's literature. With a" change in content, this course may be repeated for credit. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL5329(3 Credits) Milton</p> <p>Components:Lecture Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>	<p>ENGL5420(3 Credits) American Literature 1776-1865</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6260(3 Credits) Seminar in Modern Fiction</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL5330(3 Credits) Restoration and Eighteenth Literature</p> <p>Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL5430(3 Credits) American Literature 1865-1914</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6270(3 Credits) Seminar in Modern Poetry</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL5335(3 Credits) Later Eighteenth Century Literature</p> <p>Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL5440(3 Credits) American Literature since 1914</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6290(3 Credits) Seminar in Non-Fiction Prose</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL5340(3 Credits) Romantic Literature</p> <p>Open to graduate students in English, others with permission. Components:Lecture</p>	<p>ENGL5500(3 Credits) Literary Criticism</p> <p>A study of the major documents of literary criticism and theory from Plato and Aristotle to the present. Components:Lecture Requirement Group:Open to graduate students in English, others with permission (RG803).</p> <p>ENGL5530(3 Credits) World Literature in English</p>	<p>ENGL6310(3 Credits) Seminar in Beowulf</p> <p>Components:Seminar Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>

<p>ENGL6312(3 Credits) Seminar in Old Irish</p> <p>“Language and literature of Medieval Ireland. With a change of content, this course may be repeated for” credit. Components:Seminar Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG 4326).</p>	<p>students in English, others with permission (RG803).</p>	<p>Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL6313(3 Credits) Seminar in Old Norse</p> <p>Old Norse language and literature. Components:Seminar Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG 4326).</p>	<p>ENGL6345(3 Credits) Seminar in Victorian Literature</p> <p>May be repeated for a total of six credits with a change in content. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6530(3 Credits) Seminar in World Literature</p> <p>“Major authors, movements, or themes in world literature written in English. With a change in content,” this course may be repeated for credit. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL6315(3 Credits) Seminar in Medieval Literature</p> <p>Components:Seminar Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>	<p>ENGL6360(3 Credits) Seminar in Irish Studies</p> <p>“Major authors, movements, or themes in Irish literature. With a change in content, this course may be” repeated for credit. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6540(3 Credits) Seminar in Literature and Human Rights</p> <p>The interdisciplinary study of literature and human rights discourse. Components:Seminar Requirement Group:Open to Graduate ENGL Students Only</p>
<p>ENGL6320(3 Credits) Seminar in Shakespeare</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6400(3 Credits) American Ethnic Literature</p> <p>With a change of content. this course may be repeated for credit. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6550(3 Credits) Seminar in Rhetoric and Composition Theory</p> <p>May be repeated for a total of six credits with a change in content. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL6325(3 Credits) Seminar in Renaissance Literature</p> <p>This course may be repeated for a total of six credits with a change in content. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6410(3 Credits) American Literature and Culture</p> <p>An introduction to a particular literary era and the cultural influences on its literature. The course will also address the influence of a literary era on cultural change Components:Lecture</p>	<p>ENGL6575(3 Credits) Seminar in Women and Literature</p> <p>May be repeated for a total of six credits with a change in content. Components:Seminar Requirement Group:Open to graduate students in English and Medieval Studies, others with permission (RG818).</p>
<p>ENGL6330(3 Credits) Seminar in Eighteenth-Century Literature</p> <p>With a change in content, this course may be repeated for a total of six credits. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6420(3 Credits) American Literary Movements</p> <p>Introduction to a particular American literary movement. This course may be repeated for a total of six credits with a change in content. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6600(3 Credits) Creative Writing Workshop</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL6340(3 Credits) Seminar in Romantic Literature</p> <p>Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6450(3 Credits) Special Topics in American Literature</p> <p>With a change in content, this course may be repeated for credit. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>	<p>ENGL6700(3 Credits) Seminar in Major Authors</p> <p>May be repeated for a total of nine credits with a change in content. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>
<p>ENGL6340(3 Credits) Seminar in Romantic Literature</p> <p>May be repeated for a total of six credits with a change in content. Components:Seminar Requirement Group:Open to graduate</p>	<p>ENGL6500(3 Credits) Seminar in Literary Theory</p> <p>Components:Seminar Requirement</p>	<p>ENGL6750(3 Credits) Special Topics in Language and Literature</p> <p>This course may be repeated with a change in content. Components:Seminar Requirement Group:Open to graduate students in English, others with permission (RG803).</p>

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Environmental Engineering

Program Director:

Associate Professor Guiling Wang

Professors:

Anagnostou, Bagtzoglou, Boyer, Cetegen, Clausen, Noll, Robbins, Segerson, Strasser, Torgersen, Willig, Warner, and Yang

Associate Professors:

Abboud, Bronin, Liu, MacKay, Parnas, and Wang

Assistant Professors:

Agrios, Anyah, Atkinson-Palombo, Bushey, Chrysochoou, Cui, Gebremichael, Li, McCutcheon, Seth, Shor, Srivastava, Vadas and Zhou

Environmental Engineering is an interdisciplinary field concerned with the scientific and technological aspects of environmentally related processes and systems. Environmental engineers play a critical role in assessing the impacts of existing contamination problems, devising strategies for managing polluted ecosystems, developing new guidelines for the treatment and disposal of wastes, and modifying manufacturing and other activities to minimize the generation of pollutants. Environmental engineers apply scientific principles to these areas in order to improve environmental quality, to protect public health, and to promote the advancement of sustainable development.

The Environmental Engineering graduate program emphasizes the mastery of fundamental scientific and socioeconomic principles. Graduate education in Environmental Engineering provides students with a sound foundation in basic engineering concepts, and the technological training and research expertise necessary to apply these concepts to the solution of a variety of problems.

Environmental Engineering degree programs are offered as an interdisciplinary Field of Study through the School of Engineering. Because of Environmental Engineering's broad scope and association with other University departments and research institutes, it offers a wide range of academic focus areas based in the natural and engineering sciences. We offer three focus areas of study: (i) biogeochemical processes (BGC), (ii) atmospheric processes (ATM), and (iii) hydrogeosciences engineering

(HGS). Active research areas include:

- biochemical and physiochemical processes in environmental systems,
- combustion,
- environmental geophysical techniques,
- environmental interfacial processes,
- groundwater modeling and remediation,
- vadose zone hydrology,
- surface hydrological processes and land atmosphere interactions,
- pollution prevention, and
- environmental biotechnology

The graduate program offers Master of Science and Doctor of Philosophy degrees in Environmental Engineering. Student plans of study are flexible, comprehensive in nature, and are designed to meet the needs of the individual student.

Admission to Degree Programs.

In addition to the basic admission requirements of the Graduate School, applicants must submit Graduate Record Examination scores with their application. Sound undergraduate preparation in science and/or engineering is required for entrance to the degree programs. Admission is offered on a competitive basis to highly qualified individuals who show promise for distinguished professional and/or academic careers. Limited remedial coursework for non-engineering prospective students is required. For more details, please visit our website at <<http://www.engr.uconn.edu/environ>>.

The M.S. Program.

There are no special requirements for admission to the master's program beyond those of the Graduate School. Most entering students have an accredited engineering degree or have taken preparative engineering course work. Selection of the Plan A (thesis) or the Plan B (non-thesis) option is made after consultation with the advisory committee. The primary objective of the master's program is to develop the students' understanding of the subject matter either through an emphasis on research (Plan A) or through a comprehensive understanding of a more general character (Plan B).

The Ph.D. Program.

Admission to the doctoral program is based upon a careful assessment of the student's potential for significant, creative research in Environmental Engineering.

There are no special requirements for admission to the doctoral program beyond those of the Graduate School. The student's plan of study is arranged in consultation with an advisory committee. Doctoral students must pass a general examination by the end of the second year of study.

Facilities.

Students in the Environmental Engineering program have access to numerous state-of-the-art laboratories and facilities through the School of Engineering and associated University departments and institutes. These resources include: the Biotechnology Center, the Center for Biochemical Toxicology, the Center for Environmental Health, the Combustion/Air Pollution Laboratory, the Center for Environmental Sciences and Engineering, the Environmental Processes Laboratory, the Geographic Information Systems Institute, the Hydraulics Laboratory, the Institute of Water Resources, the Marine Sciences Institute, the Pollution Prevention Research & Development Center, and the Unit Operations Laboratory.

The mission of the Center for Environmental Sciences and Engineering (CESE) is to develop technology-based solutions to existing and emerging environmental concerns – particularly regarding the management of hazardous wastes and the advancement of pollution prevention technologies. CESE contains well equipped analytical chemistry and environmental chemistry laboratories focused on methods development and advanced analyses.

Graduate students within the School of Engineering also have access to a wide range of computing facilities. A laboratory of Unix-based SUN computers including Sun Workstations and Sun SparcStations is available to students in the environmental field. Peripheral hardware includes line and laser printers, image scanners, slide makers and large plotters. The School of Engineering also houses a series of computing laboratories containing IBM PC and Apple Macintosh computers. Large scale computing facilities are available through the University mainframe system and the School of

Courses

ENVE5020(1 - 6)Instructor Consent
Required Independent Graduate Study in
Environmental Engineering

Special problems in environmental engineering as arranged by the student with a supervisory instructor of his or her choice.
Components:Independent Study

ENVE5090(1 - 3)Instructor Consent
Required Advanced Topics in Environmental
Engineering

Classroom or laboratory courses as announced for each semester. For independent study, see ENVE 5020.
Components:Lecture

ENVE5094(0) Seminar in Environmental
Sciences and Engineering

Extended discussions on presentations contributed by staff, students and outside speakers. A certificate of completion will be issued from the Environmental Engineering Program. Also offered as CE 400.
Components:Seminar Course Equivalents:CE 5394

ENVE5210(3 Credits) Environmental
Engineering Chemistry - I

Quantitative variables governing chemical behavior in environmental systems. Thermodynamics and kinetics of acid/base coordination, precipitation/dissolution, and redox reactions. Also offered as CE 390.
Components:Lecture Course Equivalents:CE 5210

ENVE5211(3 Credits) Environmental
Engineering Chemistry - II

Environmental organic chemistry: ideal and regular solution thermodynamics; linear free energy relations; estimation of vapor pressure, solubility, and partitioning behavior, abiotic organic compound transformations; chemical fate modeling. Also offered as CE490. Components:Lecture Course Equivalents:CE 5211

ENVE5220(3 Credits) Transportation & Air
Quality

Mobile source emissions models in theory and practice. Regulatory framework. Emissions control technology. Field and laboratory measurement techniques. Roadway dispersion modeling. Current topics in mobile source emissions. Also offered

as CE 305. Components:Lecture Course
Equivalents:CE 5220

ENVE5221(3 Credits) Transport and
Transformation of Air Pollutants

Transport and deposition of gaseous and aerosol pollutants; chemical formation and reactions of oxidants and acidic compounds. Also offered as CE 408. Components:Lecture Course Equivalents:CE 5221

ENVE5230(3 Credits) Advanced Soil
Chemistry

Physical chemical characteristics of soil minerals and soil organic matter, and their reactivity with compounds present in the aqueous and vapor phase. Topics include: modern spectroscopic surface analyses, soil organic matter and its interactions with metals, redox reactions, solubility, derivation of ion-exchange equations, and kinetics of soil reactions. Also offered as PLSC 378. Components:Lecture Course Equivalents:PLSC 5420

ENVE5240(3 Credits) Biodegradation and
Bioremediation

Biochemical basis of the transformation of key organic and inorganic pollutants; quantitative description of kinetics and thermodynamics of pollutant transformation; impact of physiochemical and ecological factors on biotransformation. Also offered as CE 394. Components:Lecture Course Equivalents:CE 5240

ENVE5250(3 Credits) Ground Water
Assessment and Remediation

Quantitative evaluation of field data in assessing nature and extent of groundwater contamination. Subsurface control and remediation. Case studies. Also offered as CE 410. Components:Lecture Course Equivalents:CE 5253

ENVE5251(3 Credits) Environmental
Physicochemical Processes

Reactor dynamics, applications of interfacial phenomena and surface chemistry, processes for separation and destruction of dissolved and particulate contaminants. Scholarly reviews. Also offered as CE 387. Components:Lecture Course Equivalents:CE 5250 Requirement Group:Prerequisites: CE 5310 or ENVE 5310, and CE 5210 or ENVE 5210 (RG235).

ENVE5252(3 Credits) Contaminant Source

Remediation

Regulatory framework. Soil clean-up criteria. Treatment technologies: soil vapor extraction, solidification - stabilization, soil washing - chemical extraction, hydrolysis - dehalogenation, thermal processes, bioremediation. Risk analysis. Also offered as CE 5252. Components:Lecture Course Equivalents:CE 5252

ENVE5253(3 Credits) Combustion and Air Pollution Engineering

Review of thermodynamics and chemical equilibrium. Introduction to chemical kinetics. Studies of combustion processes, including diffusion and premixed flames. Combustion of gases, liquid, and solid phases, with emphasis on pollution minimization from stationary and mobile systems. Air pollution measurement and instrumentation. Also offered as ME 346. Components:Lecture Course Equivalents:ME 6170

ENVE5254(3 Credits) Industrial Waste Management and Regulation

Origin and characteristics of industrial wastes. Engineering methods for solving industrial waste problems. Also offered as CE 392. Components:Lecture

ENVE5270(3 Credits) Advanced Environmental Engineering Laboratory

Analysis of water and waste water. Experimental laboratory and plant investigation of water, wastewater and industrial waste treatment processes. Also offered as CE 391. Components:Laboratory, Lecture

ENVE5310(3 Credits) Environmental Transport Phenomena

Movement and fate of chemicals: interfacial processes and exchange rates in environmental matrices. Also offered as CE 389. Components:Lecture Course Equivalents:CE 5310

ENVE5311(3 Credits) Environmental Biochemical Processes

Major biochemical reactions; stoichiometric and kinetic description; suspended and attached growth modeling; engineered biotreatment systems for contaminant removal from aqueous, gaseous, and solid streams; process design. Also offered as CE 388. Components:Lecture Course

Equivalents:CE 5251

ENVE5320(3 Credits) Environmental Quantitative Methods

Also offered as CE 432. This course and NRME 432 may not both be taken for credit. Topics on natural resources and environmental data analysis: random variables and probability distributions, parameter estimation and Monte Carlo simulation, hypothesis testing, simple regression and curve fitting, wavelet analysis, factor analysis; formulation and classification of optimization problems with/without constraints, linear programming; models for time series; solution of ordinary differential equations with Laplace transforms and Euler integration; solution of partial differential equations with finite differences; basics of modeling. Components:Lecture Course Equivalents:CE 5320

ENVE5330(3 Credits) Probabilistic Methods in Engineering Systems

Common probabilistic models used in engineering and physical science design, prediction, and operation problems; derived distributions, multivariate stochastic models, and estimation of model parameters; analysis of data, model building and hypothesis testing; uncertainty analysis. Also offered as CE 304. Components:Lecture Course Equivalents:CE 5330

ENVE5340(3 Credits) Environmental Systems Modeling

Modeling pollutants in natural surface waters. Advective, dispersive, and advective-dispersive systems. Modeling water quality, toxic organic and heavy metals pollution. Also offered as ce 405. Components:Lecture Course Equivalents:CE 5340

ENVE5370(3 Credits) Environmental Monitoring

Also offered as CE 314. Introduction to complexities and challenges associated with acquisition of information on environmental processes and characteristics of natural systems. Hands-on experience with selection of measurement strategy and sensing technology; sampling network and protocol design; and deployment, acquisition and interpretation of measurements in natural systems. Components:Lecture Course Equivalents:CE 5370

ENVE5381(3 Credits) Subsurface Contaminant Transport Modeling

“Also offered as CE 5381. Fate and transport of contaminants in groundwater. Convection, dispersion,” adsorption, and biological and radioactive decay. Field scale modeling. Galerkin finite elements. Application to field sites. Components:Lecture Course Equivalents:CE 5381

ENVE5810(3 Credits) Hydrometeorology

Global dynamics of aquatic distribution and circulation. Hydrologic cycle, atmospheric circulation, precipitation, interception, storage, infiltration, overland flow, distributed hydrologic modeling, and stream routing. Also offered as CE 383. Components:Lecture Course Equivalents:CE 5810

ENVE5811(3 Credits) Hydroclimatology

Also offered as CE 313. This course focuses on the physical principles underlying the spatial and temporal variability of hydrological processes. Topics include atmospheric physics and dynamics controlling the water/energy budgets; global water cycle, its dynamics, and causes of variability/changes; occurrence of drought and flood; climate teleconnections and their hydrological application; hydrological impact of global changes; quantitative methods in hydroclimatic analysis. Components:Lecture Course Equivalents:CE 5811

ENVE5812(3 Credits) Ecohydrology

Also offered as CE 5812. This course focuses on the interactions between ecological processes and the water cycle, emphasizing the hydrological mechanisms underlying various terrestrial ecological patterns and the ecological properties controlling the hydrologic and climatic regimes. Topics include conceptual understanding of hydrological cycle over vegetated land, quantifying and modeling flux exchanges in the soil-vegetation-atmosphere continuum, case studies on the hydrological impact of land use land cover changes, ecosystem response to environmental changes, and vegetation-climate feedback at the regional and global scales. Components:Lecture Course Equivalents:CE 5812

ENVE5820(3 Credits) Unsaturated Flow and Transport

Also offered as CE 315. Modern approaches to water flow and solute transport in partially-saturated porous media including

media characterization (review); unsaturated flow in porous media (governing equations, hydraulic functions, numerical and analytical solution methods); solute transport in unsaturated media (convection dispersion, transfer functions, solutions); modeling and observational scales; coupled water flow and solute transport (model applications); special topics (preferential flow, effects of spatial variability, stochastic aspects of flow and transport, gas exchange and transport measurement methods) Components:Lecture Course Equivalents:CE 5820

ENVE5821(3 Credits) Vadose Zone Hydrology

Also offered as CE 316. Theoretical and experimental elements of primary physical and hydrological properties of porous media and processes occurring in partially-saturated soils. Practical experience in measurement and interpretation of hydrological information and methods of analysis for vadose-zone related environmental problems. Components:Lecture Course Equivalents:CE 5821

ENVE5830(3 Credits) Groundwater Flow Modeling

Basics of modeling with Finite Difference and Finite Element Methods. Modeling flow in saturated and unsaturated zones. Model calibration and validation. Parameter estimation. Treatment of heterogeneity. Basic geostatistics. Modeling surface-groundwater interactions. Application to field sites. Also offered as CE 406. Components:Lecture Course Equivalents:CE 5830 Requirement Group:Prerequisite: CE 5253 or ENVE 5250 (RG239).

ENVE5840(3 Credits) Open Channel Hydraulics

Unsteady, nonuniform flow; energy and momentum concepts; flow control; de St. Venant equations; unsteady flow modeling of channels and natural rivers. Also offered as CE 338. Components:Lecture Course Equivalents:CE 5840

ENVE6210(3 Credits) Advanced Combustion

Review of thermodynamic properties, transport properties, conservation equations of multicomponent reacting gas. Introduction to chemical kinetics. Classification of combustion waves. Deflagrations, detonations and diffusion flames. Ignition phenomena, droplet and spray combustion and some aspects of turbulent combustion. Also offered

as ME 351. Components:Lecture Course Equivalents:ME 6173

ENVE6810(3 Credits) Advanced Fluid Mechanics I

Dimensional analysis; vector analysis, circulation and vorticity; irrotational motion and velocity potential; two-dimensional flow and stream function; complex variable theory; conformal mapping; airfoils; sources and sinks; free streamline flow; water waves; three-dimensional flow. Also offered as CE 332. Components:Lecture Course Equivalents:CE 6810

ENVE6811(3 Credits) Advanced Fluid Mechanics II

Turbulent boundary layer . Dimensional analysis. Free shear flows. Flows in pipes and channels. Boundary layers on smooth and rough surfaces. Also offered as CE 334. Components:Lecture Course Equivalents:CE 6811

ENVE6820(3 Credits) Hydraulic Machinery and Transients

Pumps and turbines. Surging, water hammer, cavitation, hydraulic machinery for hydroelectric plants, water supply, irrigation, and river navigation. Also offered as CE 384. Components:Lecture Course Equivalents:CE 6820

ENVE6821(3 Credits) Hydraulic Structures

River regulation and development. Hydroelectric plants, storage and turbines, canals, locks, and penstocks, dams, regulation of power, flood control, navigation and irrigation. Also offered as CE 385. Components:Lecture Course Equivalents:CE 6821

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Fluid Dynamics

Fluid dynamics is concerned with the engineering aspects of fluid mechanics in the broadest sense. It encompasses fundamental theory of perfect and viscous flows, compressible and heated flows, combustion, magnetohydrodynamics and plasma jets, free-surface flows in oceans and natural water courses, laminar and turbulent flows, and the vast number of practical applications which make fluid motions useful.

The Ph.D. Program. The student's plan of study is arranged in consultation with his or her advisory committee to develop competence in fluid dynamics. Since it is possible to emphasize theoretical, applied or experimental research, the student must develop a balance within his or her program consonant with his or her stated objectives. The remaining courses should be of an interdisciplinary nature from the departments in geological, biological, and marine sciences, engineering, chemistry, mathematics, physics, and others which the student and the committee feel are pertinent to the student's program.

About half the total credits should be taken in courses oriented toward the engineering aspects of fluid dynamics. The remainder of the program should consist of related courses preferably in two or more supporting areas considered appropriate in the student's objectives. These may include any courses in solid mechanics, including continuum mechanics, elasticity, plasticity, vibrations and structural or soil mechanics; also any courses in thermodynamics, heat transfer, power plants, process dynamics or reaction kinetics. Related courses in electrical engineering could include those in field theory, networks, computer science, and systems. Fundamental studies in chemistry, mathematics, physics, and statistics constitute an important part of the related course work.

This program is the joint responsibility of the Departments of Civil Engineering and Mechanical Engineering. Inquiries concerning the program may be addressed to these departments.

Geography

Department Head:
Professor Jeffrey P. Osleeb

Professors
Berentsen, E. Cromley, R. Cromley, Hanink,
and MacKinnon

Associate Professor
Cooke and Vias

Assistant Professors
Atkinson-Palombo, Daniels, Seth, Trumbull,
and Zhang

The Department of Geography offers a program leading to the M.A. and Ph.D. degrees. The master's program provides study of the theory and methods of analysis of human and physical features of the earth's surface. Students take a small number of core courses in research methods and design, and select an area of specialization for the remainder of their course work. Examples of common specializations include GIScience and computer graphics, geomorphology, environmental management and planning, and urban and regional analysis. Other specializations in areas of the faculty's expertise are possible. Students, working with their advisors, have a good opportunity to select courses which best fit their intellectual interests and professional needs.

Candidates for the M.A. in Geography may pursue either Plan A, completion of 25 credits of course work (including no more than six credits of independent study/research), at least nine credits of Thesis Research (GRAD 5950), and a thesis, including its oral defense; or Plan B, completion of thirty one credits of course work (including no more than six credits of independent study/research), a scholarly research paper, and a comprehensive final examination assessing mastery of the field and the ability to integrate the knowledge acquired. All M.A. students must complete a core curriculum that includes: one methods course, either GEOG 5500 (Fundamentals of GIScience) or GEOG 5600 (Spatial Data Analysis); GEOG 5000 (Research Design); and the one credit Proseminar (GEOG 5010). Students with an exceptional background may, with the approval of their advisor, replace the methods course with an alternative advanced methods course.

The Ph.D. in Geography requires a minimum 24 credits of course work (including no more than six credits of independent study/research) beyond the Master's degree, along with the completion

and defense of a dissertation. All Ph.D. students must complete a core curriculum that includes one methods course, either GEOG 5500 (Fundamentals of GIScience) or GEOG 5600 (Spatial Data Analysis); GEOG 5000 (Research Design); and GEOG 6000 (Development of Geographic Thought). In exceptional cases, equivalent graduate courses may be substituted with the approval of a student's advisory committee. Other required courses for the Ph.D. include one 6000 level Geography seminar (not including GEOG 6000), a one-credit teaching practicum course (GEOG 6800), a one credit Proseminar course (GEOG 5010), at least six credits of course work from a related field outside the department, and at least 15 credits of Dissertation Research (GRAD 6950 - not included in the 24 credit requirement).

As the student completes the required coursework, a general examination with both written and oral sections is administered. Doctoral degree students must also submit and present a dissertation proposal for approval by the department, and defend the finished dissertation in a departmental colloquium.

The Department recommends that applicants for admission to the graduate program have a strong background in Geography or a related discipline. Students must submit GRE scores and international applicants must also supply TOEFL scores.

Graduate Certificate in Geographic Information Systems.

The Certificate Program is designed to recognize completion of a focused set of courses for graduate students and other professionals seeking expertise in the field of Geographic Information Systems (GIS). GIS are computer systems for integrating and analyzing spatial data. These systems, and the science behind their development and use, are the topics covered in the required coursework. GIS and related technologies are used in a wide range of applications in the public and private sectors. The elective coursework provides students with the opportunity for graduate study in fields where GIS are used.

The Certificate is earned upon the completion of twelve credits of coursework beyond the B.A. or B.S. degree. Students in the Certificate Program are required to complete Geography 5500 and Geography 5510, plus additional courses in Geography or a related field. The additional courses must be taken at the graduate (5000 or 6000) level. A student's program of study for the Certificate may include only one course numbered

Geography 5810. Students develop a program of study with the assistance and approval of the Certificate Program Coordinator. To earn the Certificate, a student must pass all courses counted toward the Certificate with a grade of B- or better in each course and an overall GPA for the 12 credits of 3.0 or greater. All coursework for the Certificate must be completed at the University of Connecticut.

Application to the GIS Certificate Program is made through the Graduate School of the University of Connecticut. Students applying for admission to or already enrolled in a graduate degree program in Geography or another field of study at the University of Connecticut may apply for admission to the Certificate Program. Non-degree students may also apply for the program. All students applying for admission to the Certificate Program must have a B.A. or B.S. degree from an accredited institution. Official transcripts and a personal statement of interest in the program must be submitted with the application. Information on the Graduate Certificate in Geographic Information Systems can be obtained from Graduate Certificate Program Coordinator, Department of Geography Unit 4148, University of Connecticut, Storrs, Connecticut 06269-4148.

Special Facilities.

The program is supported both by in-house facilities and external contacts. The department maintains a full range of graphics laboratories. These include laboratories equipped with NT workstations, laser printers, plotters, and digitizers as well as regular computer terminals and printers linked to the University's Computer Center and well equipped microcomputer lab. These facilities are complemented by research and practicum opportunities in a wide range of external agencies with whom collaborative relations have been established by means of the department's experience with internship programs.

Courses

GEOG5000(3 Credits) Research Design A survey of research methods in geography. Topics include spatial sampling, hypothesis construction and testing and geographic modelling. Components:Seminar

GEOG5010(3 Credits) Geography Proseminar

Presentation by geography faculty of current research topics. Components:Seminar Requirement Group:Open to graduate students in Geography (RG354).

GEOG5020(3 Credits) Fundamental Geographic Concepts for Educators

Basic geographic concepts critical for effective teaching in the K-12 environment. Development of materials/curricula for the classroom. Components:Lecture

GEOG5100(3 Credits) Location Analysis

Issues and approaches in location analysis. Topics include location theory and models; representation issues; use of geographic information systems (GIS) for data preparation, analysis and display; evaluation of service areas; land use allocation; accessibility and locational conflict; and implications for planning and public policy. Components:Lecture

GEOG5110(3 Credits)Instructor Consent Required Regional Development and Policy

A study of theory and practice in regional development and planning. Emphasis on evaluation of regional problems and public policies designed to resolve them, with a primary focus on the United States. Components:Seminar

GEOG5120(3 Credits)Instructor Consent Required Economic Geography of Environmental Issues

Seminar on theory and applications of economic geography to environmental issues. Location theories and spatial interaction models are considered from local to international scales of analysis. Components:Seminar

GEOG5130(3 Credits) GIS in Transportation

Discussion of the uses of Geographic Information Systems (GIS) for transportation rate establishment, for visualizing the results of transportation models for predicting flows, for exploring the impact of transportation on the location of economic activities, and for the planning of transportation facilities in cities. Components:Lecture Requirement Group:Open to graduate students in Geography (RG354).

GEOG5140(3 Credits) Geographical Analysis of Social Issues

Focus on geographical perspectives toward research on selected social issues, with an emphasis on methods of behavioral analysis and relevant social geographical concepts such as social space, activity spaces

and time-space budgets, and diffusion. Components:Seminar

GEOG5150(3 Credits) Visualization in Geographic Information Systems

Design of spatial data displays and computer generated maps. Components:Lecture

GEOG5190(3 Credits) Advanced Economic Geography

Problems involved in analyzing spatial variations of selected economic variables. Emphasis on location theory with view toward integrating geographic viewpoint and economic concepts. Components:Seminar

GEOG5210(3 Credits) Planning and Land Use

Contrasting approaches to planning, with an emphasis on legal and political issues in communities and organizations. Components:Lecture

GEOG5220(3 Credits) Geography of Sustainable Development

"Conceptualizing international development; understanding theories, strategies and ideologies of" development; and use of case studies to understand development in practice. Emphasis placed on the concept "of sustainable development and sustainability, grassroots-driven approaches to development, the role of" "women, and geographic explanations as to how and why uneven development has occurred." Components:Seminar

GEOG5230(3 Credits) Advanced GIS for Remote Sensing for Geoscience Applications

Research methods for using Geographic Information Systems, remote sensing, and image interpretation to investigate problems in geoscience. Includes research techniques for data acquisition, processing and analysis of Digital Elevation Models and satellite imagery. Geologic materials, processes, landforms and landscapes. (CLAS C&C 4/26/11) Components:Lecture Same As Offering:GSCI 5230 Requirement Group:Not open to students who took GSCI 4230

GEOG5290(3 Credits) Advanced Urban Geography

Analysis of social and economic patterns within urban areas, with emphasis on individualized research. The implications for planning are stressed. Components:Seminar

<p>GEOG5310(3 Credits) Adanced. Fluvial Geomorphology</p>	<p>and management theories and techniques can be implemented in GISs are examined. Topics include problems of data exchange standards, implementation of GIS in an institutional setting including benchmarking a GIS, applications of GIS in various fields, social impacts and legal aspects of GIS. Practical work includes analytical exercises using GIS culminating in an application project. Components:Lecture Requirement Group:Prerequisite: GEOG 5500 or GEOG 4500C (RG352).</p>	<p>Components:Lecture GEOG5700(3 Credits) Contemporary Europe: A Geography</p>
<p>Research methods for analyzing fluvial forms and processes. Theoretical discussion of factors controlling open-channel flow, sediment transport, channel morphology, adjustments of rivers to environmental changes and human impacts. River management and restoration strategies. Requires one weekend field trip. Components:Lecture Requirement Group:Not open to students who have passed GEOG 3310 (RG 3166).</p>	<p>GEOG5520(3 Credits)Instructor Consent Required GIS Modeling of the Urban Environment</p>	<p>An introduction to the peoples, countries, and landscapes of Europe (excluding the republics of the former U.S.S.R.). Emphasis on the economic, political, and social forces both maintaining national identities and shaping a united Europe. Components:Lecture</p>
<p>GEOG5380(3 Credits) Advanced Environmental Restoration</p> <p>Research issues relating to restoration of natural environments including rivers, wetlands, coastal areas, grasslands and forests. Theoretical discussions of restoration ecology, as well as applied discussions of management and engineering concerns. History of environmental restoration; relevant policy debates; specific case studies of river, wetland, coastal, grassland, and forest restoration. Components:Seminar</p>	<p>Survey of GIS methods and spatial analysis for studying spatial patterns of land use and human activity in an urban environment Components:Lecture</p>	<p>GEOG5710(3 Credits) Geography of Latin America</p> <p>Advanced integrative study of physical, historical, social, political and economic geography of Latin America. Particular emphasis on patterns, processes and problems of spatial economic change in the region. Components:Lecture</p>
<p>GEOG5390(3 Credits) Advanced Physical Geography</p> <p>Problems involving the application of physical processes in our changing environment. Components:Seminar</p>	<p>GEOG5530(3 Credits) GIS Applications in Health Research</p>	<p>GEOG5810(1 - 6)Instructor Consent Required Special Problems in Geography</p>
<p>GEOG5500(3 Credits) Fundamentals of Geographic Information Science</p> <p>An introduction to the theory and methods for representing, acquiring, storing, manipulating, displaying, and analyzing geographic features in relation to the surface of the earth. Components:Lecture</p>	<p>Survey of GIS methods for health research, health care policy making, and planning. Components:Lecture</p>	<p>Components:Independent Study GEOG5890(1 - 6)Instructor Consent Required Internship in Geography</p>
<p>GEOG5505(3 Credits) Remote Sensing of Marine Geography</p> <p>Introduction to remote sensing applications in oceans and seas. Applications include image analysis of sea surface temperature, winds, altimetry, sea ice, chlorophyll, primary productivity, and bathymetry. Graduate section includes individualized projects. Components:Lecture</p>	<p>GEOG5560(3 Credits) GIS and Environmental Geography</p>	<p>A fieldwork internship program under the direction and supervision of the geography staff. Students will be placed in agencies or industries where their academic training will be applied. One 8-hour work day per week (or its equivalent) for the host agency during the course of the semester will be necessary for three academic credits. A written report will be required. Components:Practicum</p>
<p>GEOG5510(3 Credits) Application Issues in Geographic Information Systems</p>	<p>Applicability of Geographic Information Systems to solve environmental problems. Case studies address environmental assessment and monitoring, analysis and modeling, planning and management. Recommended Preparation: GEOG 5500. Components:Lecture</p>	<p>GEOG6000(3 Credits) Themes in Geographic Thought</p>
<p>The study of operational and management issues in geographic information systems (GIS). Ways in which traditional planning</p>	<p>GEOG5600(3 Credits)Instructor Consent Required Spatial Data Analysis</p> <p>Univariate statistics focused on the use of spatial statistics, including geostatistics in geographical research. Problems specific to spatial data analysis are addressed. Components:Seminar</p>	<p>Examination of the historical development of geography since the early nineteenth century. Emphasis on the last century of intellectual developments that have led to the emergence of contemporary geography as a research discipline. Components:Seminar</p>
	<p>GEOG5610(3 Credits) Spatial Statistics and Modeling</p>	<p>GEOG6500(3 Credits) Locational Models and Spatial Systems</p>
	<p>Advanced study in the methods and practice of multidimensional statistics and spatial modeling. Components:Seminar Requirement Group:Prerequisite: GEOG 5600 (RG353).</p>	<p>Study of the locational models used to examine the arrangement of human and physical systems in space. Components:Seminar</p>
	<p>GEOG5620(3 Credits) Computer Applications in Spatial Analysis</p>	<p>GEOG6510(3 Credits)Instructor Consent Required Locational Methods and Spatial Systems</p>
	<p>Advanced seminar in the design of Geographic Information Systems software for solving problems in spatial analysis.</p>	<p>Study of the locational methods</p>

used to examine the arrangement of human and physical systems in space.
Components:Seminar

GEOG6800(3 Credits)Instructor Consent
Required Practicum in College Teaching in
Geography

Guided development of college-level instruction. Drafting of course objectives, selection of texts, development of course and lecture outlines, selection of grading mechanisms, and incorporating feedback for improvement of instruction. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.)
Components:Practicum Requirement
Group:Open to graduate students in Geography (RG354).

GEOG6810(3 Credits)Instructor Consent
Required Adv Top Spat Analys

Components:Seminar

GEOG6820(3 Credits)Instructor Consent
Required Advanced Topics in Regional
Analysis

Components:Seminar

GEOG6830(3 Credits)Instructor Consent
Required Advanced Topics in Population
Geography

Components:Seminar

GEOG6840(3 Credits)Instructor Consent
Required Advanced Topics in Urban
Geography

Components:Seminar

GEOG6850(3 Credits)Instructor Consent
Required Advanced Topics in Geography of
Public Policy

Components:Seminar

GEOG6860(3 Credits)Instructor Consent
Required Advanced Topics in Economic
Geography

Components:Seminar

GEOG6870(3 Credits)Instructor Consent
Required Advnced topics in Physical
Geography

Components:Seminar

GEOG6880(3 Credits)Instructor Consent
Required Advanced Topics in Environmental

Geography Components:Seminar
†GRAD 5930. Full-Time Directed Studies
(Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research
(GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research
(GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's)
(GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD
399) Non-credit.

†GRAD 6930. Full-Time Directed Studies
(Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation
Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research
(GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral)
(GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation
(GRAD 499) Non-credit.

Geological Sciences

Program Director:
Professor Pieter T. Visscher

Professors
Civco, Cormier, Joesten, McBrearty, Noll,
Robbins, Thorson, Torgersen, and Visscher

Associate Professor
Byrne, Crespi, Liu, MacKay, Meyer, Noll,
and Schultz

Assistant Professors
Bush, Day-Lewis, Dupraz, and Wang

Programs leading to M.S. or Ph.D. degrees in
the Geological Sciences are offered.

Programs are designed to provide each student with a broad background in the physical sciences and with the specialization necessary for careers in geology, geophysics, and environmental geoscience.

Research opportunities are available in most of the traditional subdisciplines, including hydrogeology, geochemistry, marine geology, sedimentation, exploration geophysics, geomorphology, glacial geology, structural geology, mineralogy, petrology, geobiology, biogeochemistry, seismology, paleontology, and others.

Graduate research is often supported by the U.S. Geological Survey, the U.S. Environmental Protection Agency, the National Science Foundation, the Connecticut Department of Environmental Protection, and other government agencies. Students also benefit from program collaborations with the Center for Environmental Science and Engineering (CESE), the Electron Microscopy Center, the Institute of Water Resources, Marine Sciences Institute, Institute of Materials Science, the Center for Environmental Health, and the Transportation Research Institute, among others. Scientists from outside the University frequently serve on graduate student advisory committees. Most graduate students in residence receive financial support. As Graduate Assistants, they either help support the teaching mission or assist with faculty research that is supported by external funds.

In addition to applicants with a Bachelor's degree in geoscience, applicants with undergraduate degrees in related disciplines are encouraged to apply, provided that they have a broad undergraduate background in the physical and life sciences or engineering.

Students with degrees in the agricultural sciences, environmental management, and science education also are encouraged to apply. Students with an undergraduate degree in mathematics may wish to apply for admission to pursue study in geophysics.

Students working toward an M.S. degree have the option of following either Plan A (with thesis) or Plan B (non-thesis). Together with their graduate advisory committee, each student develops an individualized plan of study that is tailored to meet their needs and objectives. Students pursuing the Plan B option may do so either full-time or part-time.

Special Facilities.

Equipment and facilities available for graduate student research include: fully automated electron microprobe, automated X-ray fluorescence equipment, optical emission and infrared absorption spectrographic instruments, gas chromatograph, single crystal and powder X-ray diffraction equipment, high pressure-high temperature experimental petrology laboratory, sedimentation laboratory, power auger, water-level monitoring gauges, field gas chromatograph, field flame ionization and photoionization detectors, full range of equipment for field water quality sample collection and analysis; geophysical equipment including a three component broadband digital seismograph, magnetometer, gravimeter, refraction seismograph, electrical resistivity unit, terrain conductivity meter, global positioning system, electronic total station, and extensive computing facilities including SUN workstations. The facilities of the Marine Sciences Institute (research vessels, ultra clean analytical chemistry laboratory), the Institute of Materials Science (transmission electron microscope, automated single-crystal x-ray diffractometer), the Center for Environmental Science and Engineering (Analytical Chemistry Laboratory), and the Computer Applications and Research Center also are available to graduate student research.

Courses

GSCI5000(3 Credits) Geoscience Core Course Exposes students to a solid background in a variety of topics related to integrative geosciences, emphasizing interdisciplinarity. Development of speaking skills through oral presentations, and writing skills through preparation and defense of large, interdisciplinary grant proposals. Required of all first year graduate students in Geosciences. Components:Lecture

GSCI5050(1 - 6)Program Director Consent Req'd Special Problems in Geology

Advanced study and research in geology. May be repeated for credit up to six times with a change of content. Components:Independent Study

GSCI5110(3 Credits) Sediment Transport

The mechanics of sediment transport with particular emphasis on the processes governing transport in coastal and estuarine areas. Initiation of motion for cohesive and noncohesive materials, bed and suspended load transport, bed forms, sediment-flow interactions modeling considerations. Components:Lecture Course
Equivalents:MARN 5062

GSCI5210(3 Credits) Glacial Processes and Materials

Reconstruction of former glaciers and the interactive processes leading to the character and distribution of unconsolidated surface materials in glaciated regions. Techniques for interpreting subsurface unconsolidated materials. Components:Laboratory, Lecture

GSCI5230(3 Credits) Advanced GIS for Remote Sensing for Geoscience Applications

Research methods for using Geographic Information Systems, remote sensing, and image interpretation to investigate problems in geoscience. Includes research techniques for data acquisition, processing and analysis of Digital Elevation Models and satellite imagery. Geologic materials, processes, landforms and landscapes. (CLAS C&C 4/26/11) Components:Lecture Same As Offering:GEOG 5230 Requirement Group:Not open to students who took GSCI 4230

GSCI5310(3 Credits) Advanced Structural Geology

Application of finite and incremental

strain analyses using advanced geometric techniques. This course integrates field studies of deformed rocks with theoretical understanding and quantitative analysis. Components:Laboratory, Lecture

GSCI5320(3 Credits) Advanced Plate Tectonics

The course introduces students to techniques used in analyzing plate motions on a sphere, including poles of rotation and instantaneous and finite motions. The course integrates geologic data and analytical techniques with a rigorous understanding of plate motions and provides students with a global understanding and appreciation of the Earth. (successor to GEOL 333) Components:Lecture

GSCI5410(4) Igneous Petrology

Introduction to igneous rocks, physical and chemical principles governing their formation. Fluid mechanics of magmas, heat transfer, thermodynamics, phase equilibria, isotope geochemistry, and the relation of magmatism to plate tectonics. Optical microscopy, x-ray fluorescence, and electron microprobe analysis. Prepare a paper suitable for publication in a scientific journal. This course is not open for credit to students who have passed GEOL 214 or 335. Components:Laboratory, Lecture

GSCI5420(3 Credits) Metamorphic Petrology

Interpretation of mineralogical, chemical, and textural features of metamorphic rocks in terms of the physical conditions and dynamic processes operating in the Earth's crust. Thermodynamic description of phase equilibria in fluid-rock systems. Kinetics, mass and energy transport in metamorphic processes. Petrographic and x-ray analytical techniques. (successor to GEOL 336) Components:Laboratory, Lecture

GSCI5510(3 Credits) Applied Geophysics for Geologists and Engineers

Introductory survey of surface and borehole geophysical methods and their application to hydrogeologic, environmental monitoring, and geotechnical engineering studies. Laboratory involves geophysical field measurement, data reduction and geologic interpretation. Components:Lecture

GSCI5520(3 Credits) Exploring and Engineering Seismology

Theory of elasticity applied to wave propagation: equations of motion; reflection

and refraction of elastic waves; velocity analysis and fundamental petrophysics; and principles of detecting subsurface interfaces and structures. Components:Laboratory, Lecture

GSCI5530(3 Credits) Instructor Consent Required Applied and Environmental Geophysics

Potential theory (gravity, static electricity and magnetic fields), electromagnetic coupling, Maxwell's equations; electromagnetic wave propagation; principles of detection of subsurface interface and structures by geophysical methods. Components:Laboratory, Lecture

GSCI5550(3 Credits) Physics of the Earth

The composition, structure, and dynamics of the earth's core, mantle, and crust inferred from observations of seismology, geomagnetism, and heat flow. Components:Lecture

GSCI5560(3 Credits) Fundamentals of Planetary Science

Evolution of the solar system, celestial mechanics, tidal friction, internal composition of planets, black-body radiation, planetary atmospheres. Components:Lecture

GSCI5680(6) Instructor Consent Required Applied Geologic Mapping

Advanced surveying and techniques of 3D mapping using electronic total stations, GPS and Geodetic-grade GPS instrumentation. Environmental field geophysics; GPR, resistivity, seismic, magnetic and microgravity surveys. Petrologic, geochemical and geophysical core logging for geotechnical and exploration applications. Field sampling for assay and environmental geochemistry. Detailed geological outcrop mapping. Mine and subsurface geologic mapping. Components:Practicum

GSCI5710(3 Credits) Advanced Hydrogeology

Transport processes in groundwater systems. Mathematical methods in groundwater hydrology. Water quality and resource evaluation. Components:Lecture

GSCI5720(3 Credits) Groundwater Modeling

Numerical techniques for modeling flow and contaminant transport in groundwater systems. Model design, calibration,

visualization, verification and sensitivity analysis. Application to field sites. Components:Laboratory, Lecture

GSCI5790(1 - 6) Field Methods in Hydrogeology

Field methods associated with ground water and contamination assessments. Components:Laboratory, Lecture

GSCI6130(1 - 6) Program Director Consent Req'd Seminar in Paleontology

Readings and discussions on recent advances in paleontology and paleobiology. May be repeated twice to a maximum of 6 credits with change of content. Components:Seminar

GSCI6330(3 Credits) Seminar in Structural Geology

Readings and discussion of recent advances in structural geology. Components:Lecture

GSCI6340(3 Credits) Seminar in Tectonics

Readings and discussions of recent advances in tectonics. Components:Lecture

GSCI6510(3 Credits) Fundamentals of Seismology

Theory of elasticity applied to wave propagation; equations of motion; reflection and refraction of elastic waves; wave propagation in homogeneous media; surface waves. Components:Lecture

GSCI6520(3 Credits) Advanced Seismology

Elastic wave propagation in plane layered media; seismogram synthesis by ray parameter integration, ray approximations, and mode summation; earthquake source representations. Components:Lecture
Requirement Group:Prerequisite: MATH 5410 and MATH 5411, which may be taken concurrently (RG355).

GSCI6530(3 Credits) Geophysical Inverse Theory

Fitting geophysical model parameters to data. Topics include model uniqueness, resolution, and error estimation. Components:Lecture

GSCI6540(1 - 6) Instructor Consent Required Seminar in Geophysics

Readings and discussions of recent advances in geophysics. Components:Seminar

GSCI6550(1 - 6) Instructor Consent Required Special Topics in Geophysics

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Graduate School Courses

Courses

GRAD5900(1 - 3)Instructor Consent
Required Special Topics in Graduate
Education

Special Topics in Graduate Education.
Components:Lecture

GRAD5910(3 Credits) Responsible Conduct
in Research

The core principles pertaining to responsible
conduct in research are covered through
extensive use of case studies, along with
readings and classroom instruction.
Different sections of the course utilize case
studies that emphasize discipline-specific
issues. Satisfactory completion is based
on participation in the discussions and
completion of a case study presentation.
Components:Lecture

GRAD5915(3 Credits)Instructor Consent
Required Summer Institute in College
Instruction

Required core course of the Graduate
Certificate Program in College Instruction,
intended for doctoral students in the early
stages of their graduate careers. Course
objectives include competencies in
instruction, classroom management, use
of technology, assessment and evaluation,
and other pedagogical best-practices. The
course is offered in residential format over a
two week period in May. Instructor consent
required. Components:Lecture

GRAD5924(1 - 3)Program Director Consent
Reqd Part-Time Curricular Practical Training

Instructor and Graduate School consents are
required.

This course is used by those International
students whose Major Advisor has defined
a part-time internship as an integral part of
their plan of study. Credits are variable, based
on hours of intended internship. The student
will receive course credit to apply towards
the degree and will be graded as either
satisfactory (S) or unsatisfactory (U) by his/
her advisor, who will serve as the primary
instructor. The individual course objectives
will be established by the major advisor. The

student will be responsible to register for
additional course work to maintain full-time
status. Since this course denotes a part-time
commitment, the student may hold a graduate
assistantship while taking this course.
Components:Practicum

GRAD5925(3 Credits)Program Director
Consent Reqd Full-Time Curricular Practical
Training

Instructor and Graduate School consents are
required.

This course is used by those International
students whose Major Advisor has defined
a full-time internship as an integral part of
their plan of study. The student will receive
course credit to apply toward the degree
and will be graded as either satisfactory (S)
or unsatisfactory (U) by his/her advisor,
who will serve as the primary instructor.
The individual course objectives will
be established by the major advisor. No
other courses may be taken concurrently.
Since this course denotes a full-time
commitment, students may not hold graduate
assistantships while taking this course.
Components:Practicum

GRAD5930(3 Credits)Program Director
Consent Reqd Full-Time Directed Studies
(Master's Level)

This course denotes that the student is
participating in a full-time internship, field
work experience, or other course of off-
campus study required as part of the student's
Master's program. No other courses may
be taken concurrently. Students taking
this course will be assigned a final grade
of S (satisfactory) or U (unsatisfactory).
Graduate School consent required.
Components:Practicum Requirement
Group:To be used by master's students only,
not PhD students (RG 794)

GRAD5950(1 - 9) Master's Thesis Research

This course is associated with the research
efforts of students pursuing a Plan A
master's degree, and may be used to
meet the nine-credit Master's research
requirement. Students taking this course will
be assigned a final grade of S (satisfactory)
or U (unsatisfactory). Components:Thesis
Research Requirement Group:Open only
to graduate students enrolled in a Plan A
Master's Degree Program (RG43).

GRAD5960(3 Credits)Program Director
Consent Reqd Full-Time Master's Research

This course is to be used by those students
who have completed all courses on the plan
of study and who are performing master's
level research on a full-time basis. It may
contribute to meeting the nine credit Master's
research requirement. No other courses may
be taken concurrently. In the summer, this
is a 12-week (Summer 4) course. Since this
course denotes a full time commitment,
students may not hold graduate assistantships
while taking this course. Students taking this
course will be assigned a final grade of S
(satisfactory) or U (unsatisfactory). Graduate
School consent required. Components:Thesis
Research Requirement Group:Open only
to graduate students enrolled in a Plan A
Master's Degree Program (RG43).

GRAD5998(0) Special Readings (Master's)

This is a non-credit course for which master's
degree students must register in cases where
their regular program of course work for
credit has been interrupted and they are not
otherwise registered. Components:Special
Readings Requirement Group:To be used by
master's students who are not enrolled in a
thesis (Plan A) track (RG789).

GRAD5999(0) Thesis Preparation

This is a non-credit course to be used
to maintain registered status by Plan A
master's students who have completed their
coursework and who are not registered
for any other credit-bearing course.
Components:Thesis Research Requirement
Group:Open only to graduate students
enrolled in a Plan A Master's Degree Program
(RG43).

GRAD6930(3 Credits)Program Director
Consent Reqd Full-Time Directed Studies
(Doctoral Level)

This course denotes that the student is
participating in a full-time internship,
field work experience, or other course of
off-campus study required as part of the
student's doctoral program. No other courses
may be taken concurrently. Students taking
this course will be assigned a final grade
of S (satisfactory) or U (unsatisfactory).
Graduate School consent required.
Components:Practicum Requirement
Group:Open only to doctoral students
(RG709).

GRAD6949(3 Credits) International
Exchange Research

International Exchange Research
Components:Dissertation Research

Health Promotions

Department Head
Professor Lawrence Silbart

Professors
Duffy and Faghri

Associate Professor
Coble and Kerstetter

Assistant Professors
Brown, Copenhaver, and Fridell

Adjunct Assistant Professor
Samos and Santamaria

The Master of Science degree in Allied Health Sciences emphasizes an interdisciplinary and individualized approach to graduate study for the student with a baccalaureate degree in the life sciences or a health-related field. In accordance with Graduate School's requirements concerning advisory committees (as published in this Catalog), a student's plan of study is developed in collaboration with the members of his or her advisory committee (comprising the major advisor and at least two associate advisors) to meet the student's professional, educational, and scholarly goals.

The Program of Study.

Master's degrees in the Graduate Program in Allied Health (GPAH) may be earned under either of two plans, as determined by the advisory committee. Plan A (Thesis track) emphasizes research and requires not fewer than 24 credits of advanced course work and completion of a Master's thesis. Plan B (Project and Practicum Track) requires a comprehensive understanding of the subject matter, not fewer than 26 credits of advanced course work, and completion of a project and a practicum. Students in both Plans must assemble a graduate advisory committee in conjunction with their major advisor to develop the Plan of Study and the research agenda culminating in the writing and oral defense of a thesis (Plan A) or in the project/practicum (Plan B). Students must satisfy the University standards and degree requirements, and pass a comprehensive examination administered under the auspices of the advisory committee.

Admission.

GRAD6950(1 - 9) Doctoral Dissertation Research

This course is associated with the research efforts of students pursuing a doctoral degree, and may be used to meet the fifteen-credit doctoral research requirement. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory). Components:Dissertation Research Requirement Group:Open only to doctoral students (RG709).

GRAD6960(3 Credits)Program Director Consent Req'd Full-Time Doctoral Research

This course is to be used by those students who have completed all courses on the plan of study and who are performing doctoral level research on a full-time basis. It may contribute to meeting the fifteen credit doctoral research requirement. No other courses may be taken concurrently. In the summer, this is a 12-week (Summer 4) course. Since this course denotes a full time commitment, students may not hold graduate assistantships while taking this course. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory). Graduate School consent required. Components:Dissertation Research Requirement Group:Open only to doctoral students (RG709).

GRAD6998(0) Special Readings (Doctoral)

This is a non-credit course for which doctoral students must register in cases where their regular program of course work for credit has been interrupted and they are not otherwise registered. Components:Special Readings Requirement Group:Open only to doctoral students (RG709).

GRAD6999(0) Dissertation Preparation

This is a non-credit course to be used to maintain registered status by doctoral students who have reached candidacy for the doctoral degree and who are not registered for any other credit-bearing course. Components:Dissertation Research Requirement Group:Open only to doctoral students (RG709).

The Graduate Program in Allied Health (GPAH) is open to students who hold a baccalaureate degree. Students ideally enter with a degree in a health related field and/or a strong life sciences background. All previous coursework must meet the general requirements of the University of Connecticut Graduate School. Information on the general requirements of the Graduate School can be found on the Graduate School link under information on Schools and Colleges on the main University website (www.uconn.edu). Competitive Graduate Assistantships may be available which provide a stipend, tuition waiver, and health benefits.

Candidates seeking admission to the GPAH program who wish to receive further information are encouraged to contact the Department of Allied Health Sciences Director of the Graduate Program: Dr. Pouran Faghri, by mail (Department of Allied Health Sciences, University of Connecticut, 358 Mansfield Road, Unit 2101, Storrs, CT 06269-2101), by telephone (860-486-0018), or by email (pouran.faghri@uconn.edu).

Graduate Certificate in Health Promotion and Health Education. The Graduate Program in Allied Health (GPAH) offers a Graduate Certificate Program in Health Promotion and Health Education. For more information, contact the Program Director, Professor Pouran Faghri or visit the GPAH Website at http://www.alliedhealth.uconn.edu/gpah_program.php. The GPAH has a number of highly qualified professionals researching a wide range of topics in the allied health sciences. Students are encouraged to review faculty websites and meet with program faculty for more information regarding possible research topics.

Courses

GPAH5094(3 Credits) Integrative Seminar in Allied Health Research

Examination of advanced topics in allied health research. Emphasis is on integrating and applying research concepts and methodology. Components:Seminar

GPAH5095(1 - 6)Instructor Consent Required Investigation of Special Topics

Advanced topics and investigations in

the field of Allied Health Sciences. Topics and credits to be published prior to the registration period preceding the semester offering. Components:Lecture

GPAH5099(1 - 6) Independent Study for Allied Health

Advanced study, project, or research of intensive, independent investigation in allied health consistent with the student's needs, interests and plan of study. Components:Independent Study

GPAH5302(3 Credits) Health Care Policy

Concepts of health policy with special emphasis on federal policy. Examination of current health policy models, agencies involved in policy development, and the impact of policy on providers and clients. Selected policy issues will be studied through case studies, readings, and discussions with policy makers and regulators. Components:Lecture

GPAH5309(3 Credits) Health and Aging

Examination of the theoretical and applied issues in optimizing health for older adults. Focus is on the bio-psycho-social aspects of health; application of current research, and leadership skill building for program development. Components:Lecture

GPAH5314(3 Credits)Instructor Consent Required Professional Development Project

Prerequisite: At least 9 credits in Allied Health; open only to non-thesis (Plan B) students. Examines contemporary issues and problems relevant to allied health practice. Focus is on interdisciplinary exchange of ideas and the development of a project relative to the student's particular program emphasis. Components:Independent Study

GPAH5317(5)Instructor Consent Required Professional Development Practicum

This course is open only to non-thesis (Plan B) master's students. The implementation and/or application of theory in GPAH 5314. A minimum of 300 practicum hours required. Components:Practicum Requirement Group:Prerequisite: GPAH 5314, which may be taken concurrently.

GPAH5319(3 Credits) Allied Health Education Science

The study and application of current

learning theories and principles needed by experienced health "professionals to become effective instructors in didactic, clinical, and community settings. FM-3/25/02" Components:Lecture

GPAH5328(3 Credits)Instructor Consent Required Cancer Intervention for Allied Health Professionals

Introduction to cancer from the biologic, pathologic, Wellness Testing and Cancer Prevention, public education, professional education and policy issues perspectives. With this knowledge each student designs and implements a Cancer Intervention Program pertinent to their field of study. Development and use of media models is encouraged in each project emphasizing distant learning, teleconferences and video conferences as a means to present Cancer Intervention Programs. Components:Lecture

GPAH5331(3 Credits)Instructor Consent Required Nutrition for Healthy Communities

Development of knowledge and skills in public nutrition including community assessment, development of program policies, and program planning, implementation, and evaluation. Components:Lecture Course Equivalents:NUSC 5314

GPAH5350(3 Credits)Instructor Consent Required Advanced Medical Nutrition Therapy

This course is designed to provide the student with advanced nutrition therapy information for the effective treatment of complex medical problems. The course emphasizes all aspects of the nutrition care process as it relates to medical conditions. The research regarding the physiological, pathological and metabolic basis for nutrient modifications will be emphasized. Components:Lecture Requirement Group:Open only to Dietetics majors, others by consent of the Director of Dietetics.

GPAH5351(3 Credits)Instructor Consent Required Contemporary Nutrition Issues and Research

Critical thinking and application of research to contemporary issues in food and nutrition applied to clinical nutrition and community/public health nutrition. Learning occurs through classroom discussions, self-exploration through reading and applying scientific studies to issues, and participation in a research project. Components:Lecture Requirement Group:Open only to Dietetics

majors, others by consent of the Director of Dietetics.

GPAH5360(3 Credits) Cross Cultural Health Care

Exploration of the relationships between culture/ethnicity and health status, health care beliefs and behaviors. Develops greater understanding of, and sensitivity toward the patient's way of life utilizing case examples from the United States and international settings. Components:Lecture

GPAH5366(3 Credits) Environmental Health

Focuses on the environmental health consequences of exposure to toxic chemicals, food contaminants and radiation. Basic principles of environmental health are discussed, followed by lectures on specific topics such as: cancer and reproductive risks, occupational hazards, radiation, genetic biomonitoring, risk assessment techniques, risk/benefit analysis, social/legal aspects of regulating toxic chemicals, and other related topics. Components:Lecture

GPAH5632(3 Credits)Instructor Consent Required Vaccines: Mechanisms of Immune Protection

The focus is on several different approaches to inducing prophylactic immunity in the host. Both traditional and modern molecular approaches to vaccine design will be discussed. In addition, the mechanisms employed by pathogenic microbes to avoid hosts' immune responses will be examined in the context of vaccine design. The students will gain an appreciation for the transition from basic research to practical applications. Also offered as PVS 306. Components:Lecture Course Equivalents:PVS 5632

GPAH5700(2)Instructor Consent Required Ethical Considerations in Genetics

Recommended preparation: a course in human genetics. Open by instructor consent. Conceptual and philosophical analysis of ethical issues specific and special to genetic testing and research. Presentations, case-studies and readings will cover topics such as world wide web genomics, access to genetic information, privacy and confidentiality, ownership, personal and societal perceptions, reproduction, utility and limitations of genetic data, education of physicians and patients, treatment versus enhancement, regulation and reimbursement, and other

time-relevant issues. Components:Lecture

GPAH5710(3 Credits)Instructor Consent
Required Genetics and Genomics of Health

First semester odd years. Required preparation: a course in human genetics. Open by instructor consent. The interaction of genetic, environmental, and behavioral factors in the predisposition to disease, onset of disease, response to treatment and maintenance of health. Genetics and genomics in health promotion and disease prevention will be examined through seminars and literature review. Components:Lecture

GPAH5715(3 Credits)Instructor Consent
Required Current Topics in Clinical Genetics

Recommended preparation: a course in human genetics. Open by instructor consent. Exploration of current research and advances in clinical genetic diagnosis and testing through primary literature review. Components:Seminar

GPAH5720(1 - 3)Instructor Consent
Required Chromosome and DNA Diagnostic Techniques

Either semester. One credit. Recommended preparation: a course in human genetics. Open by instructor consent. Molecular and cytogenetic techniques utilized in clinical diagnostics. Sections taught in a series of modules, each focusing on a different technique and a clinical case. With a change of content, this course may be repeated for credit. Components:Laboratory

GPAH6094(3 Credits) Health Promotion,
Disease and Disability Prevention Research Seminar

Inquiry into the theory and nature of research in health promotion, disease and disability prevention. Students are encouraged to meet regularly with their major advisors. Components:Seminar

GPAH6305(3 Credits) Program
Evaluation for Health Professionals

A theoretical and practical introduction to program evaluation for health professionals who deliver health care services, manage departments and personnel, or provide training and continuing educational opportunities. Students apply the practical program evaluation framework for health-related intervention programs and document the impact of interventions within health

promotion and disease and disability prevention programs. Skill development is facilitated. Components:Lecture

GPAH6306(3 Credits) Research Methods
in Allied Health

An inquiry into the nature of research with emphasis on the spirit, logic, and components of the scientific method. Health related research literature is used to aid the student in learning to read, understand, and critically analyze published materials. The preparation of research proposals and reports is emphasized. Components:Lecture
Requirement Group:Prerequisite: EPSY 5605 or a course in basic statistics (RG160).

GPAH6324(3 Credits)Instructor Consent
Required Critical Issues in Health Promotion,
Disease and Disability Prevention

An in-depth study of health promotion, disease and disability prevention policies, programs and strategies. Components:Lecture

GPAH6405(3 Credits)Instructor Consent
Required Exercise Intervention for Health
Promotion in Persons with Chronic Disease
& Disability

This course provides in-depth information for determining functional capacity and developing appropriate exercise programming for optimizing functional capacity of persons with chronic disease and/or disabilities. Understanding the effects of exercise on the disease process as well as the effects of disease on the exercise responses in chronic disease and disability are explored. Components:Lecture

GPAH6409(3 Credits)Instructor Consent
Required Geriatric Nutrition

This course provides in-depth information on nutritional problems and requirements for the healthy and ill older adult. The focus is on design and critique of research methodology in the nutrition literature. Development and presentation of a major nutrition-related research proposal is required of all students. Components:Lecture

GPAH6420(3 Credits)Instructor Consent
Required Clinical Management Models for
Health Promotion

Systematic design and analysis of the roles of health service managers and clinicians in the delivery of services for managed care are addressed. The course will analyze health care delivery from an

integrated management-clinician perspective. Attention will focus on patient care and the use of clinical algorithms and critical pathways in health-care delivery.

FM- 3/25/02 Components:Seminar

GPAH6421(3 Credits)Instructor Consent
Required Design and Implementing Health
Promotion Programs

Designed to assist students with the skill development necessary to design and implement health promotion programs via a settings approach. Various program development models will be presented. Experts from the field will be integrated into the course from various programmatic settings. FM-3/25/02 Components:Lecture

GPAH6422(0)Instructor Consent Required
Writing Successful Grant Proposal

Designed for the advanced graduate student in a health field to obtain experience writing a scientific research proposal. Students will be expected to enter the course with both a fairly well developed research topic and an actual Request for Proposal in hand. The final outcome from this class will be a grant proposal that is suitable for submission to a funding agency. FM-3/25/02 Components:Lecture

GPAH6423(3 Credits) Advanced Topics in
Stress and Health Promotion

Selected topics in assessing and treating stress related disorders in health care delivery are examined. "Emphasis on diagnosis, treatment, and prevention interventions are examined. Current measures used in" assessment along with self-management skills for patients are the focus of this course. FM-3/25/02 Components:Seminar

GPAH6424(3 Credits) Principles and
Practices of Alternative/Complementary
Medicine

The course is designed to critically review the evolving modalities of alternative therapies and mind-body interventions. The major components of alternative medicine, providing a review of the scientific basis, physiology and psychoneuroimmunology of the disciplines of holistic mind-body therapies will be presented. The role of energetics and spirituality in human health promotion and disease prevention will be discussed. Components:Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

History

Department Head:

Professor Shirley A. Roe

Professors

Azimi, Buckley, Clark, Clifford, Costigliola, Davis, Dudden, Goodheart, Gross, Ogbar, Shoemake and, Silvestrini

Associate Professor

Baldwin, Blatt, Caner, Cygan, Dayton, Dintenfass, Gilligan, Gouwens, Kane, Lansing, McElya, Meyer, Olson, Omara-Otunnu, Overmyer-Velázquez, Pappademos, Rozwadowski, Schafer, Vernal, Wang, Watson and Watson

Assistant Professors

Forbes, McKenzie, and Van Isschot
The University of Connecticut offers both the M.A. and the Ph.D. in history. Small seminars comprise the bulk of course work in both M.A. and Ph.D. programs to provide maximum interaction between faculty and students. Students may also design special courses with individual professors and take a limited number of advanced undergraduate courses.

Admission to the M.A. and Ph.D. Program.

Applicants for admission and financial aid are required to submit a personal statement concerning their intellectual interests and plans as well as their qualifications for the degree, an example of written work (preferably from a history course) demonstrating their analytic skills with both primary and secondary sources, and three letters of recommendation from college instructors. Graduate Record Exam (G.R.E.) scores on the aptitude tests are also required. Applications for fall admission must be received by January 1. Applications for spring admission are considered only under exceptional circumstances, and financial aid is generally not available. Please contact the Director of Graduate Studies for more information about spring admission.

The University of Connecticut offers Predoctoral Fellowships and Teaching Assistantships (which include tuition waivers) each semester. Aid is not normally available for master's students. Aid for doctoral students is usually renewable for between eight and twelve semesters. All awards are made on the basis of academic

merit.

In addition to the more detailed information on the History Department website, all potential applicants should consult the Graduate School's website or write to the Graduate Admissions Office, U-1006-B 438 Whitney Road Extension, Storrs, CT 06269-1006.

The M.A. Program

The master's program is designed to give general training at the graduate level in preparation for doctoral study or work in schools, government service, law, or the private sector; it is broadly concerned with skills development (written and oral) and advanced learning. While the master's program does prepare students for entry into the doctoral program, it is equally aimed at enhancing the skills and historical perspective of teachers, museum and archive professionals, editors, lawyers, journalists, and others in both the public and private sectors. Applicants should have a bachelor's degree with a minimum of 21 credits in history above the freshman level and at least a "B" average in those courses; most successful applicants excelled in their undergraduate history courses. In exceptional cases, students who do not meet minimum requirements may be admitted provisionally and be required to meet certain conditions before receiving regular status.

The Ph.D. Program

By the time a student completes a Ph.D., he or she will normally have submitted articles for publication, presented papers at scholarly meetings, written grant applications, and engaged actively in teaching.

Further information about specific requirements for both the MA and PhD programs can be found on the department website, www.history.uconn.edu.

Special Facilities.

The Homer Babbidge Library has in the past few years greatly expanded its materials in United States, Latin American, and European history. The Dodd Center, which houses the Archives and Special Collections Department of the Babbidge Library, has extensive holdings. These include the Hispanic History and Culture Collections (with Spanish and Latin American newspapers, and a unique

Puerto Rican collection); the Alternate Press Collection, and the Nuremberg Trial papers (within the Thomas J. Dodd papers). The Department also has access to the library and facilities of the Munson Institute for Maritime History at Mystic Seaport. In addition to

Courses

HIST5101(3 Credits)Instructor Consent Required Introduction to Historical Research Introduction to the sources and methods of professional historians. Finding primary sources (qualitative and quantitative), evaluating them for accuracy and usefulness, organizing data, and writing exercises based on the sources. Students must produce a proposal (fully annotated) for a major research paper to be written in the subsequent semester. Components:Seminar

HIST5102(3 Credits)Instructor Consent Required Historical Research and Writing

A research seminar for students in the M.A. and Ph.D. programs in history. Components:Independent Study

HIST5103(3 Credits)Program Director Consent Reqd Teaching History

A survey of the pedagogy and practice of history teaching, designed to prepare advanced graduate students for careers in colleges and universities, museums, and other educational settings. Seminar will explore the contemporary landscape of higher education; debates over the liberal arts and the place of history in the curriculum; diversity in the classroom; and challenges of designing syllabi, preparing and delivering lectures, leading discussions, advising and evaluating. Components:Seminar

HIST5140(3 Credits)Instructor Consent Required Introduction to Historical Museum Work I

A study of historical agencies and museums. Laboratory work and field trips are included. Components:Lecture

HIST5141(3 Credits)Instructor Consent Required Introduction to Historical Museum Work II

A study of historical agencies and museums. Laboratory work and field trips are included. Components:Lecture

HIST5142(3 Credits) Administration of Archives and Manuscripts

An overview of the history and development

of the American archival profession, including basic archival theory and methodology. Emphasizes principles of collection, organization, and reference service for historical manuscripts and archives. Components:Practicum, Seminar

HIST5143(3 Credits)Instructor Consent Required Advanced Practice in Archival Management

Advanced practice in archival management, such as appraisal, records management, access, and public programs. Application of archival principles through specific projects relating to processing, appraisal, public outreach, and reference service. Components:Seminar Requirement Group:Prerequisite: HIST 5141 (RG356).

HIST5195(3 Credits)Instructor Consent Required Special Topics in History

Components:Seminar

HIST5199(3 Credits)Instructor Consent Required Independent Study in History

Components:Independent Study

HIST5201(3 Credits)Instructor Consent Required Theories of History

The principles and problems underlying the study of history; and a survey of the history of historical writing and of various schools of historical interpretation. Components:Seminar

HIST5205(3 Credits) Collaborative Colloquium

Comparative/collaborative study of topics in different areas and/or periods. Components:Lecture

HIST5215(3 Credits)Instructor Consent Required Special Topics in the History of Science

May be repeated for credit with a change in content. Components:Seminar

HIST5218(3 Credits)Instructor Consent Required Historical Conceptions of Race and Science

Historical examination of the interplay between concepts of race and scientific naturalism as they emerged in the eighteenth, nineteenth, and twentieth centuries. Attention also paid to political and social contexts. Components:Seminar

HIST5227(3 Credits)Instructor Consent Required Topics in Imperialism

Components:Seminar

HIST5235(3 Credits)Instructor Consent Required The Making of the African Diaspora

Theory and practice of African Diaspora history. Recent theoretical debates and cases of African Diaspora studies and history including: politics, culture, resistance; community formation; slavery; pan-africanism; transnationalism; black internationalism; African and black consciousness; Diaspora theory; gender, race, and class analyses. Components:Seminar

HIST5276(3 Credits)Instructor Consent Required War and Revolution in the Twentieth Century

Components:Seminar

HIST5316(3 Credits)Instructor Consent Required Topics in Medieval History

Components:Seminar

HIST5370(3 Credits)Instructor Consent Required Western Europe in the Fifteenth and Sixteenth Centuries

Components:Seminar

HIST5373(3 Credits)Instructor Consent Required Europe in the Seventeenth Century

Components:Lecture

HIST5374(3 Credits)Instructor Consent Required Europe in the Eighteenth Century

Components:Seminar

HIST5410(3 Credits)Instructor Consent Required The French Revolution

An intensive study of the intellectual, social, economic, political, and military events of the period and of their impact upon the world, as well as upon French history. Components:Seminar

HIST5412(3 Credits) Nineteenth Century France

Components:Seminar

HIST5423(3 Credits) State and Society in Europe since 1800

Relationship between social change and state formation in Western Europe from c. 1800 to the mid-20th century; industrialization, class, social identities, nationalism, and imperialism. Components:Seminar

HIST5424(3 Credits)Instructor Consent Required Europe in the Nineteenth and Twentieth Centuries

Components:Seminar

HIST5425(3 Credits)Instructor Consent Required Social and Intellectual History of Europe in the Nineteenth and Twentieth Centuries

Components:Seminar

HIST5451(3 Credits)Instructor Consent Required Topics in Russian History

Components:Seminar

HIST5454(3 Credits)Instructor Consent Required Topics in Central European History, 1790-1918

Components:Seminar

HIST5456(3 Credits)Instructor Consent Required Germany in the Nineteenth and Twentieth Centuries

Components:Seminar

HIST5462(3 Credits)Instructor Consent Required Topics in Modern British History

Components:Seminar

HIST5470(3 Credits)Instructor Consent Required Topics in Italian History

Components:Seminar

HIST5475(3 Credits)Instructor Consent Required Histories of the Body: European Perspectives since 1500

Historical and interdisciplinary approaches to the study of the body and the European imagination since 1500. Topics include: representations of health and illness; the body as a site of law and sovereign power; sexed bodies; the body in social and political theory; the government of life and death; race and ethnicity. Components:Seminar

HIST5510(3 Credits)Instructor Consent Required Topics in Colonial American History

Components:Seminar

HIST5515(3 Credits)Instructor Consent Required The American Revolution

Components:Seminar

HIST5520(3 Credits)Instructor Consent Required United States in the Early National Period and the Age of Jackson, 1787-1840

Components:Seminar

HIST5525(3 Credits)Instructor Consent Required Society and Culture in the Civil War Era, 1830-1880

The social, economic, political and cultural forces, including gender, race, and class, that shaped the Civil War and its aftermath. Components:Seminar

HIST5530(3 Credits)Instructor Consent Required United States in the Age of Reform, 1877-1924

Components:Seminar

HIST5535(3 Credits)Instructor Consent Required The United States from the 1920s to the 1960s

Components:Seminar

HIST5540(3 Credits)Instructor Consent Required Topics in American Social and Cultural History, 1600-1876

Major themes in the recent scholarship of social and cultural history: community and communication; family and gender; race, class, and industrialization; religion; and slavery. Components:Seminar

HIST5543(3 Credits)Instructor Consent Required Social Change in 19th Century America

Major sources of social change in 19th-century United States, including legacy of the American Revolution; fate of Native America; rural society; slavery; industrialization; immigration; class formation; race; the impact of Civil War and Reconstruction. Components:Seminar

HIST5545(3 Credits)Instructor Consent Required Topics in New England History

Components:Seminar

HIST5550(3 Credits)Instructor Consent Required Topics in American Family History

Components:Seminar

HIST5555(3 Credits)Instructor Consent Required Topics in the History of American Women

Components:Seminar Course
Equivalents:WGSS 5333

HIST5560(3 Credits)Instructor Consent Required Topics in the History of American Foreign Relations

Components:Seminar

HIST5565(3 Credits)Instructor Consent Required Topics in the History of Urban America

Components:Seminar

HIST5570(3 Credits)Instructor Consent Required Topics in Black History

Components:Seminar

HIST5575(3 Credits)Instructor Consent Required American Maritime History

A study of the development of American mercantile enterprise from colonial times and its relationship to American political, economic, and cultural history. The course includes lectures, readings, and extensive use of the facilities at Mystic Seaport. It is given at Mystic Seaport under the joint auspices of the University of Connecticut and the Frank C. Munson Institute of American Maritime Studies. Components:Seminar

HIST5576(3 Credits)Instructor Consent Required Seminar in American Maritime Studies

A seminar involving reading and research on selected topics in American maritime studies. Open only to the Frank C. Munson Institute of American Maritime History. Components:Seminar

HIST5610(3 Credits)Instructor Consent Required Empire, Nations, and Migration: History of Latino/as in the United States

The seminar explores the history of these diverse Latino/a populations in the United States, beginning with the nineteenth century wars that brought large portions of Mexico under U.S. control, and tracing the major waves of migration from Mexico, the Caribbean, and Central America. The course is divided into two sections, each

with its own internal logic and progression. The first examines the historical origins of the broad, inter/trans-national and -disciplinary field of Latino studies and its relationship to its historiography. The second section examines political, economic, social, and cultural themes that transcend national and intercultural boundaries.
Components:Seminar

HIST5621(3 Credits)Instructor Consent
Required Topics in Latin American History

Components:Seminar

HIST5622(3 Credits)Instructor Consent
Required The Historical Literature of Latin America

Components:Seminar

HIST5630(3 Credits)Instructor Consent
Required The Historical Development of the Caribbean

Theories and case studies of Caribbean history. Recent theoretical debates and cases of Caribbean history including: economy, politics, culture, community formation; political mobilization; slavery and emancipation; nation and state formation; law; immigration and emigration; intellectual traditions; gender, race, and class analyses.
Components:Seminar

HIST5836(3 Credits)Instructor Consent
Required Topics in Twentieth-Century China

Components:Lecture

HIST5837(3 Credits)Instructor Consent
Required East Asian History

Topics in modern Chinese and Japanese history with emphasis on Chinese thought and politics.

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Human Development & Family Studies

English

Professors Benson, Higonnet, Hogan, R. Miller, Peterson; Associate Professors Coundouriotos and Phillips; and Assistant Professors Sánchez and Van Alst

Classics

Assistant Professors Travis and Johnson

French

Professors Berthelot and Célestin; Associate Professor McNeecce

German

Assistant Professor Wogenstein

Italian

Professor Masciandaro; Associate Professor Bouchard; and Assistant Professor Balma

Italian

Associate Professors Loss and Gomes and Assistant Professors Nanclares, Pardo, and Urios-Aparisi

Graduate courses and research opportunities are offered leading to the Master of Arts degree and Doctor of Philosophy degree in Human Development and Family Studies. Available study areas include, but are not restricted to, child and adolescent development, adult development and aging (gerontology), family systems and relations, and marriage and family therapy. Courses are offered in early childhood, adolescence, gerontology, life span development, psychosocial and cognitive development, marital and family interaction, family policy, family life education, and marriage and family therapy.

Students' individual programs of study may be developed in conjunction with faculty in related areas and include offerings from departments and schools throughout the University. Graduate students are encouraged to elect supervised fieldwork and research projects in nearby community agencies.

Students studying marital and family therapy are required to complete clinical practicums in the Humphrey Center for Individual, Couple, and Family Therapy and in selected mental health and family therapy agencies. Such study is designed to fulfill the academic requirements needed to achieve Connecticut licensure and clinical membership in the American Association for

Marriage and Family Therapy, which requires twelve continuous months of practicum placement. Students studying marital and family therapy at the doctoral level must have completed the necessary Master's level prerequisites before taking advanced course work and fulfilling the required 9-12 month internship in an approved agency.

Admission to the M.A. Program.

It is desirable for applicants to have a fundamental background in the social sciences and a basic understanding of research procedures. Application forms should be obtained from and be returned directly to the Graduate Admissions Office. In addition, applicants must present results of the General Test of the Graduate Record Examinations (GRE), a personal statement describing themselves and their reasons for pursuing a degree in Human Development and Family Studies, and at least three letters of recommendation to the Graduate School, University of Connecticut, 438 Whitney Road Extension, Unit 1006, Storrs, Connecticut 06269-1006.

Admission to the Ph.D. Program.

A prospective student must hold a bachelor's or master's degree from a college or university of approved standing. It is desirable, but not mandatory, that the applicant's previous work include undergraduate or graduate study in the areas of Human Development and Family Studies or related behavioral and social science. Applicants must show promise of superior achievement in research. Application forms should be obtained from and returned directly to the Graduate Admissions Office. In addition, applicants must submit the results of the General Test of the Graduate Record Examinations (GRE), personal statement describing themselves and their reasons for pursuing a doctorate in Human Development and Family Studies, scholarly writing sample, and at least three letters of recommendation from members of the academic profession. These materials should be sent directly to the Graduate School, University of Connecticut, 438 Whitney Road Ext, Storrs, CT 06269-1006. Complete applications and all supporting documents must be received no later than December 15. Students ordinarily are admitted to the program to start classes in the fall semester.

Special Facilities.

The department has a number of centers and facilities for basic and applied research in HDFS. It includes five centers: the Center for

Applied Research in Human Development, the Child Development Laboratories, Humphrey Center for Individual, Couple and Family Therapy, the Center for Study of Culture, Health, and Human Development, and the Ronald and Nancy Rohner Center on Interpersonal Acceptance and Rejection.

The Center for Applied Research in Human Development (CARHD) is a joint venture with the Cooperative Extension System. Its purpose is to provide assistance to state and community based agencies in the development, delivery, and evaluation of human service programs. The CARHD strives to create a supportive relationship with its clients and offers assistance at every level of the evaluation process. Technical assistance is provided by graduate students and faculty. The Center is also a research training facility. It offers opportunities for graduate students to learn about the research and publication process under the mentorship and guidance of experts in the field of human development, family studies and applied research.

The Child Development Laboratories (CDL) offer full-day and half-day programs for children who are typically developing or needing specialized educational experiences from age six weeks to five years of age. The CDL's mission is to train students who will be working with young children, facilitate faculty and student research in child development, and serve as a model center for providing quality care and education programs for young children. The CDL's laboratories provide facilities for observation, research, student projects, and field placements for the HDFS and other departments at the University.

The Humphrey Center for Individual, Couple, and Family Therapy is a training facility for graduate intern therapists enrolled in the M.A. and Ph.D. Program for Marriage and Family Therapy in Human Development and Family Studies. The Center offers a range of therapeutic services which are available to university faculty, staff and their families, undergraduate or graduate students, and any individual or family living in the greater northeastern Connecticut area. These services include individual therapy, family therapy, marital or relationship therapy, and therapy for parenting or child-related problems. The Center also offers seminars for mental health professionals, family life enrichment programs, and support and therapy groups. Consultation services and on-site training are available to other departments within the University, as well as to outside community agencies.

The Center for the Study of Culture,

Health, and Human Development (CHHD) is a resource for faculty and graduate students from various disciplines including Allied Health, Anthropology, Education, Human Development and Family Studies, Nursing, Nutritional Sciences, Pediatrics, and Psychology. Focusing on the scientific understanding and active promotion of healthy human development in its cultural context, the Center houses several major research projects and manages the university-wide Graduate Certificate in Culture, Health, and Human Development.

The Ronald and Nancy Rohner Center for the Study of Interpersonal Acceptance and Rejection is a collaborative enterprise with the School of Social Work. Its mission is to conduct basic and applied research on the dynamics and consequences of interpersonal acceptance-rejection, with special emphasis on the parent-child relationship. Collaborative research with scholars around the world is a hallmark of the Center's activities.

In addition to the centers, the Department of Human Development and Family Studies is the locus for programming and resources specifically targeted to students and faculty across the Storrs campus interested in gerontology. It coordinates gerontology education programs, research, and service activities. The department offers a Graduate Certificate in Gerontology which offers specialized training in gerontology. The Certificate program is open to students in masters and doctoral programs in a wide range of academic disciplines and professionals in the field of aging. Professionals working in the field of aging who have satisfactorily completed an undergraduate degree program also may apply to the certificate program. Students enrolled in HDFS M.A. and Ph.D. programs with an emphasis on adult development and aging will typically complete the certificate during their course work.

Space for applied activities is housed in the Human Development Center (HDC). The HDC affords students and faculty observation and video taping facilities in its laboratories, therapy, and testing rooms. It also provides opportunities for conducting community-based program evaluation and data analysis services.

HDFS5000(1 - 6)Instructor Consent
Required Independent Study Advanced
study for qualified students who present
suitable projects for intensive, independent
investigation in human development and
family studies. Components:Independent
Study

HDFS5001(3 Credits) Seminar

Seminar in professional orientation to the
field of human development and family
relations. Components:Seminar Requirement
Group:Open to graduate students in Human
Development and Family Studies, others with
permission (RG842).

HDFS5002(1 - 3) Special Topics in Human
Development and Family Studies

In-depth investigation of a recent issue of
human development and family studies.
With a change of topic, students may enroll
up to four times for a maximum of 12
credits. Components:Seminar Requirement
Group:Open to graduate students in Human
Development and Family Studies, others with
permission (RG842).

HDFS5003(3 Credits) Research Methods in
Human Development and Family Studies I

Family and human development procedures,
research experience related to analyzing
interpersonal interaction and developmental
processes. Components:Lecture Requirement
Group:Open to graduate students in Human
Development and Family Studies, others with
permission (RG842).

HDFS5004(3 Credits) Research Methods in
Human Development and Family Studies II

Advanced family and human development
research methods; research design and
underlying methodological issues in
analyzing interpersonal interaction
and developmental processes.
Components:Lecture Requirement
Group:Open to graduate students in Human
Development and Family Studies, others with
permission (RG842).

HDFS5005(3 Credits)Instructor Consent
Required Qualitative Research Methods in
HDFS

Philosophical bases of qualitative
research in the social sciences; developing
qualitative strategies; including: existential-
phenomenological, intensive interviews,
participant observation, and textual
analysis. Components:Seminar Requirement

Group:Open to graduate students in Human
Development and Family Studies, others
with permission. Prerequisite: HDFS 5003
(RG346).

HDFS5007(1 - 2)Instructor Consent Required
Current Issues in Human Development and
Family Studies

Focused presentation and discussion of
an aspect of theory or methods related to
advancing the field of human development
and family studies. Open to graduate students
in HDFS; others by permission. Repeatable
for credit with change of topic for up to 12
credits Components:Seminar

HDFS5010(3 Credits)Instructor Consent
Required Practicum in University Teaching of
Human Development and Family Studies

Supervised teaching of undergraduate courses
in HDFS. Components:Practicum

HDFS5020(3 Credits)Instructor Consent
Required Culture, Health and Human
Development

Introduction to current interdisciplinary
approaches to the study of human
development and health in the context
of culture. An overview of theoretical
approaches; presentations of current research
by invited speakers, focusing on how to
combine disciplinary perspectives and
methods in order to build a new integrative
science of health and development across and
within cultures. Components:Seminar

HDFS5021(3 Credits)Instructor Consent
Required Culture, Health and Human
Development

Introduction to current interdisciplinary
approaches to the study of human
development and health in the context
of culture. An overview of theoretical
approaches; presentations of current research
by invited speakers, focusing on how to
combine disciplinary perspectives and
methods in order to build a new integrative
science of health and development across and
within cultures. Open to graduate students
in Human Development and Family Studies,
others with permission. Components:Seminar

HDFS5030(1 - 6)Instructor Consent Required
Research Practicum

Supervised research in Family Studies. May
be repeated to a maximum of 24 credits.
Components:Practicum

HDFS5031(3 Credits)Program Director
Consent Req Culture, Health and Human
Development Project

Group discussion and guidance through
planning, implementation, and write-up of
a publishable research project in fulfillment
of a core requirement for the Graduate
Certificate in Culture, Health, and Human
Development. Components:Seminar

HDFS5032(3 Credits)Instructor Consent
Required Research Seminar in Qualitative
Methods

Discussion and application of qualitative
methods as applied to students' individual
ongoing research projects. HDFS 5005 is
strongly recommended, but not required, as
a prerequisite for this course. Participants
must be currently conducting research using
qualitative methods. Permission of the
instructor is required. Components:Seminar

HDFS5088(1 - 6)Instructor Consent
Required Supervised Field Work in Family
Development

Work in a community agency related to
the field of family development. Open to
graduate students in Human Development
and Family Studies; others by permission.
Components:Field Studies Requirement
Group:Open to graduate students in Human
Development and Family Studies; others by
permission (RG 4584).

HDFS5101(3 Credits)Instructor Consent
Required Infant and Toddler Development

Contemporary theories and research on
infant and toddler development; evaluation
of prevention and intervention programs
designed to address contemporary social
issues facing infants/toddlers and their
families. Components:Lecture

HDFS5102(3 Credits) Early and Middle
Childhood Development

Theory and research related to early and
middle childhood as a developmental period.
Focus will be on topics such as executive
functioning and cognitive development,
language and literacy development, peer
relations, gender roles, aggression, and
prosocial behaviors, as well as on prevention
and intervention programs designed to
address contemporary social issues facing
children and their families. Open to
graduate students in Human Development
and Family Studies, others by permission.
Components:Seminar

HDFS5103(3 Credits) Adolescent Development

Adolescent development; understanding the various forces related to adolescent behavior. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5110(3 Credits)Instructor Consent Required Families, Communities, and Positive Behavior Supports

Analysis of theory, research, systems, and curricula in Positive Behavior Supports (PBS) with emphasis on family and community partnerships. Interventions for problem behavior are examined across context and “perspective. Open to graduate students in Human Development and Family Studies and related fields, and” (with permission) to upper level undergraduates and those enrolled in the Honors Program. Components:Lecture

HDFS5115(3 Credits) Cultural Issues in Child Development

An examination of the cognitive, social, and emotional development of children from a cultural perspective. Emphasis placed on infancy, socialization, theories of cognitive development, and schooling. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5130(1 - 6) Current Topics in Early Childhood Education

In-depth investigation of a current issue in early childhood education (e.g., emergent literacy, diversity), with focus on recent research and application to classroom practice. Includes classroom observation and laboratory observation. With a change of topic, may be repeated once for credit. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5150(3 Credits) Human Attachment Across the Lifespan

Theory and research on attachment, separation, trauma, and loss; lifespan approach to studying continuity or discontinuity from infant-parent attachment to peer-peer interactions to adult relationships. Components:Seminar

HDFS5215(3 Credits) Models and Concepts of Lifespan Human Development

Overview of approaches to understanding human development across the lifespan. Emphasis on models that cross disciplinary boundaries to explore development in social and cultural contexts. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5216(3 Credits) Advanced Seminar in Theories of Human Development

Theoretical positions influencing the field of human development and empirical evaluation of these positions. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5232(3 Credits) Research Seminar in Adult Development and Aging

Research models and approaches specific to studying development in the latter half of the lifespan. Development of individual research project. Components:Seminar

HDFS5240(3 Credits) Aging: Personality and Social Interaction

Patterns of adjustment to aging; continuity versus change in personality, role changes, and family relations of the elderly. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5242(3 Credits) Aging in the Family

Theory, research and social issues affecting older families, developmental changes within aging families which impact on patterns of social interaction and support. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5244(3 Credits) Housing for the Elderly

Housing types, adaptive accommodations, and emerging patterns of choice occurring in American society during middle-age and late adulthood; effects of economic and social changes as related to decision making by individuals about private and public living arrangements; design of

research and evaluation methodology. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5247(3 Credits) Social Gerontology

Societal aspects of aging, including the social psychological concomitants of adjustments, changing roles, and systems of social relationships. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5248(3 Credits) Adaptation and Development in Adulthood

Young adulthood through middle-age with particular attention on transition episodes; stability and change in adult personality with attention to familial and other social relationships. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5250(3 Credits) Close Relationships

Formation, maintenance, and dissolution of close relationships across the life span; relationships like courtship, marriage, parent-child, and friendships. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5255(3 Credits)Instructor Consent Required Living with Chronic or Life-threatening Illness

Chronic and/or life-threatening illness from diagnosis through long term management. Psychological, interpersonal, family, and ethical aspects of the chronic illness experience across the life span, in contexts for culture and health policy. Components:Seminar

HDFS5269(3 Credits) Gender Role Transitions and Conflicts Over the Lifespan

The identification and study of men’s and women’s gender role transitions and conflicts over the lifespan using psychosocial theory. Developmental stages and tasks are critically analyzed using psychological, sociological, multicultural, and gender role theories and research. Components:Lecture

HDFS5277(3 Credits) Human Sexuality

Human sexual behavior and attitudes.
Components:Lecture Requirement
Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5310(3 Credits) Patterns and Dynamics of Family Interaction

Readings and research concerning the family, stressing interpersonal processes and communication. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5311(3 Credits) Theories of Family Development

Concepts and theories in the area of family development. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5320(3 Credits) Special Issues in Family Development

Theory, research and practice applied to special issues in human development and family relations over the life span. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5321(3 Credits) Seminar on Parent-Child Relations in Cross-Cultural Perspective

Research and theory regarding the antecedents and effects of major dimensions of parental behavior on child development in the U.S.A. and cross-culturally, parental warmth, control, punishment, and their interactions. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5340(3 Credits) Prevention, Intervention, and Public Policy

Survey course of the theory, practice and science of primary prevention of human problems. Prevention concepts and case studies are presented. Students give analysis and critique of course content and develop personal and professional perspectives on prevention practice and possible social policy initiatives. Components:Seminar

HDFS5341(3 Credits) Gender Role Issues for Helping Professionals

Intensive review of gender role socialization in a workshop setting, emphasizing men's and women's gender role conflicts across the life span. Lectures, readings, discussions, self assessments, and media are used to explicate core concepts and themes. Components:Lecture Course Equivalents:EPSY 5309

HDFS5342(3 Credits) Parent Education

Planning, implementation, and evaluation of parent education programs for individuals and groups. Development and use of materials for such programs. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5442(3 Credits) Latina/o Health Disparities

Overview of health and health care issues among Latina/os in the United States with particular focus on health disparities. Components:Lecture

HDFS5545(3 Credits) Aging Policy and Programs

Existing programs at Federal, State, and Community levels as currently deployed under various Titles of the Older Americans Act, Social Security, Medicare, and Medicaid; program objectives, scope, costs, and levels of delivery as they relate to identified needs of present and future groups of the elderly; use of policy-determining data and program evaluation methodologies. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5550(3 Credits) Social Policy, Law, & Child Welfare

Application of theory and research on child development, family relations, and intervention/prevention practices to legal, policy and child welfare contexts. Components:Seminar

HDFS5751(3 Credits) Foundations of Marriage and Family Therapy

Theoretical foundations of marriage and family therapy; basic principles of therapy, interactional patterns of marital dyads and families under stress; professional and ethical issues relevant to the practice of marriage and family therapy. Components:Lecture

Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission (RG842).

HDFS5752(2)Instructor Consent Required Building Cultural, Contextual, and Integrative Competencies in Marriage and Family Therapy I

Conceptual and applied learning and community immersion experiences that address the cultural, contextual, and integrative competencies considered necessary to serve effectively as marriage and family-therapy scientist/practitioners in today's intercultural society. Components:Seminar Requirement Group:Co-requisite: HDFS 5751 (RG4319).

HDFS5754(3 Credits) Marriage Therapy

Marital interaction and therapy. Theory and technique of contemporary therapeutic approaches. Components:Seminar Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission. Prerequisite: HDFS 5751 which can be taken concurrently (RG348).

HDFS5756(3 Credits) Family Therapy

Contemporary clinical conceptualizations of family interaction, major contributions to the development of family therapy as a unique discipline. Issues and problems commonly confronted in conducting family therapy. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission. Prerequisite: HDFS 5751 which can be taken concurrently (RG348).

HDFS5757(2)Instructor Consent Required Building Cultural, Contextual, and Integrative Competencies in Marriage and Family Therapy II

Conceptual and applied learning and community immersion experiences that address the cultural, contextual, and integrative competencies considered necessary to serve effectively as marriage and family-therapy scientist/practitioners in today's intercultural society. Components:Seminar Requirement Group:Co-requisite: HDFS 5756 (RG4318).

HDFS5759(3 Credits)Instructor Consent Required Case Seminar in Marriage and Family Therapy

Specialized professional issues and

professional problems in the practice of marriage and family therapy. Case material. Components:Seminar Requirement Group:Prerequisites: HDFS 5751 and either HDFS 5754 or HDFS 5756. HDFS 5762 should be taken concurrently (RG349).

HDFS5761(3 Credits) Introduction to Clinical Practice and Professional Issues

Clinical practice in the Center for Marital and Family Therapy and in approved clinical training centers. Classwork and supervised clinical practice required. Professionalism, ethics, confidentiality, therapeutic techniques, and procedures required for clinical practice. Components:Clinical, Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission. Prerequisite: HDFS 5751 which can be taken concurrently (RG348).

HDFS5762(1 - 6)Instructor Consent Required Practicum in Marriage and Family Therapy

Supervised group experience in marriage and family therapy related to clinical practice in the Center for Marital and Family Therapy or other approved clinical training centers. May be repeated to a maximum of 24 credits. Components:Practicum Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission. Prerequisites: HDFS 5761 and either HDFS 5754 or HDFS 5756 (RG350).

HDFS5763(1 - 6)Instructor Consent Required Individual Supervision in Marriage and Family Therapy

May be repeated to a maximum of 24 credits. Components:Independent Study Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission. Prerequisites: HDFS 5761 and either HDFS 5754 or HDFS 5756 (RG350).

HDFS5764(3 Credits)Instructor Consent Required Clinical Assessment and Practice

Diagnosis and treatment of dysfunctional marital and family relationship patterns, nervous and mental disorders; major family therapy assessment methods and instruments. Components:Seminar

HDFS5790(3 Credits)Instructor Consent Required Theories and World Views Informing Marriage and Family Therapy

Underlying theories and conceptualizations informing marriage and family therapy. Components:Lecture

HDFS6710(3 Credits) Family Therapy Research

Family therapy research methods; research design and methodological issues in analyzing treatment interventions, family interaction processes, and change. Components:Lecture Requirement Group:Open to graduate students in Human Development and Family Studies, others with permission. Prerequisite: HDFS 5003 (RG346).

HDFS6720(3 Credits)Instructor Consent Required Family Therapy Supervision

Major models and methods of marriage and family therapy supervision; ethical and legal responsibilities faced by marital and family therapy supervisors. Development of perceptual, conceptual, and executive skills needed to supervise and train practitioners in the field of marriage and family therapy. Components:Seminar

HDFS6730(3 Credits)Instructor Consent Required Advanced Family Therapy

Current trends and issues in the field of family therapy; integration of clinical theory, research, and practice. Components:Seminar Requirement Group:Prerequisite: HDFS 5751 and HDFS 5756 (RG351).

HDFS6895(1 - 6)Instructor Consent Required Internship in Marital and Family Therapy

Nine to twelve month period of full-time clinical experience in a cooperating institution. Open only with consent of instructor to students of advanced standing in marital and family therapy. Offered at approved clinical training centers. The student assumes a full range of professional responsibilities associated with practice of marital and family therapy. Minimum of 500 hours of direct client contact and receipt of 100 hours of supervision. Components:Clinical Requirement Group:Open to graduate students in Human Development and Family Studies; others by permission (RG 4584).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Human Rights Courses

HRTS5005(3 Credits)Instructor Consent
Required Special Topics in Human Rights

In-depth investigation of an issue in human rights research. With a change of topic, students may enroll up to three times for a maximum of 9 credits. Components:Seminar

HRTS5301(3 Credits)Instructor Consent
Required Contemporary Debates in Human Rights

Key Debates in Human Rights will introduce students to the main modern debates in the academic field of human rights. It is interdisciplinary in scope, including recent intellectual contributions from philosophy, law, political science, sociology, anthropology, literature and history. It will address a number of central issues and questions, including the normative philosophical foundations of human rights, whether human rights are universal or relative, whether human rights can be held collectively, and the justifications for women's rights and cultural rights. Components:Seminar

HRTS5390(3 Credits)Instructor Consent
Required Economic Rights

Economic rights include the right to an adequate standard of living, the right to work, and the right to basic income guarantees for those unable to work. These rights are grounded in international law - particularly in the Universal Declaration of Human Rights and the International Covenant on Economic, Social, and Cultural Rights. This class will explore the conceptual bases, measurement, and policy applications of economic rights. Specific topics will include: child labor, the right to development, non-governmental initiatives, and the institutionalization of economic rights (e.g., constitutionalization versus statutory implementation versus discretionary policies). Components:Seminar
Course Equivalents:POLS 5390, ECON 5128

HRTS5899(3 Credits) Seminar in Human Rights

Variable topics in the study of human rights. With a change of topic, students may enroll up to three times for a maximum of nine credits. Components:Seminar

International Studies

Interim Executive Director:

Associate Extension Professor Elizabeth Mahan

Emiliana Pasca Noether Professor of Italian History:

Professor John Davis

UNESCO Chair for Human Rights Associate Professor Amii Omara-Otunnu

Professors

Aschkenasy, Azimi, Berentsen, Berthelot, Boster, Boyer, Bravo-Ureta, Buckley, Celestin, Chazdon, Cosgel, Costigliola, Dalmolin, Dechant, Desai, Erickson, Fernandez, Gomes, Gordon, Guénoun, Handwerker, Healy, Langlois, Linnekin, López, Masciandaro, McBrearty, Roe, Schensul, Sheckley, Silander, Silvestrini, Stephens, Talvacchia, Wilson, Von Hammerstein and Zirakzadeh

Associate Professor

Bouchard, Caner, Chinchilla, Coundouriotis, Dintenfass, Gouwens, Greeley, Hertel, Kimenyi, Kingstone, Lefebvre, Loss, Mahan, Martínez, Overmyer-Velázquez, Pardo, Phillips, Randolph, Reyes, Schafer, Scruggs, Seda Ramirez, Snyder, Sterling-Folker, Travis, Watson, and Weidauer

Assistant Professors

Bayulgen, Bystrum Casamayor-Cisneros, Gaztambide-Geigel, Gebelein, Gilligan, Kane, Lansing, Libal, Medina, Mitoma, Pappademos, Rojas, Singer, Turcotte, Venator Santiago, Vernal, Wogenstein

Study is offered leading to the degree of Master of Arts in the field of International Studies. Students may pursue a general program emphasis or pursue one of the following areas of concentration: European Studies or Latin American Studies. Offered also is a dual program which combines the master's degree in International Studies with the Master of Business Administration degree.

The M.A. in International Studies.

The master's degree program is available in two plans: Plan A requires a minimum of 21 credits of course work plus a thesis; Plan B requires 30 credits of course work plus a comprehensive exam. Course work must be

distributed over three academic disciplines. Students are required to demonstrate proficiency in appropriate languages adequate both for conversation and research. Scores from the General Test of the Graduate Record Examination and three letters of recommendation are required for admission. As each program (European Studies, Latin American Studies, and the general program) has additional guidelines regarding required and elective courses, language proficiency, and comprehensive examinations, to fully understand program requirements students must contact area studies Centers or the Office of International Affairs.

Information concerning the general program and the European Studies concentration may be obtained from Dr. Elizabeth Mahan (Unit 1182). Information regarding the Latin American concentration may be obtained from Dr. Mark Overmyer-Velázquez, Director of the Center for Latin American and Caribbean Studies (Unit 1161).

M.A. in International Studies and M.B.A.

The dual M.A. and M.B.A. degree program consists of 72 credits of course work distributed between International Studies and Business Administration. The M.B.A. portion of the program consists of 42 credits in business, plus fifteen credits of electives. The M.A. portion of the program comprises 30 credits of course work, of which 15 credits count as electives in the M.B.A. portion.

The M.A. program is available in two plans: Plan A requires a minimum of 21 credits of course work, plus a nine credit thesis; Plan B requires 30 credits of course work, plus a comprehensive examination. M.A. students must also demonstrate language proficiency sufficient for conversation and to conduct research in an appropriate second language. Students in the M.A. program select either an area of concentration or an interdisciplinary field of study as the focus of their work.

When completing the application form, applicants to the joint M.A. in International Studies and M.B.A. must indicate clearly as Degree Sought that pursuit of the "Dual M.A. in International Studies and M.B.A. Program" is intended. Applicants are expected to provide three letters of recommendation and scores from both the Graduate Management Admissions Test (GMAT) and from the General Test of the Graduate Record Examinations (GRE).

For information about the M.B.A. program, students should write to the Director of the M.B.A. Program, School of Business Administration (Unit 1041-041MBA).

Special Facilities.

Concerning the study of Latin America, library resources are especially strong for the study of Mexico, the Southern Cone, and the Caribbean. The Thomas J. Dodd Research Center has a number of special collections that are particularly strong in relation to the area studies programs. The Latin American Survey Data Bank in the Roper Center for Public Opinion Research maintains and acquires historical and current national-level surveys from throughout the region.

INTS5000(3 Credits)Instructor Consent Required Seminar in International Studies

This seminar combines the various disciplines that constitute International Studies into three core units: (3 Credits) Social sciences; (2) Humanities; and (3 Credits) Development Studies (development economics and administration). Area Studies faculty from relevant departments will conduct the individual seminar sessions. The seminar has three goals: (3 Credits) to introduce concepts and theoretical issues of the fields in each of the core units; (2) to introduce research approaches and the formulation of research questions in each of the core units; and (3 Credits) to help students develop analytical thinking and writing skills in an interdisciplinary context. These goals form the basic structure of the three units and will be met through a combination of reading, discussion, short papers, presentations, and research exercises. Library research and on-line resources are also covered.
Components:Seminar

INTS5110(1 - 6)Instructor Consent Required Independent Study

Instructor consent required. May be repeated to a maximum of 15 credits with a change of content. Components:Independent Study

distributed over three academic disciplines. Students are required to demonstrate proficiency in appropriate languages adequate both for conversation and research. Scores from the General Test of the Graduate Record Examination and three letters of recommendation are required for admission. As each program (European Studies, Latin American Studies, and the general program) has additional guidelines regarding required and elective courses, language proficiency, and comprehensive examinations, to fully understand program requirements students must contact area studies Centers or the Office of International Affairs.

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When completing the application form, applicants to the joint M.A. in International Studies and M.B.A. must indicate clearly as Degree Sought that pursuit of the "Dual M.A. in International Studies and M.B.A. Program" is intended. Applicants are expected to provide three letters of recommendation and scores from both the Graduate Management Admissions Test (GMAT) and from the General Test of the Graduate Record Examinations (GRE).

For information about the M.B.A. program, students should write to the Director of the M.B.A. Program, School of Business

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When completing the application form, applicants to the joint M.A. in International Studies and M.B.A. must indicate clearly as Degree Sought that pursuit of the "Dual M.A. in International Studies and M.B.A. Program" is intended. Applicants are expected to provide three letters of recommendation and scores from both the Graduate Management Admissions Test (GMAT) and from the General Test of the Graduate Record Examinations (GRE).

For information about the M.B.A. program, students should write to the Director of the M.B.A. Program, School of Business

Judaic Studies

Director:

Professor Arnold Dashefsky

Associate Director :

Professor Stuart Miller

Professor

Aschkenasy

Associate Professor:

S. Johnson

Adjunct Professors:

Berkovitz, Freund, Kassow, Kiener and Lang

Adjunct Associate Professor

Elukin

Adjunct Assistant Professor

Patt

Master of Arts in Judaic Studies is offered by the Departments of English, History, Modern and Classical Languages, and Sociology.

This degree is administered by the Center for Judaic Studies and Contemporary Jewish Life, which is housed in the Thomas J. Dodd Research Center. Since the program in Judaic Studies is intended to provide a synthesis of broad areas of Jewish culture and thought as a basis for constructive research in specialized aspects of Jewish civilization, students normally are required to include in their programs courses offered by the supporting departments.

Admission to the Degree Program

The Judaic Studies Admissions Committee considers applications for admission to the Master's program. An undergraduate major in the area is not necessarily required, but, before admission, students must show evidence of adequate preparation.

The M.A. Program.

Work leading to the degree of Master of Arts in Judaic Studies may be undertaken either with Plan A (with thesis) or Plan B (without thesis). In either case, course work in Judaic Studies is to be distributed among several departments, and the student's advisory committee is composed of representatives of these departments. The M.A. degree is offered in consortial relationship with the University of Hartford and draws on faculty from neighboring colleges and universities.

Courses of Study.

Course offerings and faculty are listed under Judaic Studies and Hebrew as well as the cooperating and supporting departments

referred to above: English, History, Modern and Classical Languages and Sociology. The Committee for Judaic Studies organizes a number of colloquia featuring staff members and visiting lecturers and encourages graduate students to attend. Two years of college-level Hebrew language instruction (or its equivalent) is required in order to receive the Master's degree.

Support

Stipends are available through the Center for Judaic Studies and Contemporary Jewish Life.

Courses

JUDS5300(3 Credits)Instructor Consent
Required Topics in Biblical Studies

Topics in the historical, literary and philosophical study of the Bible with special emphasis on current methodological issues.
Components:Lecture

JUDS5301(3 Credits) Hebrew Wisdom
Literature

Systematic examination of classical wisdom texts in the Hebrew Bible and Rabbinic Literature focusing on their contribution to world ethical literature. Taught in English. Also offered as Hebrew 301.
Components:Seminar

JUDS5303(3 Credits) Religion of Ancient
Israel

Significant aspects of the religion of ancient Israel: The God-human relationship, the origins of good and evil, law and covenant, kingship, prophecy, ritual and morality, repentance and redemption. Taught in English. Components:Lecture Course
Equivalents:HEB 5303

JUDS5305(3 Credits)Instructor Consent
Required Bible and Archaeology

Chronological and cultural structure of the Ancient Near East from the third millennium (3000 BCE) through the beginnings of the Byzantine period (4th century CE) with an emphasis upon the textual information presented by the Bible. Components:Lecture

JUDS5311(3 Credits) History and Literature
of Talmudic Palestine

A discussion of select topics and texts pertaining to religious, social, and political currents in Talmudic Palestine. Taught in English. Components:Seminar Course

Equivalents:HEB 5311

JUDS5313(3 Credits)Instructor Consent
Required Israel and the Ancient Near East

History, literature, religion and archaeology of the Ancient Near East emphasizing the role Israel played within the context of Mesopotamia and Egyptian history and culture. Components:Lecture

JUDS5315(3 Credits)Instructor Consent
Required Ancient Jewish Fictions

Hellenistic Jewish Literature in the context of ancient fictions. Components:Lecture

JUDS5325(3 Credits) Seminar on the
Holocaust: Philosophical and Historical
Issues

Study of philosophical and historical issues related to the occurrence and analysis of the Holocaust. Components:Seminar
Requirement Group:Prerequisite: at least 6 credits of Judaic Studies graduate courses (RG666).

JUDS5343(3 Credits) Seminar on American
Jewry

Applications of sociological theory and methods to the analysis of American Jewry.
Components:Seminar

JUDS5351(3 Credits) Seminar on Modern
Jewish Philosophy

Study of the principal issues and figures in Jewish philosophy from the Enlightenment to the present. Topics considered include the nature (and possibility) of Jewish philosophy, the concepts of God, nature, and the world, the status of religious knowledge, law and practice, the concept of election in relation to the people and land of Israel. Thinkers to be considered and read include Moses Mendelssohn, Solomon Maimon, S.R. Hirsch, Hermann Cohen, Franz Rosenzweig, Ahad Ha'am, Martin Buber, Emanuel Levinas, A.J. Heschel, and Joseph Soloveitchik.
Components:Seminar Requirement
Group:Prerequisite: at least 6 credits of Judaic Studies graduate courses (RG666).

JUDS5353(3 Credits)Instructor Consent
Required Modern European Jewish History

Selected topics in Modern European Jewish History between the Enlightenment and the establishment of the State of Israel.
Components:Lecture

JUDS5355(3 Credits)Instructor Consent
Required Topics in Jewish Ethics

Topics in Jewish ethics as reflected in literature and history, including social ethics, political ethics, economic and business ethics, sexual ethics, medical and bioethics, and others. Components:Lecture

JUDS5390(3 Credits)Instructor Consent
Required Independent Study

Components:Independent Study Course
Equivalents:HEB 5390

JUDS5397(3 Credits)Instructor Consent
Required Special Topics in Judaic Studies

Components:Seminar
†GRAD 5930. Full-Time Directed Studies
(Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research
(GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research
(GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's)
(GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD
399) Non-credit.

Kinesiology

Dean:

Professor Thomas C. DeFranco

Department Head:

Professor Carl M. Maresh

Professors

Armstrong, Bohannon, Casa, Denegar,
Kraemer, and Pescatello

Associate Professor

Bruening, Burning, Fink, Kinsella-Shaw,
Volek, and Zito

Assistant Professors

DiStefano, Bhat, Bubela, Joseph, and
Mazerolle

Adjunct Professor:

Lieberman, Kuchel

Adjunct Associate Professor:

Nindl, Seip

Adjunct Assistant Professor

Lee

The Department of Kinesiology in the Neag School of Education offers graduate programs leading to the degrees of Master of Arts and Doctor of Philosophy in the field of Kinesiology and to the Doctor of Physical Therapy degree (D.P.T.). All information concerning the D.P.T. degree program can be found in this Catalog under the heading Physical Therapy. All students should consult the statement under Education for information pertaining to admissions requirements.

The majority of graduate courses given during the academic year are taught afternoons or in the evenings. Full-time master's degree students must attend at least one summer session to accumulate in one calendar year the minimum of 30 credits required for graduation. Master's degree programs emphasizing exercise science are two-year programs and require a master's thesis.

Courses

EKIN5085(1 - 6)Instructor Consent Required
Research Project in Sport Management and
Sociology This course will require students to
develop and present a semester-long research
project in an area of sport management and
sociology. Components:Independent Study
Requirement Group:Restricted to master's
students in Kinesiology (sport management
and sociology concentration) who have
completed all course work toward the degree
and are in the final semester (RG 3375).

EKIN5091(6) Internship

The application and implementation in a
work situation of theories and practices
related to the student's area of specialization.
Components:Practicum

EKIN5094(3 Credits) Seminar

Issues and research in the biological and
social science fields. Components:Seminar

EKIN5099(1 - 6)Instructor Consent Required
Independent Study

Components:Independent Study

EKIN5300(3 Credits) Management of Sport
Services

Management processes and practices
involved in operating sport organizations.
Components:Lecture

EKIN5310(3 Credits) Sport Marketing

This course examines the application of
marketing principles to collegiate and
professional sport, event promotions, and
commercial and public organizations.
Components:Lecture

EKIN5315(3 Credits) Sport in Society

The structure and function of sport as an
institution, including issues and controversies
involving gender, race, and intercollegiate,
professional, and children's sports.
Components:Lecture

EKIN5320(3 Credits) Psychological Aspects
of Sport

The behavioral variables that affect
an individual's performance in sport.
Components:Lecture

EKIN5325(3 Credits) Legal Aspects of Sport

Tort law principles specific to sport, fitness and recreational activities.

Components:Lecture

EKIN5330(3 Credits)Instructor Consent
Required Analysis of Amateur Sport

This course will acknowledge the complexity and scope of the sport industry while addressing all segments of amateur sport including, intercollegiate athletics, youth sport, and community sport and recreation.

Components:Discussion

EKIN5335(3 Credits)Instructor Consent
Required Analysis of Professional Sport

This course will acknowledge the complexity and scope of the sport industry while specifically addressing professional sport.

Components:Discussion

EKIN5340(3 Credits) Sport Facility and Event Management

This course will examine all aspects of the management of sport facilities and events, including development, planning, staffing, operations, and evaluation.

Components:Lecture

EKIN5345(3 Credits) Theory and Methods of Research

Theoretical and empirical foundations of quantitative and qualitative research in sport and leisure science including research design, implementation and statistical analysis.

Components:Lecture

EKIN5488(3 Credits)Instructor Consent
Required Theory of Clinical Analysis

This course will provide an introduction to the principles and procedures of various tests performed in Clinical Chemistry. The course will present the physiological basis, principle and procedures and the clinical significance of test results, including quality control and reference values. Emphasis is placed on basic chemical laboratory technique, electrolytes, acid-base balance, proteins, carbohydrates, lipids, enzymes, endocrine function, TDM, toxicology, hematology, and coagulation.

Components:Lecture

EKIN5500(3 Credits) Research Techniques and Experimental Designs in Exercise Science

This course will give the student an understanding of research designs and methods in exercise science when

examining different research topics related to human, animal and cell culture models.

Components:Lecture

EKIN5507(3 Credits)Instructor Consent
Required Exercise Prescription for Special Populations

An in-depth examination and application of the principles of exercise prescription in preventive medicine. Students will advance their knowledge in prescribing exercise for special populations that include groups with overweight and obesity; and cardiovascular, pulmonary, metabolic, and musculoskeletal diseases and conditions. In addition, normal populations with special considerations will be discussed including children and adolescents, older adults, and pregnancy among others.

Components:Lecture

EKIN5510(3 Credits) Exercise Metabolism

Influence of aerobic and anaerobic exercise on energy metabolism and the utilization of nutrients, as viewed from the perspectives of physiology, a variety of sports, heredity, maturation, and disease.

Components:Lecture

EKIN5512(3 Credits)Instructor Consent
Required Preventing Sudden Death in Sport

This course provides an in-depth examination of the causes of sudden death in the athletic/exercise environment. The most current evidence-based guidelines pertaining to the prevention, recognition, and treatment of these conditions will be explored and discussed.

Components:Seminar

EKIN5514(3 Credits) Legal Considerations of Sudden Death in Sport--Issues for Medical Staff and Athletic Administrators

A seminar style course, which is intended to provide Kinesiology graduate students with formal instruction regarding legal aspects of sudden death in sport. The course will cover sport law concepts and will draw upon the case law of recent incidents of sudden death in sport to explore the various criminal and civil legal ramifications that arise when preventable deaths occur in domain of organized sport and physical activity.

Components:Lecture

EKIN5515(3 Credits) Scientific Presentations

Skills required for: writing scientific articles/abstracts, reviewing manuscripts, and presenting results at scientific meetings.

Components:Lecture

EKIN5518(3 Credits)Instructor Consent
Required Service Learning through Sport and Physical Activity

This is a service learning course that requires both classroom participation and community involvement.

Components:Practicum

EKIN5520(3 Credits) Scientific Instrumentation

Scientific instruments in the Human Performance Laboratory. Development of skills necessary to perform analyses on these instruments.

Components:Lecture

EKIN5525(3 Credits) Laboratory Analytical Techniques

Analytical methods utilized in exercise science laboratories.

Components:Laboratory Requirement Group:Open only to graduate students in Kinesiology (RG3351).

EKIN5530(3 Credits) Physiology of Stressful Environments

Exercising and resting responses/adaptations/illnesses to high altitude, cold, hyperbaric, polluted, and zero gravity environments. The acute and chronic effects of electromagnetic radiation fields and sleep deprivation will also be studied.

Components:Lecture

EKIN5533(3 Credits)Instructor Consent
Required Current Research and Issues in Athletic Training

Acquaint students of athletic training with the recent research in the field, the components of conducting and publishing research in this field, and preparation for research endeavors at the graduate level. Also, we will cover relevant issues/policies/laws related to athletic training that are currently being regionally or nationally debated, discussed, and/or implemented.

Components:Seminar

EKIN5534(3 Credits) Advanced Clinical Care in Sports Medicine

A discussion/lecture-based class designed to explore advanced topics for graduate students in athletic training. The class is designed to further students' knowledge and skills regarding "hot" topics within the athletic training profession.

Components:Seminar

EKIN5535(3 Credits) Biomechanical Analysis of Sport Performance

Quantitative research in sport motion, two-dimensional and three-dimensional

<p>analysis, kinematic and kinetic analysis, instrumentation (videography, computer systems). Components:Lecture</p> <p>EKIN5550(3 Credits) Children and Physical Activity</p> <p>Overview of systems physiology for pediatric individuals. The impact of physical activity and chronic training will be evaluated. Components:Lecture</p> <p>EKIN6094(1 - 6) Seminar</p> <p>Cooperative study of developments and problems in the student's area of specialization. Components:Seminar</p> <p>EKIN6102(3 Credits) Concepts and Principles of Clinical and Classroom Teaching in Athletic Training</p> <p>A combination of lecture and discussion-based course, which is intended to provide the athletic trainer with formal instruction regarding clinical supervision and teaching. The course will cover both effective strategies and techniques for success in the classroom as well as in the clinical education setting. Components:Lecture</p> <p>EKIN6300(3 Credits)Instructor Consent Required Organizational Theory in Sport</p> <p>This course will expose students to some critical areas of management and the theories associated with these areas. Open only to doctoral students. Components:Discussion</p> <p>EKIN6310(3 Credits)Instructor Consent Required Organizational Behavior in Sport</p> <p>The course is a discourse on theories related to behavior of individuals and groups in sport and exercise organizations. Open only to doctoral students. Components:Discussion</p> <p>EKIN6315(3 Credits)Instructor Consent Required Current Research in Sport Management</p> <p>This course is focused on research in the field of sport management. Each week one or more researchers will present their completed work, studies in progress, or proposed research. Open only to doctoral students. Components:Seminar</p> <p>EKIN6320(3 Credits) Advanced Sport Sociology</p> <p>Advanced topics in sport sociology and sport psychology with special emphasis on those</p>	<p>models and theoretical perspectives that are associated with generating significant research in the area. Components:Lecture</p> <p>EKIN6425(3 Credits)Instructor Consent Required Special Topics in Health and Wellness Across the Lifespan</p> <p>An in-depth examination of health issues across the lifespan. The health issues addressed will involve perspectives from social and behavioral health science, occupational and environmental health science, and/or public health policy. Components:Seminar</p> <p>EKIN6450(3 Credits) Exercise Endocrinology</p> <p>Overview of cellular endocrinology with a focus on the impact of acute and chronic exercise on these systems. Components:Lecture</p> <p>EKIN6500(3 Credits)Instructor Consent Required Exertional Heat Stroke</p> <p>An in-depth examination of pathophysiology, prevention, recognition, treatment, and return to play considerations for exertional heat stroke, with a secondary emphasis on all exertional heat illnesses. Components:Seminar</p> <p>EKIN6505(3 Credits)Instructor Consent Required Teaching Strategies to Enhance Learning for Health Fitness & Sport Professionals</p> <p>The course provided students with a "hands-on" approach to the translation of learning theories and styles and the principles of curriculum development, design and assessment into the practice of activities that enhance learning for health fitness and sport professionals. Components:Lecture</p> <p>EKIN6510(3 Credits) Physiology of Human Performance</p> <p>Selected physiological principles related to exercise stress, including related laboratory experience. Components:Lecture</p> <p>EKIN6512(3 Credits) Advanced Resistance Training Physiology</p> <p>Provides students with an in-depth overview of the physiological mechanisms mediating the different exercise prescriptions in resistance training. Components:Lecture</p> <p>EKIN6520(3 Credits) Thermal Physiology</p>	<p>Detrimental effects which exercise in the heat and dehydration have on: cardiovascular function, strength, endurance, fluid-electrolyte balance, disposition, and heat tolerance. Components:Lecture</p> <p>EKIN6525(3 Credits) Muscle Physiology in Exercise and Sport</p> <p>Structural, morphological and biochemical changes in muscle with exercise and training. Components:Lecture</p> <p>EKIN6550(3 Credits) Body Weight Regulation and Exercise Overview course of factors impacting body weight, including neuroendocrine control of metabolism and body weight. The role of physical activity in the maintenance of body weight is also considered. Components:Lecture</p> <p>†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.</p> <p>†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.</p> <p>†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.</p> <p>GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.</p> <p>GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.</p> <p>†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.</p> <p>†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.</p> <p>†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.</p> <p>GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.</p> <p>GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.</p>
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Linguistics

Department Head:

Associate Professor William Snyder

Distinguished Professor

Lillo-Martin

Professors

Calabrese, Van der Hulst, and Snyder

Associate Professor

Gajewski and Wurmbrand

Assistant Professor

Kaufmann

The Department of Linguistics offers study leading to the degree of Doctor of Philosophy, emphasizing theoretical research in syntax, semantics, phonology and experimental research in child language acquisition. (The degree of Master of Arts can also be awarded to students in the doctoral program, although students are not admitted to pursue it as a terminal degree.)

Admission Requirements.

All applicants must submit a sample research paper (such as a thesis or term paper) written in English. It is strongly recommended that this paper be on a topic in linguistics. This research paper and three letters of recommendation are to be sent directly to the Department of Linguistics.

Application forms for admission may be obtained by writing to the Graduate Admissions Office.

Suitable undergraduate major fields include linguistics, cognitive science, computer science, languages, mathematics, philosophy, and psychology. Applicants are required, however, to have completed some prior course work in formal generative grammar.

Special Facilities.

Resources for experimental research in child language acquisition include the excellent facilities at the University's Child Development Laboratories, as well as the Department's own Psycholinguistics Laboratory. Federal research grants to faculty members, and a long-standing association with Haskins Laboratories in New Haven, Connecticut, also provide significant research opportunities for doctoral students.

Courses

LING5010(3 Credits) Research Seminar in Language and Psychology Also offered as PSYC 305. Components:Seminar Course Equivalents:PSYC 5500 Requirement Group:Open to graduate students in Linguistics, others with permission (RG793).

LING5110(3 Credits) The Acquisition of Syntax

Relationship between the syntax of children's language and linguistic theory. Components:Seminar

LING5120(3 Credits) Readings and Research in Acquisition

Lectures and discussion of classic and current articles in first language acquisition; presentation of ongoing student research. Components:Seminar Requirement Group:Prerequisite: LING 5110 (RG364).

LING5310(3 Credits) Phonology I

The analysis of sound patterns in languages within a generative framework: distinctive features, segmental and prosodic analysis, word formation, the theory of markedness. Components:Seminar Requirement Group:Open to graduate students in Linguistics, others with permission (RG793).

LING5320(3 Credits) Phonology II

The analysis of sound patterns in languages within a generative framework: distinctive features, segmental and prosodic analysis, word formation, the theory of markedness. Components:Seminar Requirement Group:Prerequisite: LING 5310 (RG790).

LING5410(3 Credits) Semantics I

The bases of formal models of syntax and semantics. Compositionality; quantification; Logical Form. Components:Seminar Requirement Group:Open to graduate students in Linguistics, others with permission (RG793).

LING5420(3 Credits) Semantics II

Theories of meaning and reference. Formal treatment of meaning in a generative grammar. Components:Seminar Requirement Group:Prerequisite: LING 5410 (RG367).

LING5510(3 Credits) Syntax I

Transformational analysis within a

Chomskyan framework; deep structure, surface structure, universal conditions on the form and application of transformational rules. Components:Seminar Requirement Group:Open to graduate students in Linguistics, others with permission (RG793).

LING5520(3 Credits) Syntax II

Transformational analysis within a Chomskyan framework; deep structure, surface structure, universal conditions on the form and application of transformational rules. Components:Seminar Requirement Group:Prerequisite: LING 5510 (RG792).

LING5799(1 - 6) Directed Reading in Linguistics

Components:Independent Study

LING6010(1 - 3) General Exam Workshop

Weekly forum for second-and third-year doctoral students to present and receive feedback on their research for General Examination papers. Regular presentations and participation in discussions required.

Previous completion of three semesters of full-time course work in Linguistics recommended. Open to graduate students in Linguistics, others with permission. Components:Seminar Requirement Group:Open to graduate students in Linguistics, others with permission (RG 4106).

LING6020(3 Credits) Professional Methods

Practice in writing abstracts for academic conferences. Preparation for academic job market: C.V.s, letters of application, interviews, job talks. Previous completion of three semesters of full-time graduate course work in Linguistics recommended. Open to graduate students in Linguistics, others with permission. Components:Seminar

LING6040(3 Credits) Structure of a Selected Language

Phonological and syntactic problems of a given language. Components:Seminar Requirement Group:Prerequisites: LING 5310 and LING 5510 (RG366).

LING6050(3 Credits) Field Methods in Linguistics

Collection and analysis of linguistic data from native consultants. Components:Seminar Requirement Group:Prerequisites: LING

<p>5310 and LING 5510 (RG357).</p> <p>LING6060(3 Credits) Historical Linguistics</p> <p>Introduction to the theories and techniques of studying linguistic change. The comparative method of reconstructing languages. Internal reconstruction. Rule change. Components:Seminar Requirement Group:Prerequisites: LING 5320 and LING 5520 (RG365).</p> <p>LING6110(3 Credits) Methods in Acquisition</p> <p>Experimental methods for first language acquisition research. Components:Seminar Requirement Group:Prerequisite: LING 5110 (RG364).</p> <p>LING6120(3 Credits) Topics in Acquisition</p> <p>Current topics in first language acquisition research. Components:Seminar Requirement Group:Prerequisite: LING 5110 (RG364).</p> <p>LING6160(3 Credits) Second Language Acquisition</p> <p>Current research on theories of second language acquisition. Differences between first and second language development, including views on the availability of universal grammar. Linguistic input and the effect of age of immersion in a second language. Research methodologies and their validity will be discussed. Pedagogical implications derivable from this research will be addressed. Student research component. Components:Lecture</p> <p>LING6210(3 Credits)Instructor Consent Required Morphology</p> <p>Introduction to morphological analysis and to the methods of linguistic segmentation. The Lexicon. The relationships between Phonology and Morphology and between Syntax and Morphology. The nature of clitics. Components:Lecture Requirement Group:Prerequisite: LING 5310 (308) or 5510 (321) (RG3507)</p> <p>LING6310(3 Credits) Problems in Phonology</p> <p>Advanced work in phonology. Components:Seminar Requirement Group:Prerequisite: LING 5320 (RG360).</p> <p>LING6410(3 Credits) Semantics Seminar</p> <p>Classical and recent literature and current research in semantics. Components:Seminar Requirement Group:Prerequisite: LING 5420</p>	<p>(RG368).</p> <p>LING6420(3 Credits) Topics in Semantics</p> <p>Current topics in semantic research. Components:Seminar Requirement Group:Prerequisite: LING 5420 (RG368).</p> <p>LING6510(3 Credits) Readings and Research in Syntax</p> <p>Examination and discussion of classic articles in syntactic theory; presentation of ongoing student research. Components:Seminar Requirement Group:Prerequisite: LING 5520 (RG362).</p> <p>LING6520(3 Credits) Problems in Syntax</p> <p>Advanced work in syntax. Components:Seminar Requirement Group:Prerequisite: LING 5520 (RG362).</p> <p>LING6530(3 Credits) Comparative Syntax</p> <p>Cross-linguistic study of syntactic structure; implications for linguistic theory. Components:Seminar Requirement Group:Prerequisite: LING 5520 (RG362).</p> <p>LING6798(3 Credits) Special Topics in Linguistics</p> <p>Topics in general linguistics at an advanced level. Components:Seminar Requirement Group:Prerequisites: LING 5310 and LING 5510 (RG363).</p> <p>LING6799(1 - 6)Instructor Consent Required Independent Study in Linguistics</p> <p>May be repeated for credit with a change of content. Components:Independent Study</p> <p>†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.</p> <p>†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.</p> <p>†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.</p> <p>GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.</p> <p>GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.</p>	<p>†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.</p> <p>†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.</p> <p>†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.</p> <p>GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.</p> <p>GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.</p>
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Literatures, Cultures and Languages

Department Head: Associate Professor Rosa Helena Chinchilla

Professors: Aschkenazy, Berthelot, Celestin, DalMolin, Einbinder, Guénoun, Gomes, Masciandaro, Miller, Shoulson, von Hammerstein, and Weidauer.

Associate Professors: Bouchard, Caner, Finger, Irizarry, Johnson, Loss, Nanclares, Pardo, Seda, Travis, Urios-Aparisi, Wagner and Wogenstein.

Assistant Professors: Balma, Casamayor-Cisneros, Diaz-Marcos, Hershenzon, Ladha, Saugera, and Terni

Affiliated members:

English – Professors Benson, Breen, Higonnet, Hogan, Peterson; Associate Professors: Coundouriotis, , Phillips, Sanchez, Winter Assitant Professors Bystrom

Philosophy- Professors Kupperman.

The Department of Literatures, Cultures and Languages offers the degrees of Master of Arts and Doctor of Philosophy. The department offers courses of study leading to the Field of Study in Literatures, Cultures and Languages for both the Ph.D. and M.A., with areas of concentration in French and Francophone Studies, German Studies, Italian Literary and Cultural Studies, Spanish Studies, and Comparative Literary and Cultural Studies.

The M.A. program

M.A. programs typically require two years of full-time study, and are offered in French and Francophone Studies, German Studies, Italian Literary and Cultural Studies, Spanish Studies, Comparative Literary and Cultural Studies, and Classics and Ancient Mediterranean Studies. The Master's degree in any of these fields may serve as the initial, two-year segment of Ph.D. study in the department, or as a terminal degree. The

M.A. degree can also provide the academic foundation for teaching at the secondary or primary school levels.

Master's degrees may be earned under either of two plans, as determined by the advisory committee. Either Plan A or Plan B may be used for completing the M.A. to enter the Ph.D. Plan A requires not fewer than fifteen credits of advanced course work and for students entering Fall 1998 or later, not fewer than nine additional credits of Master's Thesis Research (GRAD 5950 or GRAD 5960), and the writing of a thesis. Plan B requires not fewer than twenty-four credits of advanced course work, a final examination, but no thesis. In either case, advisory committees may require more than the minimum number of credits.

Students following either M.A. plan must complete the required number of course credits—including a course in Literary Theory and in Foreign Language Teaching Methodology, as approved by the student's committee. The Film Theory and History (LCL 5010) course may substitute for the Introduction to Literary Theory course (CLCS 5302) with the permission of the student's advisory committee. Students who seek state teaching certification should elect the Teaching Methodology course, and consult with the NEAG School of Education concerning other inclusions; further courses in Education are ordinarily required.

Admission to the M.A. and Ph.D. Programs Prospective applications for admission to M.A. or Ph.D. study, together with letters of recommendation, a personal statement, and a critical and analytical original paper should reach Storrs by January 15 to be competitive for assistantships and fellowships for the Fall semester. Applications at other times may be considered for funding. There is no separate application for teaching assistantships. Admission is competitive, and qualifying graduate students are financially supported as teaching or research assistants.

The Ph.D. in Literatures, Cultures and Languages

The department offers a program of Ph.D. study that permits concentration in one of five primary fields: French and Francophone Studies, German Studies, Italian Literary and Cultural Studies, Spanish Studies, or Comparative Literary and Cultural Studies. Such Ph.D. study also permits, with approval,

the incorporation of one of the following secondary departmental fields of study: Applied Linguistics, Classics and Ancient Mediterranean Studies, Digital Culture and Media Studies, or History and Theory of World Cinema; or a secondary field devised in collaboration with another university department or program such as Medieval Studies, Human Rights, Women's Studies and Judaic Studies.

The department prepares Ph.D. students to engage in the interdisciplinary study of literatures, cultures and languages by integrating various regional cultures, historical periods, and methodologies essential to literary and cultural scholarship. The areas of research of the department's faculty are complementary and interconnected in a broad range of research fields and allow for a design that simultaneously focuses on particular literatures, cultures and languages and interdisciplinary areas of study in the context of emerging global communities.

Formal acceptance into the Ph.D. program ordinarily assumes completion of M.A. requirements in this department or the achievement elsewhere of qualifications judged appropriate by the Ph.D. admissions committee. Students with an earned Master's degree in a relevant field, or making substantial progress toward such a degree, and whose graduate record shows sufficient promise in analytical work, may apply for admission to the doctoral program.

Students in the Ph.D. program must complete, in one of the five primary fields listed below, at least 12 credits of graduate coursework, and at least six credits in a secondary field defined and approved by the candidate's advisory committee. Some requirements may be completed in the M.A. program. The secondary field should be formally identified early in the course of study. It can consist of one of the department's areas of expertise summarized below or another field approved in collaboration with another university department or program. Every plan of study is individually structured and monitored by a committee chosen by the student in consultation with his or her main advisor.

M.A. students anticipating formal acceptance as Ph.D. candidates should complete during the first year of graduate study one 3-credit seminar course in Literary Theory (CLCS 5302), one 3-credit course in Methods

and Approaches to Second Language Acquisition (LCL 5030), and two one-credit courses in Fields and Research (LCL 6010). Students who are accepted in the Ph.D. program with an earned M.A. from another university will need advisory committee approval of equivalent satisfaction, if any, of these requirements. Because some Ph.D. requirements (such as 2 credits from LCL 6010 Fields and Research or 3 credits from LCL 5010 Film Theory and History) may be completed by students who received their M.A. from UConn, the minimum number of credits may be reduced to 24 for them in the Ph.D. program

Advanced knowledge in one language, culture and literature other than English and reading knowledge of a second are required for the Ph.D. Students anticipating study in the Middle Ages or the Renaissance should demonstrate reading competence in Latin and in one modern language. For Comparative Literary and Cultural Studies special requirements see section below.

Further details on requirements for a specific field of specialization can be found in the Graduate Handbook of the Department of Literatures, Cultures and Languages, which can be obtained from the Graduate Catalog and other publications of the Graduate School. Additional information about the department is available on the departmental website: <http://languages.uconn.edu/>.

Primary Fields of Departmental Scholarly Expertise: These permit the development of graduate-level research programs that reflect substantial departmental groupings of both course offerings and faculty expertise and research interest in a variety of constituent areas.

French and Francophone Studies engages the diversity of French literary and cultural production from a multiplicity of viewpoints: from France to former French colonies in sub-Saharan Africa and the Caribbean; in the Muslim world from Senegal to Syria; and in Asia and the Americas, from Vietnam to Quebec. Seminars in the Department's core strengths – including Medieval Studies, Digital Culture & Media Studies, and Film – are central to the French and Francophone Studies Program, which stresses interdisciplinary, intercultural, and transnational approaches. Seminars in specialized topics include medieval literature, culture and languages; animal and environmental studies; fantasy and science

fiction studies; poetry and philosophy; social and literary theory; postcolonial literatures, cultures and theories; literature and media; urban, material and consumer cultures; and contact linguistics. The faculty also supports a rigorous language and pedagogy program, which may lead to certification for secondary school teaching.

German Studies offers seminars in German literature, culture, and linguistics leading to the Ph.D. degree. Interdisciplinary studies in Comparative Literature, Linguistics, Women's Studies (WS Certificate), and Human Rights (HR Certificate), among others, are available in cooperation with other sections and departments. The graduate program strongly supports an interdisciplinary, intercultural, and transnational approach to German Literary and Cultural Studies, including trans-disciplinary literary and cultural theory, "interkulturelle Germanistik," applied linguistics, literature and other arts, and anthropological, historical and philosophical inquiries into literary studies, beginning with the 18th century. Additional expertise: Black-German Studies, Gender Studies, Film and Media Studies, German-Jewish Studies, Literature/Culture and Philosophy, and Interarts Studies.

Italian Literary and Cultural Studies offers graduate courses in all periods from the Middle Ages and Renaissance to the present. Their interdisciplinary, intercultural, and transnational approach encompasses the Italian Diaspora to the Americas, Mediterranean Studies, Ethnic and Gender Studies, and Film and Media Studies. Students are strongly encouraged to draw upon the resources associated with the Emiliana Pasca Noether Chair for Modern Italian History and interdisciplinary programs such as Medieval Studies, Women Studies, and the program in Comparative Literary and Cultural Studies.

Spanish Studies offers graduate courses in Latin American, Peninsular and Latino literature, culture, film, and linguistics leading to the Ph.D. degree. The research program in Spanish includes Spanish Literary and Cultural Studies, Golden Age, Colonial, 18th-21st-century Peninsular, 19th-21st-century Latin American Studies, Latino Studies in U.S. and Caribbean Literary and Cultural Studies, and a diversity of theoretical fields such as Gender Studies, Film and Media Studies, Performance Studies and

Applied Linguistics.

Comparative Literary and Cultural Studies. The graduate program offers students the opportunity to develop an interdisciplinary, transcultural study of literatures and the arts. Students design their own plan of study in consultation with a group of faculty from the program and/or other academic departments. Ph.D. candidates are expected to pursue studies in three different fields and demonstrate advanced proficiency in at least two languages in addition to English.

Secondary Fields:

Applied Linguistics. Areas of pedagogical, interpretative and quantitative approaches to language, literature, media and cultural studies. Among others, the specialty areas are Second Language Acquisition; Applied Cognitive Linguistics; Humor studies; Language Contact; Bilingualism; Language Acquisition; Pragmatics and Semiotics.

Classics and Ancient Mediterranean Studies (an independent program for M.A. study). This specialization provides students with the knowledge and skills necessary to study and teach the languages and cultures of the Ancient Mediterranean. Areas of faculty specialization include the Greek, Hellenistic and Roman worlds, Second Temple and Rabbinic Judaism, and the world of Late Antiquity.

Digital Culture and Media Studies. The secondary concentration in Digital Culture and Media Studies prepares students to work in a wide variety of interdisciplinary fields such as Game Studies and Media Philosophy and to undertake research projects in Media History. The application of media theory and history to the burgeoning digital culture presents a unique opportunity to merge practice with theory and to pursue work in the humanities with a scope that extends from the classical world through our immediate contexts. Ultimately, students learn to participate as scholars and teachers in the discourses springing from the integration of digital computer technology and multiple media into world culture.

Hebrew and Judaic Studies (an independent program for M.A. study). This newly configured section of the department brings together faculty who are engaged in the teaching of Hebrew and Judaic Studies full-

time as well as members of other sections who have teaching or research interests pertaining to the history, literature, languages, and cultures of the Jews. (See: Hebrew and Judaic Studies Section, Faculty).

The highly interdisciplinary graduate offerings of this section focus on historiographic, literary, and cultural issues that intersect with other literatures and cultures taught in the department, enabling graduate students pursuing a PhD in LCL to develop a concentration or focus in a Judaic related area, especially regarding the Jewish experience in the Greco-Roman/Late Antique, Medieval, and Early Modern periods. (see: <http://judaicstudies.uconn.edu/graduate.html>).

History and Theory of World Cinema. This specialization provides students with the knowledge and skills necessary to study and teach world cinema through film history and theory in an interdisciplinary context. The analysis of film form and aesthetics as well as a cultural, economic and political phenomenon is this secondary field's objective.

Other secondary areas may be designed in consultation with programs outside the department such as Gender Studies, Human Rights, and Medieval Studies. Students may design additional secondary fields in consultation with their Ph.D. committee. Other secondary areas may include: World Cinema, Digital Culture and Media Studies and others to be designed in consultation with programs outside the department such as, Gender Studies, Human Rights, Judaic Studies, Medieval Studies. Students may design additional secondary fields in consultation with their advisor and Ph.D. committee.

Courses would then be listed under the categories

Comparative Literary and Cultural Studies
French and Francophone Studies
German Studies
Italian Literary and Cultural Studies
Literatures Cultures and Languages
Spanish Studies

Comparative Literary and Cultural Studies

CLCS 5301(3 Credits) Instructor Consent Required Variable Topics Possible topics include literature and the other arts, the sociology of literature, literature and psychology, and themes. May be repeated for up to nine credits with a change of topic. Components: Lecture

CLCS 5302(3 Credits) Instructor Consent Required Introduction to Literary Theory Introduction to the most important issues at the core of modern and contemporary literary theory structured as a historical survey of different theoretical paradigms or schools. Topics may include literary representation, the relationship between literature and society; interpretation and meaning, ideology, etc. Special emphasis on the aims of theory, its object, and its status vis à vis other disciplines of the human sciences. 3 credits. Seminar. Components: Seminar

CLCS 5303(3 Credits) Comparative Studies in the Novel The novel as a modern literary form, its relation to society, its epistemological strategies; European and American texts, including detective fiction. Components: Lecture

CLCS 5304(3 Credits) Instructor Consent Required Studies in Literary History Periods, movements, and literary relations involving several national literatures. Possible topics include the Baroque, the Enlightenment, Symbolism, and the Avant-Garde. Components: Seminar

CLCS 5305(3 Credits) Comparative Studies in Romanticism West European Romanticism, the Bildungsroman, the quest, stories of the fantastic, and the greater Romantic lyric. Includes works of Goethe, Coleridge, Poe, Hugo and Leopardi. Components: Lecture

CLCS 5306(3 Credits) Studies in Form and Genre Aspects of epic, drama, poetry, or narrative, such as the classical epic, the historical drama, the pastoral poem, or the picaresque novel. Components: Seminar

CLCS 5307(Credits3) Literature and Science The impact of science on literary imagination and style. Components: Lecture

CLCS 5308(3 Credits) Marxist Literary Criticism Introduction and survey of Marxist texts from Marx and Engels to Gramsci, Lukacs, Frankfurt School theoreticians, and contemporary theorists, feminists, and third-world practitioners. Components: Lecture

CLCS 5310(3 Credits) Psychoanalysis and Literature Introduction to the literary and cultural application of psychoanalytic theory to the reading of literary texts; psychoanalytic interpretation from Freud to Lacan and

feminist Lacanians. Components: Lecture

CLCS 5311(3 Credits) Instructor Consent Required Introduction to Semiotics Historical development and fundamentals of semiotics. Classical and structural models. Varying emphasis on a particular theory and its development. Components: Lecture

CLCS 5312(3 Credits) Third-World Narratives The study of creative and critical writings from developing nations in Latin America, Africa, and Asia, including works of minorities in America. Components: Seminar

CLCS 5313(3 Credits) Theory and Practice of Translation Components: Lecture

CLCS 5315(3 Credits) Third-World Cinema The cinema of developing countries studied as art and as cultural document; its relation to political and social realities and to film produced in the industrialized world. Components: Seminar

CLCS 5316(3 Credits) Literature and Linguistics Literary texts studied in the light of modern linguistic theory. Components: Lecture

CLCS 5317(3 Credits) Instructor Consent Required Studies in Comparative Culture The intersection of ideas concerning urbanization and modernism through the medium of literature, architecture, fine arts, and film. Components: Seminar

CLCS 5318(1 - 6 Credits) Special Studies Components: Practicum

French and Francophone Studies

FREN 5302(3) The Seventeenth-Century Theatre Components: Seminar

FREN 5304(3) Seventeenth-Century French Thought Religious and Libertin thinkers: Gassendi, Descartes; the Moralists: Pascal, La Rochefoucauld, La Bruyère. Components: Lecture

FREN 5306(3) The Later French Enlightenment Components: Lecture

FREN 5307(1 - 3) Problems in French Literature or Philology Components: Lecture

FREN 5309(3) Provençal Language and Literature Components: Lecture

FREN 5310(3) Introduction to French Philology Components: Lecture

FREN 5311(3) Aesthetic Trends in Twentieth-Century French Literature Components: Seminar

FREN 5352(3) Old French Language Components: Lecture

FREN 5353(3) Old French Literature

<p>Components: Lecture</p> <p>FREN 5357(3) French Novel in the Eighteenth Century Components: Lecture</p> <p>FREN 5359(3) Romantic Poetry and Drama Components: Lecture</p> <p>FREN 5361(3) French Poetry in the Second Half of the Nineteenth Century Components: Seminar</p> <p>FREN 5362(3) French Contemporary Poetry Components: Seminar</p> <p>FREN 5369(3) The French Novel in the First Half of the Nineteenth Century Stendhal, Balzac, and the romantic novelists. Components: Seminar</p> <p>FREN 5370(3) The French Novel in the Second Half of the Nineteenth Century Flaubert, Zola, and their contemporaries. Components: Lecture</p> <p>FREN 5373(3) The French Contemporary Novel Components: Seminar FREN 5376(3) Course ID:005602 05-FEB-2008 The Prose of the French Renaissance Components: Seminar</p> <p>FREN 5377(3) The Poetry of the French Renaissance Components: Lecture FREN 5380(3) Course ID:005604 05-FEB-2008 Seminar in Francophone Literature The study of the literature from the French-speaking world outside of France (Quebec, the Antilles, West Africa, the Maghreb) against the background of colonial and post-colonial history. May be repeated for credit with change of topic. Components: Seminar</p> <p>FREN 5381(3) Course ID:005605 05-FEB-2008 Study of French Style Problems of French style and writing of critical papers. Components: Lecture</p> <p>FREN 5401(3) Course ID:005609 05-FEB-2008 Seminar on Villon Components: Lecture Requirement Group: Prerequisite: FREN 5353 (RG429).</p>	<p>5314(3) Course ID:006084 05-FEB-2008 German Studies Exploration of the field of German Studies as an “interdiscipline”; analysis of a coherent body of material drawn from the social sciences, humanities, natural sciences, or other fields that helps to illuminate the German-speaking world. Components: Seminar</p> <p>GERM 5315(1) Topics in German Studies Focus on a particular theme (e.g. “revolution,” or “family and society”), approach (e.g. critical theory, or feminist interpretations), genre (e.g. lyric, or autobiographical essay), skill (e.g. research methodology) or other aspect of German studies. Components: Seminar</p> <p>GERM 5322(3) Studies in German Literature I Study of a coherent body of texts drawn from the period from the beginnings of German literature to approximately 1700. Components: Seminar</p> <p>GERM 5332(3) Studies in German Literature II Study of a coherent body of texts drawn from the period from approximately 1700 to 1890. Components: Seminar</p> <p>GERM 5345(3) Studies in German Literature III Study of a coherent body of texts drawn from the period from approximately 1890 to the present. Components: Seminar</p> <p>GERM 5360(3) Research Methodology Introduction to the methods of literary research and bibliography. Components: Seminar</p> <p>GERM 5365(3) German Film Studies Study of a coherent body of films and related materials (e.g. fiction, theory, reviews) organized to illuminate particular themes (e.g. representations of postwar Germany), relationships (e.g. between films and literature or film and social context), cinematic styles (e.g. Expressionism), etc. Components: Seminar</p> <p>GERM 5368(3) The German-Speaking World Landeskunde of the German-speaking world. The physical geography as well as cultural heritage, traditions, and contemporary customs of Austria, Germany, Switzerland, and other German-speaking regions of the world. Components: Lecture</p> <p>GERM 5369(1) Topics in Landeskunde of the German-Speaking World Focus on a specific topic or problem related to diachronic or contemporary Landeskunde of Austria, Germany, Switzerland, or another German-speaking region of the world. Components: Seminar</p>	<p>GERM 5375(3) Advanced Conversation and Composition Practice in oral and written expression, with an emphasis on current idiomatic usage, grammatical structure, and stylistics Components: Lecture</p> <p>GERM 5376(3) Rhetoric and Writing In-depth introduction to the rhetorical resources of the German language; extensive analysis of spoken and written language; application of knowledge in students’ own writing and speaking. Components: Seminar</p> <p>GERM 5377(1) Topics in Rhetoric and Writing Components: Seminar</p> <p>GERM 5378(0) Preparation for Certification of Proficiency in German Development of students’ proficiency in speaking, listening, reading and writing German in preparation for either the Mittelstufenprüfung or Oberstufenprüfung. Components: Lecture</p> <p>GERM 5380(3) German Language Methodology Exploration and analysis of a range of theories, issues, and problems in German instruction. Focus on the nature of language acquisition, methods, and implications for practice. Components: Lecture</p> <p>GERM 5381(1) Topics in German Language Methodology Focus on such special areas as content-based instruction, language for specific purposes (LSP), instructional technologies, development of teaching materials, proficiency, testing techniques, etc. Components: Seminar</p> <p>GERM 5385(3) German Literary Criticism and Theory Systematic study of literary criticism, including such topics as the contributions of particular critical approaches to the understanding of significant German-language literary works; the philosophies, implicit or explicit, underlying various critical approaches; and the German contribution to international critical discourse. Components: Seminar</p> <p>GERM 5388(1) Topics in German Literature Focus on a specific topic, problem, controversy, methodology, etc. in German literature studies or criticism. Components: Seminar</p> <p>GERM 5390(1 - 6) Independent Study Components: Independent Study</p> <p>GERM 6410(3) Seminar in Germanic Philology and Linguistics Components: Lecture</p> <p>GERM 6420(3) Seminar in Medieval Literature Components: Seminar</p> <p>GERM 6430(3) Seminar in Sixteenth- and Seventeenth-Century Literature Components: Seminar</p>
<p>German Studies</p> <p>GERM 5305(3) Studies in Germanic Philology and Linguistics Study of a coherent body of material related to older Germanic languages; to diachronic or synchronic phonology, morphology, syntax, and lexicology of Germanic languages; or to other areas of theoretical or applied linguistics. Components: Seminar</p> <p>GERM 5306(1) Topics in Germanic Philology and Linguistics Focus on a specific topic, problem, controversy, research methodology, etc. in Germanic philology and linguistics. Components: Seminar GERM</p>		

GERM 6450(3) Seminar in Nineteenth-Century Literature Components: Seminar
 GERM 6460(3) Seminar in Twentieth-Century Literature Components: Seminar
 GERM 6480(1 - 6) CInvestigation of Special Topics Components: Lecture

Italian Literary and Cultural Studies

ILCS 5315(3) Introduction to Contemporary Literary Studies Contemporary methods and fields of literary analysis. Paradigms of literary studies and overview of Marxist, Freudian, Feminist, Historicist, and Culturalist criticism. Components: Lecture

ILCS 5330(3) The Literature of the Origins Poets and poetical schools of the Duecento from the Franciscans to the Sicilians and the "Dolce stil nuovo." Components: Lecture

ILCS 5332(3) CSeminar on Petrarch The works of Francesco Petrarca; their relevance to humanism and to subsequent European lyrical poetry. Components: Seminar

ILCS 5333(3) Seminar on Boccaccio The Italian lyrics and narrative poems, the Decameron and its seminal importance for prose fiction, the scholarly Italian and Latin works. Components: Seminar

ILCS 5334(3) Seminar on Machiavelli The principal objective of this course is twofold: 1) to analyze and assess the political thought and the theater of Machiavelli as represented, respectively, in the Prince and the Discourses, and in the comedies Mandragola and Clizia and in the Favola (Belfagor arcidiavolo); and 2) to discuss Machiavellis influence beyond Italy (e.g., on authors such as Christopher Marlowe, Shakespeare, Ben Jonson, and Francis Bacon). Special attention will be given to Machiavellis unique relation to Renaissance Humanism, to his unconventional concept of virtue and his redefinition of the ethics of politics, and to his of view of the statesman as artist. Components: Seminar

ILCS 5335(3) 8 Baroque Literature The beginnings of baroque literary style and its ramifications in the seventeenth century. Components: Lecture

ILCS 5337(3) Theories and Methods of Modern Criticism I Aesthetic problems from Vico to the present day. Components: Lecture

ILCS 5339(3) Seminar on Modern Literature One leading writer from the last two centuries. Components: Seminar

ILCS 5340(3) Divina Commedia Components: Seminar

ILCS 5342(3) Course ID:007148 05-FEB-

2008 Seminar on Italian Theatre from Renaissance to Romanticism Major figures and developments from Poliziano and Machiavelli to Goldoni, Alfieri and Manzoni. Components: Lecture

ILCS 5345(1 - 6) Studies in Italian Literature or Philology Components: Lecture

ILCS 5347(3) CItalian Chivalric Poetry Components: Lecture

ILCS 5350(3) Literature of the Settecento Major figures of the eighteenth century enlightenment. Vico, Alfieri, Goldoni, Parini. Components: Lecture

ILCS 5351(3) Literature of Romanticism Neoclassicists versus innovators: Monti, Foscolo, Leopardi, Berchet, Manzoni, De Sanctis. Components: Lecture

ILCS 5352(3) Modern Italian Poetry I Post-romantic masters through the twentieth century experiments: e.g., the Crepuscolari, Futurists, Hermeticists. Components: Lecture

ILCS 5354(3) Masters of Twentieth-Century Fiction Pirandello, Svevo, Moravia, Pavese, Vittorini. Components: Lecture

ILCS 5355(3) Introduction to Italian Philology Italian linguistic geography, neo-linguistics of Bartoli, areal linguistics, Dante's De Vulgari Eloquentia, the "Questione della lingua." Croce's theory of language. Components: Lecture

Literatures Cultures and Languages

LCL 5010 Film Theory and History. 3 credits. Seminar. Interdisciplinary study of world cinema through film history and theory. National cinemas and film genres, including early cinema, Neorealism, Film Noir, the Western, Political Film, Documentary.

LCL 6010 Research in Language, Culture and Literature Studies. 1 credits. Lecture. Open to graduate students in LCL, others with permission. Theory and practice of research methods in the fields of literature, language and culture. (May be repeated for credit).

LCL 6020 Advanced Theory for the Study of Literatures, Cultures and Languages 3 credits. Seminar. Open to graduate students in LCL, others with permission. Historical interdisciplinary and contemporary theoretical parameters and models in literary, visual and cultural studies at the advanced level.

LCL 5030: Methods and Approaches to Second Language Acquisition 3 credits. Seminar. Open to graduate students in LCL, others with permission. Approaches to Foreign Language teaching and learning. Focus on the nature of language learning and methods and approaches to teaching.

LCL 6040 Interdisciplinary Topics in Literatures, Cultures and Languages Seminar, 3 credits. Prerequisite: CLCS 5302, FREN 5311, GERM 5385, ILCS 5337, or SPAN 5323. Open only to Ph.D. students, or with permission of instructor. Repeatable with change of topic. Interdisciplinary LCL seminar team-taught by at least two faculty with different areas of specialization within LCL. Variable topics, depending on faculty. Offered once per year (Fall or Spring). Although the course is taught in English in order to facilitate working across different languages, students are expected to conduct research and/or write seminar papers in their major field language(s), as appropriate. Candidates for the PhD in Literatures, Cultures and Languages are required to complete LCL 6040 at least once before advancing to candidacy.

Spanish Studies

SPAN 5320(1 - 6) Independent Study Components: Independent Study SPAN 5321(3) Course ID:009989 05-FEB-2008 Theatre of the Golden Age A study of the origin, formation and development of the Spanish comedia. Representative works of Lope de Vega, Calderón, Tirso de Molina, and Alarcón will be analyzed with special emphasis on individual characteristics. Components: Lecture

SPAN 5322(3) History of the Spanish Language The development of Castilian and its relation to its congeners in the Iberian Peninsula and Hispanic America. Components: Seminar

SPAN 5323(3) Concepts of Literary Criticism A practical approach to the theories and methods of literary criticism with particular reference to Hispanic literature. Components: Seminar

SPAN 5325(3) Cervantes Studies Don Quixote I and II and the critical corpus. The Novelas Ejemplares, Entremeses and other works. Components: Lecture

SPAN 5328(3) Medieval Spanish Literature (1100-1350) Major works in prose and poetry from 1100-1350 in medieval Iberia. Components: Lecture

SPAN 5329(3) Medieval Spanish Literature (1350-1500) Major works in prose and

poetry written in Spain from 1350-1500.

Components: Lecture

SPAN 5332(3) Poetic Traditions in the Spanish Renaissance Topics may include courtly poetry, influence of Italian humanism, theory of imitation, genre theory, the folkloric and Castilian traditions. Components: Lecture

SPAN 5333(3) Spanish Poetry of the Golden Age Poetry and prose in relation to the main poetic currents in Spain and in the Americas, 1580-1700. Components: Lecture

SPAN 5334(3) Modern Spanish-American Poetry Selected poets and movements in Spanish America from the late nineteenth century to the present. Components: Seminar

SPAN 5335(3) CThe Theatre in Spanish America The works of selected dramatists, with emphasis on the modern period. Components: Lecture

SPAN 5336(3) Colonial Latin American Literature Study of particular aspects of colonial literary production: religious and secular historiography; humanist thought in the colonies, poetry, and society; literature and the Baroque city; political and scientific thought. Components: Lecture

SPAN 5350(3) The Essay in Spanish America The Spanish-American essay as a literary genre and a vehicle of ideas. Reading in the works of the chief essayists of the Spanish-American nations. Components: Seminar

SPAN 5351(3) The Novel in Spanish America The development of the genre in Spanish America and selected readings in the works of its chief exponents. Components: Seminar

SPAN 5355(3) The Nineteenth-Century Spanish Novel and Essay A study of the essays of Larra and Ganivet, as well as the nineteenth-century novel. Special emphasis will be placed on the post-romantic novel. Components: Seminar

SPAN 5356(3) Twentieth-Century Novel and Essay Selected works either of authors from 1895 to 1936, or of authors from 1936 to the present. Components: Seminar

SPAN 5357(3) Twentieth-Century Drama and Poetry Selected works and authors from 1900 to the present. Components: Seminar

SPAN 5359(3) Special Topics in Early Modern Spanish Literature The novel, the short story, and other prose genres in the early modern period. Components: Lecture

SPAN 6339(3) Seminar on Sixteenth or Seventeenth Century Studies Open topics. Components: Seminar SPAN 6402(3) Course ID:010016 05-FEB-2008 Studies in Spanish-American Literature Components: Lecture

SPAN 6403(3) Studies in Spanish Literature May be repeated for up to nine credits with a change of topic. Components: Lecture

SPAN 6404(3) Special Topics in Nineteenth-Century Spanish-American Literature and Cultural Production Nineteenth century Spanish-American cultural production from Independence to the end of the nineteenth century. Emphasis on the interaction of literature and social thought, on the relations between literature and other forms of art, or on the role of artistic and intellectual practices in shaping the new nations. Components: Seminar

SPAN 6405(3) Special Topics in Twentieth-Century Spanish-American Literature and Cultural Production Twentieth century Spanish-American cultural production. Emphasis on the interaction of artistic practices and social thought, or on the relations between literature, other forms of art, and social or political movements. Components: Seminar

SPAN 6407(3) Special Topics in Modern Spanish Cultural Production Spanish culture from the Enlightenment to the present. Emphasis on the interaction of art and social thought, on the relations between art and the media, or on the role of intellectual practices in shaping or challenging notions of gender, ethnic, and national identity. Components: Seminar

SPAN 6408(3) Special Topics in Nineteenth Century Spanish Literature Nineteenth century Spanish literature. Emphasis on the interaction of literature and social thought or the relations between literature and other forms of art. Components: Seminar

SPAN 6416(3) Theoretical Debates and the Hispanic Tradition Aspects of methodology, theory, and history relevant to the study of cultural production in Hispanic societies. Components: Seminar

Marine Sciences



Department Head:

Professor Ann Bucklin

Professors

Bohlen, Crivello, Dam, Fitzgerald, Mason, McManus, O'Donnell, Shumway, Torgersen, Visscher, Whitlatch, and Yarish

Associate Professor

Auster, Byrne, Edson, Lin, Romano, Skoog, and Ward

Assistant Professors

Dupraz, Vlahos and Whitney

The Department of Marine Sciences offers study and research programs leading to the degrees of Master of Science and Doctor of Philosophy in the field of oceanography. Areas of special interest include biological, chemical, geological and physical oceanography and marine biology, geochemistry, and geophysics.

Because of the varied training of students and the interdisciplinary nature of marine sciences, plans of graduate study are flexible in focus and scope, and are designed to meet the needs of the individual student. The department offers several courses which serve as a core curriculum in the study of marine sciences, in addition to an array of other offerings in specific areas of the field.

Master of Science. For admission, a bachelor's degree in a related science normally is required; there are no special requirements for admission beyond those of the Graduate School. Selection of a Plan A (thesis) or Plan B (course work) degree normally is made after consultation with the student's advisory committee. Since the faculty conduct laboratory and field research programs, most students complete a research project.

Doctor of Philosophy. Students entering the doctoral program normally have a master's degree in a related science. Specific course requirements for the Ph.D. degree in oceanography are established by the student's advisory committee. Depending upon the student's committee, a foreign language or a related area of study (e.g., statistics, computer science) outside the student's major program emphasis is required. A written qualifying exam covering selected topics in oceanography must be passed for advancement to candidacy.

The Department also actively participates in several interdisciplinary academic programs at the M.S. and Ph.D. level:

Biological Sciences. Certain members of the faculty also are members of the Department of Ecology and Evolutionary Biology. Work in marine ecology, botany, and evolution is available.

Marine Geophysics. Appointments of several Department faculty allow work in marine geophysics, geology and sedimentology.

Special Facilities and Educational Opportunities. The Department maintains laboratories on the UConn--Avery Point campus in Groton, Connecticut. Research vessels, an ultra-clean analytical chemistry laboratory and seawater facilities are available through the Marine Sciences and Technology Center. Additional research and education facilities are provided by Connecticut Sea Grant, the National Undersea Research Center, the Long Island Sound Resource Center, and the Avery Point campus.

Courses

MARN5010(3 Credits) Biological Oceanography "Not open to students who have passed MARN4010. Structure and function of marine food webs, from primary producers to top trophic levels; interaction of marine organisms with the environment; energy and mass flow in food webs; elemental cycling; coupling between pelagic and benthic environments. Components:Lecture Requirement Group:Antipre MARN 4010- Not open to students who have passed MARN4010.

MARN5011(3 Credits)Instructor Consent Required Biogenic Fluxes in the Oceans

Processes regulating the export of organic matter from the surface of the ocean to the sea bed. New and export production; role of the biotic and abiotic processes in downward transport of particulate and dissolved organic matter; current topics of research on the biological pump. Components:Lecture Requirement Group:Prerequisite: MARN 5010 (RG372).

MARN5012(3 Credits)Instructor Consent Required Ecology of Marine Invertebrates

Functional responses of organisms to abiotic factors in the marine environment (light, temperature, salinity, oxygen tension, intertidal exposure). Components:Lecture

MARN5013(4)Instructor Consent Required Marine Systems Ecology

Effects of biotic and abiotic parameters on the structure and function of marine ecosystems. Techniques for the analysis of energetics, nutrient cycles, and trophic characteristics in both theoretical and applied problems. Field trips are required. Components:Laboratory, Lecture

MARN5014(3 Credits) Marine Phytoplankton Ecology and Physiology

The physiology of marine phytoplankton, environmental factors affecting their growth and photosynthesis in the ocean, the oceanographic processes responsible for the temporal and spatial distributions of phytoplankton biomass and production, and current topics in phytoplankton research. Components:Lecture

MARN5015(3 Credits) Molecular Approach to Biol. Ocean

Principles and technology in nucleic acid purification and manipulation, DNA fingerprinting, gene cloning and sequencing, phylogenetic analysis, and detection of gene expression (mRNA and protein). Application examples in marine ecological studies. Components:Laboratory, Lecture

MARN5016(3 Credits)Instructor Consent Required Marine Zooplankton

Bioenergetics, life history, population and community ecology of zooplankton, and role of zooplankton in aquatic biogeochemical cycles. Components:Lecture

MARN5017(3 Credits)Instructor Consent Required Plankton Ecology

Recommended preparation: The equivalent of one year of biology, chemistry and physics course, or consent of "instructor. Ecology of planktonic organisms (bacteria, protista and metazoa). The evolutionary" ecology concept, methods of research, special features of aquatic habitats; adaptations to aquatic environments; population biology; predation, competition, life histories, community structure, and role of plankton in ecosystem metabolism. Components:Laboratory, Lecture

MARN5020(3 Credits) Marine Bioorganic

Chemistry

Overview of the molecular basis of metabolic and bioenergetic pathways and processes with emphasis on life in the marine environment. Synthesis of marine natural products. Laboratory demonstrations of selected molecular and physiological techniques used in oceanography. Components:Laboratory, Lecture

MARN5030(3 Credits) Chemical Oceanography

The role of the oceans in the major global biogeochemical cycles of carbon, sulfur, nutrients, gases and trace elements. Studies include reaction rates, chemical speciation, equilibria, solubility, oxidation-reduction, absorption, complexation and their effects on the composition of sea water and the transfer of substances at the Earth's surface. Components:Lecture

MARN5031(3 Credits) Aqueous Geochemistry

Application of chemical theory (thermodynamic equilibrium approaches and kinetics) to understanding the geochemistry of the Earth's aqueous systems, with a focus on the ocean and coastal ecosystems. Components:Lecture

MARN5032(3 Credits) Coastal Pollution and Bioremediation

Overview of processes and compounds leading to pollution in the nearshore marine environment. The impact of pollution on the marine foodweb and its response is emphasized. Alleviation of pollution through metabolism of organisms, including bacteria, seagrasses and salt marshes. Components:Laboratory, Lecture

MARN5033(3 Credits) Marine and Atmospheric Processes of Global Change

Fundamentals of marine and atmospheric processes in global biogeochemistry. Evaluation of atmospheric, biological and chemical processes that contribute to global change. Components:Lecture

MARN5036(3 Credits) Marine Biogeochemistry

Composition, origin and solution chemistry of sea water. Marine biogeochemical cycles of water, salt, carbon, nutrients, gases and trace elements. Effects of ocean circulation, biological cycles and crustal exchanges on

the distribution and transfer of substances in the marine environment. Components:Lecture

MARN5050(3 Credits) Marine Geology

Relationships between physical and chemical processes and the occurrences and distribution of rock types and compositions in the oceanic environment. Components:Lecture

MARN5051(3 Credits) Instructor Consent Required Radiotracer Applications in Natural Systems

Applications of radiotracers in the environment for environmental engineers, environmental scientists, geologists, hydrologists and oceanographers. Use of radionuclides in the interpretation and quantification of aqueous transport processes. The interaction of geochemistry, mass transport and flux balances in Earth, ocean and environmental systems. Components:Lecture

MARN5060(3 Credits) Dynamic Physical Oceanography

Global energy balance. General circulation in the oceans and atmosphere. Thermodynamics and stability. Fundamental fluid mechanics. Surface gravity waves. Geophysical fluid mechanics. Tides and other long waves. Theories of global circulation. Components:Lecture

MARN5061(3 Credits) Instructor Consent Required Advanced Dynamical Oceanography

Ocean thermodynamics; dynamics of rotating; homogeneous fluids; ocean circulation; western boundary currents; the thermocline, oceanic fronts. Components:Lecture Requirement Group:Prerequisite: MARN 5060 (RG373).

MARN5062(3 Credits) Sediment Transport

The mechanics of sediment transport with particular emphasis on the processes governing transport in coastal and estuarine areas. Initiation of motion for cohesive and noncohesive materials, bed and suspended load transport, bed forms, sediment-flow interactions, modeling considerations. Components:Lecture Course Equivalents:GSCI 5110

MARN5063(3 Credits) Estuarine Circulation

The physical characteristics of estuaries,

river and tidal interactions, turbulence and mixing, salt balance, circulation dynamics, mass transport and flushing, modeling considerations. Components:Lecture Requirement Group:Prerequisite: MARN 5060 (RG373).

MARN5064(3 Credits) Ocean Waves

General methods of wave analysis; surface gravity waves; tidal wave dynamics; internal waves and tides; planetary, edge and topographic Rossby waves. Components:Lecture Requirement Group:Prerequisite: MARN 5060 (RG373).

MARN5065(3 Credits) Physical Oceanography

Overview of physical properties and dynamics influencing the oceans and coastal waters. Descriptions of global water property distributions, surface mixed layer, pycnocline, surface heat fluxes, and major ocean currents. Introduction to dynamics of ocean circulation, waves, tides, and coastal circulation. Components:Lecture

MARN5830(3 Credits) Instructor Consent Required Seminar in Chemical Oceanography

Readings and discussions of current literature in chemical oceanography. For graduate and advanced students in oceanography or related fields. Components:Lecture

MARN5893(1 - 3) Instructor Consent Required Research

Conferences and laboratory work covering selected fields of marine sciences. Components:Independent Study

MARN5895(3 Credits) Instructor Consent Required Independent Study

A reading course for those wishing to pursue special work in marine sciences. It may also be elected by undergraduate students preparing to be candidates for degrees with distinction. Designate the field of special interest by use of the appropriate section symbol. Components:Independent Study

MARN5898(1 - 6) Instructor Consent Required Special Topics in Marine Sciences

Components:Lecture

MARN6001(2) Mathematical Models in Marine Sciences

Examples of the formulation of quantitative

models of marine systems with a review of some particularly useful mathematical methods (differential equations, operational methods, numerical solution techniques), emphasizing the computation of predictions. Components:Lecture Requirement Group:Prerequisite: 9 graduate credits in Marine Science (RG374).

MARN6002(2) Mathematical Models in Marine Sciences: Practicum

Individual term projects relating to mathematical modeling in the marine sciences. Components:Practicum

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Materials Science

Director:
Professor Harris L. Marcus

Associate Director:
Professor Fotios Papadimitrakopoulos

Distinguished Professors:
Brody, Stwalley, Suib, and Weiss

Professors:
Aindow, Braswell, Coughlin, Cutlip, Goldberg, F. Jain, Kattamis, Kessel, L. Shaw, M. Shaw and Sung

Associate Professors:
Adamson, Alpay, Asandei, Burkhard, Dobrynin, Parnas, Rossetti, Seery, Sotzing, Wei and Zhu

Assistant Professors:
Gao, Hebert, Huey, M. Jain, Kasi Lin, Ramprasad, and Wang

Research Professors
Boggs, Gell, and Scola

Assistant Research Professor: Smirnova

Work leading to the degrees of Master of Science and Doctor of Philosophy is offered in the interdisciplinary field of Materials Science through the Departments of Chemical, Materials and Biomolecular Engineering, Chemistry, Electrical and Computer Engineering and Physics, as well as departments in the biological sciences.

The M.S. Program.

There are no special requirements for admission to the master's program beyond those of the Graduate School. Selection of Plan A (thesis) or Plan B (non-thesis) is made after consultation with the advisory committee.

The Ph.D. Program.

Admission to the doctoral program is based upon a careful assessment of the student's potential for creative research in materials science. There no special requirements for the doctoral program beyond those of the Graduate School.

Special Facilities.

The Institute of Materials Science, organized in 1965, aids in the development and coordination of the graduate programs in materials science. In addition to the laboratories of the participating academic

departments, the Institute provides special laboratories for alloy chemistry, optical studies, magnetic susceptibility, electron paramagnetic resonance, nuclear magnetic resonance, ion implantation, microprobe analyses, atomic force microscopies, electron microscopy, crystal growth, mechanical properties, optical microscopy, metallography, solidification, chromatography, low-temperature studies, X-ray diffraction, soft X-ray spectroscopy, surface studies, surface modification, ultrasonics, IR, UV, and VUV spectroscopy, nanotechnology, and polymer research. A multi-million-dollar building houses these and additional laboratories and facilities designed for graduate research in the materials sciences.

Extensive capability for computational materials science is available within the Institute of Materials Science and other University facilities.

Areas of concentration within the Materials Science field of study are offered in Alloy Science, Biomaterials, Corrosion Science, Crystal Science, Dental Materials, Metallurgy, and Polymer Science.

*Note: Course offerings are listed under the Departments referred to above.

Materials Science And Engineering

Department Head:
Professor C. Barry Carter

Distinguished Professor:
Brody

Professors:
Aindow, Goldberg, Jordan, Kattamis, Marcus,
and Shaw

Assistant Professors:
Gao, Hebert, Huey, Jain, Y. Khan, Kuhn,
Kumbar, Nair, Nukavarapu, and Ramprasad

Research Professor:
Gell

Assistant Research Professor: Smirnova

The goal of the graduate program in Materials Science and Engineering, through its coursework and research programs, is to provide students with a comprehensive understanding of modern materials and to prepare for positions of leadership in engineering, research and development. Graduate instruction is offered which leads to the degrees of Master of Science and Doctor of Philosophy. Emphasis is placed on the relationships between the structure and properties of engineering materials, thermodynamics of materials, phase equilibria, mechanical behavior, electronic behavior and microstructural characterization. The main aspects of these subjects are covered in 4 designated core courses (see the descriptions for courses MSE 5301, 5309, 5322, and 5334 below) offered by the Department of Chemical, Materials and Biomolecular Engineering. Several other departments in the University offer courses in related disciplines, and students are encouraged to include one or more of these courses in their plans of study.

Requirements for the M.S.

There are no special requirements for the admission to the master's program beyond those of the Graduate School. Selection of Plan A (thesis) or Plan B (course work) is made after consultation with the advisory committee. For Plan A, the student must successfully complete 5 graduate courses (15 credits), maintaining a GPA of 3.0 or above.

At least 4 of these courses must be MSE courses. The student must also complete at least 9 credits of Master's Thesis Research (GRAD 5950). For Plan B, The student must successfully complete at least 8 graduate courses (24 credits), maintaining a GPA of 3.0 or above. At least 6 of these courses (18 credits) must be MSE courses.

Requirements for the Ph.D.

Admission to the doctoral program is based upon a careful assessment of the student's potential for creative research in materials science and engineering. Applicants for this program will normally have first completed an outstanding master's degree program. Students are required to complete all 4 of the graduate core courses as part of their coursework requirements, maintain a minimum GPA of 3.0 in these courses and to pass a General Examination.

Special Facilities.

The Materials Science and Engineering Program is housed within the Institute of Materials Science. A comprehensive range of modern research equipment is available, including facilities for melting and casting of alloys, mechanical processing and heat treating, mechanical testing, electrical testing, processing and testing of ceramics and composites, transmission electron microscopes, scanning electron microscopes, x-ray diffraction apparatus, surface analysis equipment, thermal analysis equipment, and extensive spectrometry facilities (nuclear magnetic resonance, infra-red / Raman and ultra-violet).

Courses

MSE5301(3 Credits) Thermodynamics of Materials

Classical thermodynamics with emphasis on solutions and phase equilibria. Applications to unary and multicomponent, reacting and nonreacting, homogeneous and heterogeneous systems, including development of phase diagrams. Components:Lecture

MSE5303(3 Credits) Diffusion In Solids

Laws of Diffusion for binary and multicomponent systems, as well as for single and multi-phase systems. Diffusivity measurements and prediction. Modeling of interdiffusion with regard to diffusion couples, high temperature coatings, and gas-solid reactions using equation-solving and finite-difference

software. Components:Lecture Same As Offering:MTGY 303 Requirement Group:Prerequisite: MSE 5301 (RG425).

MSE5305(3 Credits) Phase Transformations in Solids

Thermodynamics, kinetics and crystallography of phase transformations. Nucleation and growth kinetics. Order-disorder, ferroelectric, and ferromagnetic transformations. Components:Lecture

MSE5307(3 Credits) Solidification of Metals and Alloys

Thermodynamic and kinetic principles of solidification. Control of structure and properties of pure and multicomponent materials through casting and solidification processes. Application of solidification principles to shaped casting, continuous casting, crystal growth and particulate processes. Components:Lecture Requirement Group:Prerequisite: MSE 5301 (RG425).

MSE5308(3 Credits) Plasticity of Solids

Basic concepts of dislocations and other defects; relationship between basic deformation, thermal processes, and observable macroscopic properties. Strengthening mechanisms, e.g., solid solution hardening, dispersion hardening, and work hardening. Components:Lecture

MSE5309(3 Credits) Transport Phenomena in Materials Science and Engineering

Mechanisms and quantitative treatment of mass, energy, and momentum transfer will be discussed in the context of materials science and engineering applications. Increasingly complex and open-ended applications will be used to illustrate principles of fluid flow; heat conduction, radiation, and diffusion. Components:Lecture

MSE5310(3 Credits)Instructor Consent Required Modeling Materials

This course is intended to provide an overview of the theory and practices underlying modern electronic structure materials computations, primarily density functional theory (DFT). Students in-volved primarily/partially in materials computations, as well as those focused on experimental materials research wishing to learn about DFT techniques will benefit from this course. Components:Lecture

MSE5311(3 Credits) Mechanical Properties

of Materials

Mechanics of deformation and fracture; dislocation theory; strength of ductile and brittle materials; toughness; strengthening mechanisms; toughening mechanisms; creep mechanisms; fatigue crack initiation and propagation; reliability and lifetime prediction. Components:Lecture

MSE5313(3 Credits) Theory of the Solid State

Modern theory of metals. Review of quantum theory, elementary wave mechanics, the free electron theory of metals, and the elementary band theory of solids. Crystallography, specific heat, dielectrics, magnetism, electrical conductivity. Components:Lecture

MSE5316(3 Credits) Fracture and Fatigue of Materials

Ductile and brittle fracture, fatigue, stress corrosion, and creep rupture. Failure analysis. Components:Lecture

MSE5317(3 Credits) Electronic and Magnetic Properties of Materials

Crystal structures and interatomic forces, lattice vibrations, thermal, acoustic, and optical properties. Semiconductors, dielectric properties, magnetism, and magnetic properties, superconductivity. Device applications. Components:Lecture

MSE5320(3 Credits) Investigation of Special Topics

Special courses or individual readings. Components:Lecture

MSE5322(3 Credits) Materials Characterization

A review of the principal experimental methods used to reveal the microstructure and chemistry of materials. Diffraction techniques: x-ray, electron, neutron and proton scattering. Photon probes: photon microscopies, x-ray topography and XPS. Electron probes: SEM, TEM, EDX, EELS, AES. Atom and ion probes: RBS, SIMS, FIM, PIXE. Scanned probe microscopies. Components:Lecture

MSE5323(3 Credits) Transmission Electron Microscopy

Electron beam-specimen interactions. Basics of electron microscopes. Diffraction: theory, types of patterns and interpretation.

Imaging: diffraction contrast, phase contrast and other techniques. Spectrometry: x-ray microanalysis and electron energy-loss spectrometry. Components:Lecture Requirement Group:Prerequisite: MSE 5322 or consent of instructor (RG426).

MSE5325(3 Credits) Equilibrium Relationships in Multi-Phase Systems

Thermodynamics of phase equilibria and phase diagram prediction for binary, ternary and n-component systems. Interpretation of phase diagram sections and projections. Application of multicomponent phase diagrams to alloy and process design.. Components:Lecture Requirement Group:Prerequisite: MSE 5301 (RG425).

MSE5334(3 Credits) Structure and Defects in Materials

Structure of amorphous and vitreous materials. Crystallography: translation symmetry and lattices, point and space groups, use of the International Tables for Crystallography, examples of simple crystal structures. Defects in materials: point defects, line defects, planar defects, homophase and heterophase interfaces. Distributions of structure and defects: an introductory to microstructure. Components:Lecture

MSE5335(3 Credits) High Temperature Materials

Strength-determining factors in advanced alloys, ceramics and composites. Role of material chemistry and microstructure. High temperature creep and crack growth. Oxidation. Thermomechanical behavior. Components:Lecture

MSE5337(3 Credits) Materials Processing

Principles of powder preparation. Colloidal processing. Powder characterization. Consolidation and sintering of metals and ceramics. Microstructural evolution. Composites and coatings processing. Structure-property relations. Components:Lecture

MSE5343(3 Credits) Corrosion

Mechanisms, characteristics and types of corrosion. Test methods and evaluation of corrosion resistance. Suitability of metals, ceramics, and organic materials in corrosive environments. Oxidation and other high temperature gas-metal reactions. Components:Lecture

MSE5345(3 Credits) Theory of Electrochemical Processes

Theory and measurement of irreversible electrochemical processes at metal electrolyte interfaces. Mixed potential theory. Mass transport phenomena. Apparatus, techniques, and interpretation of experimental measurements. Applications to metallographic etching, phase extraction and electroanalytical techniques. Scientific development of corrosion-resistant alloys. Components:Lecture

MSE5364(3 Credits) Advanced Composites

Mechanical properties, analysis and modeling of composite materials. The properties treated include stiffness, strength, fracture toughness, fatigue strength and creep resistance as they relate to fiber, whisker, particulate, and laminated composites. Components:Lecture

MSE5366(3 Credits) Alloy Casting Processes

Principles and practices of alloy solidification and casting processes are discussed and applied in the context of sand, investment, permanent mold and die casting; continuous and direct chill casting; electroslag and vacuum arc remelting; crystal growth; rapid solidification; and laser coating. Components:Lecture

MSE5700(3 Credits)Instructor Consent Required Biomaterials and Tissue Engineering

A broad introduction to the field of biomaterials and tissue engineering. Presents basic principles of biological, medical, and material science as applied to implantable medical devices, drug delivery systems and artificial organs. Not open to students who have passed BME 4710. Also offered as BME 5700. Components:Lecture Course Equivalents:BME 5700 Requirement Group:Not open to students who have taken BME 4710

MSE6401(3 Credits) Graduate Seminars in Metallurgy and Materials Engineering

Presentations by invited guest speakers on topics of current interest in various areas of Metallurgy and Materials Engineering. Students in this course receive a grade of S (Satisfactory) or U (Unsatisfactory). Components:Seminar

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Mathematics

Interim Department Head:
Professor Jeffrey Tollefson

Director of Graduate Studies
Professor Ron Blei

Professors
Abikoff, R.F. Bass, Blei, Choi, DeFranco, Dey, Dunne, Giné-Masdeu, Glaz, Gui, Haas, Luh, Madych, McKenna, Nicholls, Olshevsky, Peters, Ravishanker, Teitelbaum, Tollefson, Turchin, Vadiveloo, Valdez, and Vitale

Associate Professors
Bridgeman, Conrad, Gordina, Hernandez, Lee, Leibowitz, Roby, Russell, Solomon, Tepyayev, Wang, and Yan

Assistant Professors
Bayer, Ben-Ari, Cardetti, Hering, Huber, Leykehman, Lozano-Robledo, Rogers, and Schiffler

The Department of Mathematics offers graduate M.S. and Ph.D. degrees. In addition to graduate study in pure and applied mathematics, the Department also offers graduate study in actuarial science and financial mathematics. For admission requirements, which differ slightly for these options, write to the Department of Mathematics at gradadm.math@uconn.edu or see the website www.math.uconn.edu

The M.S. Program.

The Mathematics master's program permits a student to study pure and applied mathematics, including numerical methods, or actuarial science. A professional master's degree program in Applied Financial Mathematics is also offered. Some coursework can be taken in other departments if desired. The Department recommends that students select Plan B (without thesis). A sound undergraduate major in mathematics, including courses in modern algebra and advanced calculus, normally is required for entrance to the masters program. It is recommended that entering graduate students applying for financial aid take the GRE Subject Test in Mathematics. Further details concerning the M.S. program may be obtained by writing directly to the Department of Mathematics at gradm.math@uconn.edu or by visiting the website www.math.uconn.edu

math.uconn.edu

The Ph.D. Program.

Advanced study at the Ph.D. level is offered in the areas of Actuarial Science, Algebra and Number Theory, Algebraic Geometry, Analysis, Applied Mathematics, Geometry and Topology, Mathematical Logic, Mathematics Education, Numerical Analysis, Partial Differential Equations, and Probability Theory. Students are admitted to the Ph.D. program only after demonstrating ability and evidence of special aptitude for research in mathematics in their prior work. Although no specified number of course credits is required for the Ph.D., usually at least 24 credits of coursework beyond the masters level is considered necessary. Students must satisfy the doctoral foreign language requirement of the Graduate School. Doctoral students also are expected to possess computer skills necessary for mathematics research. During the first two to three years of the students coursework, comprehensive examinations covering the major areas of mathematics must be passed. The Ph.D. dissertation contains results of original research in mathematics and makes a substantial contribution to the field. A student normally writes a dissertation in an area in which the Department has faculty actively engaged in research: actuarial science, algebraic geometry, analysis on fractals, approximation theory, combinatorics, commutative ring theory, complex analysis, differential geometry, discrete groups, Fourier analysis, functional analysis, harmonic analysis, homological algebra, inverse problems, logic and computability theory, low-dimensional topology, mathematical physics, mathematical biology, mathematics education, matrix theory, number theory, numerical analysis, numerical linear algebra, ordinary and partial differential equations, probability theory and stochastic analysis, representation theory, Riemann surfaces, tomography and wavelet theory. Further details concerning the Ph.D. program and faculty research interests may be obtained by writing directly to the Department of Mathematics at gradm.math@uconn.edu or by visiting the website www.math.uconn.edu

Special Facilities.

The Homer Babbidge Library has extensive holdings of mathematics books and journals. A weekly colloquium featuring visiting lecturers as well as several area-specific

seminars are conducted during the academic year. Moreover, because of the easy access to colloquia and seminars at nearby institutions, there is a good potential for scholarly interaction.

Courses

MATH5000(3 Credits) Mathematical Pedagogy

The theory and practice of teaching mathematics at the college level. Basic skills, grading methods, cooperative learning, active learning, use of technology, classroom problems, history of learning theory, reflective practice. Open to graduate students in Mathematics, others with consent of instructor. May not be used to satisfy degree requirements in mathematics. Components:Seminar

MATH5010(3 Credits)Instructor Consent Required Topics in Analysis I

Advanced topics in analysis. With a change of content, this course is repeatable to a maximum of twelve credits. Components:Lecture

MATH5011(3 Credits)Instructor Consent Required Topics in Analysis II

Advanced topics in analysis. With a change of content, this course is repeatable to a maximum of twelve credits. Components:Lecture

MATH5016(3 Credits) Topics in Probability

Advanced topics in probability theory, theory of random processes, mathematical statistics, and related fields. With a change of content, this course is repeatable to a maximum of twelve credits. Components:Lecture

MATH5020(3 Credits) Topics in Algebra

Advanced topics chosen from group theory, ring theory, number theory, Lie theory, combinatorics, commutative algebra, algebraic geometry, homological algebra, and representation theory. Components:Lecture Requirement Group:Prerequisite: MATH

5211 (RG381).

MATH5026(3 Credits)Instructor Consent Required Topics in Mathematical Logic

Topics include, but are not restricted to, Computability Theory, Model Theory, and Set Theory. Components:Lecture Requirement Group:Prerequisite: MATH 5260 (RG386).

MATH5030(3 Credits)Instructor Consent Required Topics in Geometry and Topology I

Advanced topics in Geometry and Topology. With a change of content, this course is repeatable to a maximum of twelve credits. Components:Lecture

MATH5031(3 Credits)Instructor Consent Required Topics in Geometry and Topology II

Advanced topics in Geometry and Topology. With a change of content, this course is repeatable to a maximum of twelve credits. Components:Lecture Requirement Group:Prerequisite: 5030 (RG387).

MATH5040(3 Credits)Instructor Consent Required Topics in Applied Analysis I

Advanced topics from the theory of ordinary or partial differential equations. Other possible topics: integral equations, optimization theory, the calculus of variations, advanced approximation theory. Components:Lecture

MATH5041(3 Credits)Instructor Consent Required Topics in Applied Analysis II

Advanced topics from the theory of ordinary or partial differential equations. Other possible topics: integral equations, optimization theory, the calculus of variations, advanced approximation theory. Components:Lecture

MATH5046(3 Credits) Introduction to Complex Variables

Functions of a complex variable, integration

in the complex plane, conformal mapping. Not open to students who have passed MATH 3146. Open for master's credit but not doctoral credit toward degree in Mathematics. Components:Lecture Requirement Group:Not open to students who have passed MATH 3146 (RG 4838).

MATH5050(3 Credits) Analysis

Introduction to the theory of functions of a real variable. Not open to students who have passed MATH 3150. Open for masters credit but not doctoral credit toward degree in Mathematics. Components:Lecture Requirement Group:Not open to students who have passed MATH 3150 (RG4839).

MATH5070(3 Credits) Topics in Scientific Computation

Components:Lecture

MATH5110(3 Credits) Introduction to Modern Analysis

Metric spaces, sequences and series, continuity, differentiation, the Riemann-Stieltjes integral, functions of several variables. Components:Lecture

MATH5111(3 Credits) Measure and Integration

General theory of measure and Lebesgue integration, L^p -spaces. Components:Lecture Requirement Group:Prerequisite: MATH 5110 (RG375).

MATH5120(3 Credits) Complex Function Theory I

An introduction to the theory of analytic functions, with emphasis on modern points of view. Components:Lecture Requirement Group:Prerequisite: MATH 5110 (RG375).

MATH5121(3 Credits) Topics in Complex Function Theory

Advanced topics of contemporary interest. These include Riemann surfaces, Kleinian

groups, entire functions, conformal mapping, several complex variables, and automorphic functions, among others. May be repeated for credit with a change in content and consent of the instructor. Components:Lecture Requirement Group:Prerequisite: MATH 5120 (RG388).

MATH5130(3 Credits) Functional Analysis I

Normed linear spaces and algebras, the theory of linear operators, spectral analysis. Components:Lecture Requirement Group:Prerequisite: MATH 5111(RG4837).

MATH5131(3 Credits) Functional Analysis II

Normed linear spaces and algebras, the theory of linear operators, spectral analysis. With a change of "content, this course is repeatable to a maximum of six credits." Components:Lecture Requirement Group:Prerequisite: MATH 5111(RG4837).

MATH5140(3 Credits) Fourier Analysis

Foundations of harmonic analysis developed through the study of Fourier series and Fourier transforms. Components:Lecture Requirement Group:Prerequisite: MATH 5111(RG4837).

MATH5141(3 Credits) Fourier Analysis on Groups

Components:Lecture Requirement Group:Prerequisite: MATH 5111(RG4837).

MATH5160(3 Credits) Probability Theory and Stochastic Processes I

Convergence of random variables and their probability laws, maximal inequalities, series of independent random variables and laws of large numbers, central limit theorems, martingales, Brownian motion. Components:Lecture Requirement Group:Prerequisite: MATH 5111(RG4837).

MATH5161(3 Credits) Probability Theory and Stochastic Processes II

Contemporary theory of stochastic processes, including stopping times, stochastic integration, stochastic differential equations and Markov processes, Gaussian processes, and empirical and related processes with applications in asymptotic statistics. Components:Lecture Requirement Group:Prerequisite: MATH 5160 (RG383).

MATH5210(3 Credits) Abstract Algebra I

Group theory, ring theory and modules, and universal mapping properties. Components:Lecture

MATH5211(3 Credits) Abstract Algebra II

Linear and multilinear algebra, Galois theory, category theory, and commutative algebra. Components:Lecture Requirement Group:Prerequisite: MATH 5210 (RG380).

MATH5220(3 Credits) Introduction to Representation Theory

Semi-simple rings, Jacobson radical, density theory, Wedderburn's Theorem, representations and characters of groups, orthogonality relations, Burnside's theorem. Components:Lecture Requirement Group:Prerequisite: MATH 5210 (RG380).

MATH5230(3 Credits) Algebraic Number Theory

Algebraic integers, ideal class group, ramification, Frobenius elements in Galois groups, Dirichlet's unit theorem, localization, and completion. Further topics (zeta-functions, function fields, non-maximal orders) as time permits. Components:Lecture Requirement Group:Prerequisite: MATH 5211 (RG381).

MATH5250(3 Credits) Modern Matrix Theory and Linear Algebra

The LU, QR, symmetric, polar, and singular value matrix decompositions. Schur and Jordan normal forms. Symmetric, positive-definite, normal and unitary matrices. Perron-Frobenius theory and graph criteria in the theory of non-negative matrices. Components:Lecture

MATH5260(3 Credits) Mathematical Logic I

Predicate calculus, completeness, compactness, Lowenheim-Skolem theorems, formal theories with applications to algebra, Godel's incompleteness theorem. Further topics chosen from: axiomatic set theory, model theory, recursion theory, computational complexity, automata theory and formal languages. Components:Lecture Requirement Group:Prerequisite: MATH 5210 (RG380).

MATH5310(3 Credits) Introduction to Geometry and Topology I

Topological spaces, maps, induced topologies, separation axioms, compactness, connectedness, classification of surfaces, the fundamental group and its applications, covering spaces. Components:Lecture Requirement Group:Prerequisite: MATH 5110, which may be taken concurrently (RG376).

MATH5311(3 Credits) Introduction to Geometry and Topology II

Smooth manifolds, vector fields, differential forms, de Rham cohomology, homology theory, singular (co)homology, Poincaré duality. With a change of content, this course is repeatable to a maximum of twelve credits. Components:Lecture Requirement Group:Prerequisite: MATH 5310 (RG377).

MATH5320(3 Credits) Algebraic Topology I

This course is an introduction to algebraic varieties: affine and projective varieties, dimension of varieties and subvarieties, algebraic curves, singular points, divisors and line bundles, differentials, intersections. Components:Lecture Requirement Group:Prerequisite: MATH 5211 and MATH 5310, which may be taken concurrently (RG393).

MATH5321(3 Credits) Algebraic Geometry II

This course introduces further concepts and methods of modern algebraic geometry, including schemes and cohomology. Components:Lecture Requirement Group:Prerequisite: MATH 5320 (RG394).

<p>MATH5360(3 Credits) Differential Geometry</p>	<p>used for credit for Mathematics graduate degrees (RG608).</p>	<p>Solution Methods II</p>
<p>This course is an introduction to the study of differentiable manifolds on which various differential and integral calculi are developed. The topics include covariant derivatives and connections, geodesics and exponential map, Riemannian metrics, curvature tensor, Ricci and scalar curvature. Components:Lecture</p>	<p>MATH5435(3 Credits) Introduction to Partial Differential Equations</p> <p>Solution of first and second order partial differential equations with applications to engineering and science. Not open to students who have passed MATH 3435. Not open for graduate credit toward degrees in Mathematics. Components:Lecture</p>	<p>Numerical solution of elliptic, parabolic and hyperbolic partial differential equations by finite element solution methods. Applications. Components:Lecture Requirement Group:Prerequisite: MATH 5520 (RG389).</p>
<p>MATH5410(3 Credits) Introduction to Applied Mathematics I</p>	<p>MATH5440(3 Credits) Partial Differential Equations</p>	<p>MATH5530(3 Credits)Instructor Consent Required Mathematical Modeling</p>
<p>Banach spaces, linear operator theory and application to differential equations, nonlinear operators, compact sets on Banach spaces, the adjoint operator on Hilbert space, linear compact operators, Fredholm alternative, fixed point theorems and application to differential equations, spectral theory, distributions. Components:Lecture</p>	<p>Cauchy Kowalewsky Theorem, classification of second-order equations, systems of hyperbolic equations, the wave equation, the potential equation, the heat equation in \mathbb{R}_t^2. Components:Lecture Requirement Group:Prerequisite: MATH 5120 (RG384).</p>	<p>Development of mathematical models emphasizing linear algebra, differential equations, graph theory and probability. In-depth study of the model to derive information about phenomena in applied work. Components:Lecture</p>
<p>MATH5411(3 Credits) Introduction to Applied Mathematics II</p>	<p>MATH5510(3 Credits) Numerical Analysis and Approximation Theory I</p>	<p>MATH5540(4)Instructor Consent Required Computerized Modeling in Science</p>
<p>Banach spaces, linear operator theory and application to differential equations, nonlinear operators, compact sets on Banach spaces, the adjoint operator on Hilbert space, linear compact operators, Fredholm alternative, fixed point theorems and application to differential equations, spectral theory, distributions. Components:Lecture</p>	<p>The study of convergence, numerical stability, roundoff error, and discretization error arising from the approximation of differential and integral operators. Components:Lecture Requirement Group:Prerequisite: MATH 5110, which may be taken concurrently (RG376).</p>	<p>Development and computer-assisted analysis of mathematical models in chemistry, physics, and engineering. Topics include chemical equilibrium, reaction rates, particle scattering, vibrating systems, least squares analysis, quantum chemistry and physics. Components:Lecture Course Equivalents:PHYS 5350</p>
<p>MATH5420(3 Credits) Ordinary Differential Equations</p>	<p>MATH5511(3 Credits) Numerical Analysis and Approximation Theory II</p>	<p>MATH5580(3 Credits) Optimization</p>
<p>Existence and uniqueness of solutions, stability and asymptotic behavior. If time permits: eigenvalue problems, dynamical systems, existence and stability of periodic solutions. Components:Lecture Requirement Group:Prerequisite: MATH 5111 (RG382).</p>	<p>The study of convergence, numerical stability, roundoff error, and discretization error arising from the approximation of differential and integral operators. Components:Lecture Requirement Group:Prerequisite: MATH 5510 (RG379).</p>	<p>Theory of linear programming: convexity, bases, simplex method, dual and integer programming, assignment, transportation, and flow problems. Theory of nonlinear programming: unconstrained local optimization, Lagrange multipliers, Kuhn-Tucker conditions, computational algorithms. Concrete applications. Components:Lecture</p>
<p>MATH5430(3 Credits) Applied Analysis</p>	<p>MATH5520(3 Credits) Finite Element Solution Methods I</p>	<p>MATH5620(3 Credits) Financial Mathematics I</p>
<p>Convergence of Fourier Series, Legendre and Hermite polynomials, existence and uniqueness theorems, two-point boundary value problems and Green's functions. Not open for graduate credit toward degrees in Mathematics. Components:Lecture Requirement Group:Not open to students who have passed MATH 3430. May not be</p>	<p>Numerical solution of elliptic, parabolic and hyperbolic partial differential equations by finite element solution methods. Applications. Components:Lecture</p> <p>MATH5521(3 Credits) Finite Element</p>	<p>The mathematics of measurement of interest, accumulation and discount, present value, annuities, loans, bonds, and other securities. Components:Lecture Requirement Group:Not open to students who have passed MATH 2620 (RG606).</p> <p>MATH5621(4) Financial Mathematics II</p>

The continuation of MATH 5620. Theory and practice of mathematical models applied to corporate finance. Satisfies the Society of Actuaries' learning objectives for Validation by Educational Experience for Corporate Finance. Components:Lecture Requirement Group:Not open to students who have passed MATH 3650 (RG2754).

MATH5630(4) Actuarial Mathematics I

Survival distributions, claim frequency and severity distributions, life tables, life insurance, life annuities, net premiums, net premium reserves, multiple life functions, and multiple decrement models. Components:Lecture Requirement Group:Prerequisite: MATH 2620 or MATH 5620, which may be taken concurrently. Not open to students who have passed MATH 3630 (RG397).

MATH5631(4) Actuarial Mathematics II

Survival distributions, claim frequency and severity distributions, life tables, life insurance, life annuities, net premiums, net premium reserves, multiple life functions, and multiple decrement models. Components:Lecture Requirement Group:Prerequisite: MATH 5630. Not open to students who have passed MATH 3631 (RG398).

MATH5633(3 Credits) Survival Models

Analysis, estimation, and validation of lifetime tables. Components:Lecture Requirement Group:Prerequisite: MATH 5630 or STAT 3445 (RG399).

MATH5635(3 Credits) Introduction to Operations Research

Introduction to the use of mathematical and statistical techniques to solve a wide variety of organizational problems. Topics include linear programming, project scheduling, queuing theory, decision analysis, dynamic and integer programming and computer simulation. Components:Lecture Requirement Group:Not open to students who have passed MATH 4735, STAT 4535, or STAT 5535 (RG607).

MATH5637(3 Credits) Risk Theory

Individual risk theory, distribution theory, ruin theory, stoploss, reinsurance and Monte Carlo methods. Emphasis is on problems in insurance. Components:Lecture

MATH5640(3 Credits)Instructor Consent Required Advanced Topics in Actuarial Mathematics I

Survival models, mathematical graduation, or demography. Components:Lecture

MATH5641(3 Credits)Instructor Consent Required Advanced Topics in Actuarial Mathematics II

Credibility theory or advanced theory of interest. Components:Lecture

MATH5660(3 Credits) Advanced Financial Mathematics

An introduction to the standard models of modern financial mathematics including martingales, the binomial asset pricing model, Brownian motion, stochastic integrals, stochastic differential equations, continuous "time financial models, completeness of the financial market, the Black-Scholes formula, the fundamental" theorem of finance, American options, and term structure models. Components:Lecture

MATH5710(3 Credits)Instructor Consent Required Tensor Calculus I

An introduction to tensor algebra and tensor calculus with applications chosen from the fields of the physical sciences and mathematics. Components:Lecture

MATH5711(3 Credits)Instructor Consent Required Tensor Calculus II

An introduction to tensor algebra and tensor calculus with applications chosen from the fields of the physical sciences and mathematics. Components:Lecture Requirement Group:Prerequisite: MATH 5710 (RG390).

MATH5720(3 Credits)Instructor Consent Required Vector Field Theory I

Vector algebra and vector calculus with particular emphasis on invariance. Classification of vector fields. Solution of the partial differential equations of field theory. Components:Lecture

MATH5721(3 Credits)Instructor Consent Required Vector Field Theory II

Vector algebra and vector calculus with particular emphasis on invariance. Classification of vector fields. Solution of the partial differential equations of field theory. Components:Lecture Requirement Group:Prerequisite: MATH 5720 (RG396).

MATH5800(1 - 6)Instructor Consent Required Investigation of Special Topics

Students who have well defined mathematical problems worthy of investigation and advanced reading should submit to the department a semester work plan. Components:Lecture

MATH5850(1 - 3)Instructor Consent Required Graduate Field Study Internship

Participation in internship and paper describing experiences. Components:Practicum

MATH6000(1 - 6) Seminar in Current Mathematical Literature

Participation and presentation of mathematical papers in joint student faculty seminars. Variable topics. Components:Seminar

MATH6010(1 - 6) Seminar in Analysis

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

MATH6020(1 - 6) Seminar in Algebra

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar Requirement Group:Prerequisite: MATH 5211 (RG381).

MATH6026(1 - 6) Seminar in Mathematical Logic

Components:Seminar Requirement Group:MATH 5260 (RG3453).

MATH6027(1 - 6) Seminar in Set Theory

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar Requirement Group:Prerequisite: MATH 5310 (RG402).

MATH6030(1 - 6) Seminar in Topology

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar Requirement Group:Prerequisite: MATH 5321 (RG401).

MATH6036(1 - 6) Seminar in Geometry

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar Requirement Group:Prerequisite: MATH 5360 (RG400).

MATH6040(1 - 6) Seminar in Applied Mathematics

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

MATH6060(3 Credits) Computers in Mathematical Research

Components:Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Mechanical Engineering

Department Head:

Professor Baki Cetegen

Professors

Accorsi, Bergman, Choi, Chiu, Faghri, Gao, Huang, Jordan, Kazerounian, Olgac, Sung, and Zhang

Professor in Residence:

Barber

Associate Professors:

Bzymek, Ilies, Murphy, Renfro, and Tang

Assistant Professors:

Cao, Fan, Kim, Kotha, Lu, Lykotrafitis, Pasaogullari, and Sun

The Department of Mechanical Engineering offers study leading to the degree of Master of Science (Plans A and B) and Doctor of Philosophy in mechanical engineering. It also cooperates with other departments to provide doctoral study in other areas (see "Applied Mechanics," "Biomedical Engineering," and "Fluid Dynamics"). Non-degree students may register for courses in the Department of Mechanical Engineering with the approval of the department head. Financial support in the form of graduate teaching or research assistantships is offered to our top full-time graduate students on a competitive basis.

Masters and Doctoral Programs.

Students working toward the M.S. and Ph.D. degrees in mechanical engineering may choose, in consultation with their advisory committee, from a wide selection of courses in this and other departments. Doctoral students are required to take a qualifying examination early in the program. Guidelines for course selection and the department's requirements for the Masters and Ph.D. degrees are explained in the Mechanical Engineering Graduate Handbook, <<http://www.engr.uconn.edu/me/cms/prod/pdf/GraduateHandbook.pdf>>.

The research and course offerings in the Systems and Mechanics area

focus on new applications of the fundamental principles in the areas such as mechanics of materials, mechanical system dynamics and control, fuel cells, nonlinear dynamics and vibration, stability, automation, computer-aided design, kinematics, manufacturing, optimization, and nano structured materials and coatings.

The research and course offerings in the Thermofluids area include classical and statistical theories of thermodynamics, studies of conduction, convection, and radiation, compressible flow, advanced fluid dynamics, turbulence, multiphase heat transfer and fluid flow, and combustion. Engineering applications of the fundamental principles to many systems, processes, and devices, such as gas turbines, thermal manufacturing, fuel cells, micro- and nanoscale systems, and combustion, are treated.

For the latest on the faculty profiles and the research activities, visit the Department's website, <http://www.engr.uconn.edu/me>.

Facilities.

The laboratories of the Department of Mechanical Engineering are equipped with several major facilities as well as ancillary equipment. A list of Mechanical Engineering laboratories and facilities may be found at the Department website, <<http://www.engr.uconn.edu/me>>

Courses

ME5105(3 Credits) Basic Concepts of Continuum Mechanics

An introductory course in the theory of continuum mechanics. Development of physical principles using cartesian tensors. Concepts of stress, strain and motion. Basic field equation for the Newtonian fluid and the elastic solid. Components:Lecture

ME5110(3 Credits) Advanced Thermodynamics

Microscopic view of thermodynamics: probability and statistics of independent events, thermodynamic probabilities and most probable thermodynamic distributions, molecular structure and partition function, Ensemble of microstates describing macroscopic behavior, with ideal gas as an example, Macroscopic descriptions of thermodynamic equilibrium and equilibrium states, Reversible processes, Heat and Work interactions,

Mixtures of pure substances and chemical equilibrium, Stability and phase transitions, Irreversible thermodynamics, Onsager reciprocity relations and thermoelectric effects, Kinetic theory of gases. Components:Lecture

ME5120(3 Credits) Advanced Thermo-Fluids I

Fluid as a continuum, Kinematics and decomposition of fluid motion, Conservation of mass and momentum, Navier-Stokes equations, Conservation of energy, Exact solutions to governing equations, Potential flows, Vorticity dynamics and low Reynolds number flows, Laminar boundary layers including heat transfer, Laminar free shear flows including heat transfer, Flow instabilities and transition. Components:Lecture

ME5130(3 Credits) Advanced Heat and Mass Transfer

Review of thermophysical properties of matter including nanoscale effects. Exact and computational solutions of heat conduction equation. Dimensionless conduction rate approach for steady-state and transient conduction. Species diffusion equations with emphasis on stationary media and partitioning effects. Navier-Stokes equations and exact solutions for special cases. Correlation approach for treatment of single phase laminar, turbulent and two-phase flow. Radiative properties and treatment of surface radiation with spectral and directional effects. Emphasis on multimode heat transfer with applications in manufacturing, nanotechnology, information technology and biotechnology. Components:Lecture

ME5140(3 Credits) Heat and Mass Transfer in Multiphase Systems

Presentation of basic principles for analysis of transport phenomena in multi-phase systems and how they can be applied to a wide variety of applications. The scope is limited to thermodynamics and heat and mass transfer fundamentals in solid <-> liquid, liquid <-> vapor and solid <-> vapor with emphasis in condensation, evaporation, sublimation, vapor deposition, boiling, two phase flow, melting and solidification. Components:Lecture

ME5150(3 Credits) Analytical and Applied Kinematics

Analytical methods of coordinate

transformation and two and three dimensional motion, analysis of relative motion and relative freedom through kinematics connections, study of finite and instantaneous properties of motion, study of the geometry of single and multi-parameter engineering curves, surfaces and motions. Application in the analysis and design of linkages and mechanisms. Components:Lecture

ME5155(3 Credits) Geometric Modeling

This course deals with the mathematical modeling, computer representations and algorithms for manipulating geometry on a computer. It focuses on the basic concepts of solid and geometric modeling from geometry and topology, and uses these concepts to develop computational techniques for creating, editing, rendering, analyzing and computing with models of physical objects, mechanical parts, assembly and processes. Components:Lecture

ME5160(3 Credits) Theory and Design of Automatic Control Systems

Design features of a closed loop control system. Laplace domain analysis of electromechanical, pneumatic, hydraulic, thermal, and mechanical systems. Computer simulation of dynamic responses using software tools. Stability issues, Routh analysis, root locus, Bode and Nyquist analyses are addressed. An open-ended, hands-on design project from a current research topic is assigned. Components:Lecture

ME5180(3 Credits) Dynamics

Three-dimensional particle and rigid-body mechanics. Particle kinematics. Newton's laws, energy and momentum principles. Systems of particles. Rigid body kinematics, coordinate transformations. Rigid body dynamics, Euler's equations. Gyroscopic motion. Lagrange's equations. Components:Lecture

ME5190(3 Credits) Advanced Mechanics of Materials

This course covers the fundamental idealizations used in linear solid mechanics and the fundamental principles of the subject. Idealizations covered include beams, circular torsion, struts and thick cylinders. Basic principles include principle of minimum potential energy, principle of minimum complementary

energy, virtual work, equations of static equilibrium and direct and potential methods of solving equilibrium equations. Example applications vary but may include, bounding of elastic properties of composites, derivation of finite elements, solution of plate problems by Green's functions and others. Components:Lecture

ME5210(3 Credits) Intelligent Material Systems and Structures

Overview of piezoelectric materials and electrostrictive materials, shape memory alloys, magnetostrictive materials, and ER/MR fluids. Development of adaptive structure integrated with piezoelectric material, actuation and sensing, simultaneous optimal design/control of electromechanical integrated system, nonlinear and robust control. Design of shape memory alloy system for position control. Development of semi-active control using ER/MR fluids. Structural health monitoring and system identification research. Components:Lecture

ME5220(3 Credits) Principles of Machining and Machine Tools

Theories and applications of machining. Fundamentals of machine tools and machining automation. Physics and mechanics in machining, machining forces and stresses, shear angle theories. Basic phenomena pertinent to process characteristics, such as tribology and tool life, machinability, surface integrity, and economics. Mechanisms of machining and machine tool errors. Machining error compensation with feedback sensors. Machining chatter and vibration analyses. Case studies. Components:Lecture

ME5301(3 Credits) Macroscopic Equilibrium Thermodynamics I

Review of zeroth, first and second laws of thermodynamics, development of equilibrium thermodynamics from a postulatory viewpoint, examination of thermodynamic potentials and equilibrium states, stability of thermodynamic systems including implications on phase and chemical equilibrium. Thermodynamic availability analysis. Components:Lecture

ME5311(3 Credits)Instructor Consent Required Computational Methods of Viscous Fluid Dynamics

An advanced course on integral and finite-difference methods of solution of

the parabolic and elliptic equations of viscous fluid flow. Method of weighted residuals; Crank-Nicolson; Dufort-Frankel; Peaceman-Rachford alternating direction method; truncation error analysis; stability. Applications to boundary layer and heat transfer problems. A background of FORTRAN programming and numerical analysis is necessary. Components:Lecture

ME5320(3 Credits) Flow of Compressible Fluids I

Equations of motion of a compressible fluid. Quasi-one-dimensional flow including effects of friction, heat addition, and normal shocks. Two and three dimensional flows. Velocity potential and stream function. Small perturbation theory. Subsonic pressure correction formulas. Kelvin and Crocco Theorems. Method of characteristics for steady and unsteady, rotational and irrotational flows. Curved and oblique shock waves. Shock tube theory. Components:Lecture

ME5321(3 Credits) Flow of Compressible Fluids II

Equations of motion of a compressible fluid. Quasi-one-dimensional flow including effects of friction, heat addition, and normal shocks. Two and three dimensional flows. Velocity potential and stream function. Small perturbation theory. Subsonic pressure correction formulas. Kelvin and Crocco Theorems. Method of characteristics for steady and unsteady, rotational and irrotational flows. Curved and oblique shock waves. Shock tube theory. Components:Lecture Requirement Group:Prerequisite: ME 5320 (RG406).

ME5340(3 Credits) Conduction Heat Transfer

Mathematical development of the fundamental equations of heat conduction in the steady and unsteady state, with or without internal heat generation or absorption. Study of exact and approximate methods used in the solution of heat conduction boundary value problems. Analytical, graphical, numerical and experimental evaluation of the temperature field in conducting media. Components:Lecture

ME5341(3 Credits) Radiation Heat Transfer

Fundamentals of radiative emission (black body behavior and Planck's law), surface properties (emissivity, absorptivity,

reflectivity, and transmissivity), electromagnetic theory for prediction of radiative properties, development of the methods of solution for radiant energy interchange between surfaces and in enclosures with and without absorbing, emitting, and scattering media present. Components:Lecture Requirement Group:Prerequisite: ME 5507 (RG407).

ME5410(3 Credits) Theory of Elasticity

The mathematical theory of linear elasticity. The theory of torsion of prismatic members. Two-dimensional elasticity problems. Thermal stress. Variational methods. Components:Lecture Requirement Group:Prerequisite: ME 5105 (RG415).

ME5412(3 Credits) Wave Propagation in Continuous Media

General dynamical equations for linear elastic media including both solids and fluids. Wave propagation in elastic rods, plates, cylinders, and semi-infinite and infinite solids. Rayleigh and Love waves; Layered media; reflection and refraction. Components:Lecture Requirement Group:Prerequisite: ME 5105 (RG415).

ME5415(3 Credits) Advanced Dynamics

Variational principles of mechanics: Lagrange's equations, Hamilton's principle. Hamilton-Jacobi theory, canonical transformations, integrability. Introduction to special relativity, applications to orbital problems. Current topics in analytical dynamics. Components:Lecture Requirement Group:Prerequisite: ME 5180 (RG416).

ME5420(3 Credits) Mechanical Vibrations I

Variational principles, Lagrange's equation. Equations of motion for multi-degree of freedom systems. Free vibration eigenvalue problem: modal analysis. Forced solutions: general solutions, resonance, effect of damping, and superposition. Vibrations of continuous systems: vibration frequencies and mode shapes for strings, bars, membranes, beams, and plates. Experimental methods and techniques. Components:Lecture

ME5421(3 Credits) Mechanical Vibrations II

Variational mechanics, Hamilton's principle, and energy formulations for

linearly inelastic bodies. Eigenvalue and boundary-value problems. Non-self adjoint systems. Approximate methods: Ritz and Galerkin. Gyroscopic systems. Nonconservative systems. Perturbation theory for the eigenvalue problem. Dynamics of constrained systems. Components:Lecture

ME5425(3 Credits) Principles of Machine Tool Design

The basic principles and philosophies in the design of precision machine tools. Mathematical theory and precision machine tools. Mathematical theory and physics of errors. The building up of error budget and the mapping of geometric and thermal errors. Design case study of a precision machine tool. Discussion of various types of sensors and actuators, bearings, and transmissions. System design considerations. Components:Lecture

ME5430(3 Credits) Mechanics of Composites and Laminates

Review of elasticity theory. Average theorems. Effective constitutive relations for heterogeneous media. Variational bounding. Isotropic elastic composites fiber reinforced and laminated materials. Components:Lecture Requirement Group:Prerequisite: either ME 5410 or CE 5124 (RG418).

ME5431(3 Credits) Fatigue in Mechanical Design

Design calculation methods for the fatigue life of engineering components, fundamentals of fracture mechanics. Crack initiation and crack propagation fatigue lives. Neuber analysis, multiaxial stress, cyclic stress-strain behavior, mean and residual stress effects. Selected current research topics, advanced research and design projects. Components:Lecture Requirement Group:Not open to students who have passed ME 3228 (RG610).

ME5432(3 Credits) Tribology

The theory of fluid film lubrication, including hydrodynamic, externally pressurized and squeeze film mechanisms of load support in bearings. Fixed and pivot pad thrust bearings; air bearings; journal bearings. Elastohydrodynamic lubrication; boundary lubrication; liquid and solid lubricants. Direct solid contact and rolling element contact bearings. Theories of wear. Design considerations in lubrication and

wear. Components:Lecture

ME5433(3 Credits) Theory of Plasticity

Introduces the physical basis for inelastic behavior and various mathematical descriptions for non-linear deformation. Provides an overview of plastic deformation in metals, including the role of dislocation behavior in strain hardening and strengthening. Detailed topics include yield surfaces, flow rules, hardening rules and introduction to viscoplastic modeling; emphasis is on finite element computer-based implementation of the concepts and their use in predicting the behavior of structures. Components:Lecture Requirement Group:Prerequisite: ME 5410 (RG419).

ME5440(3 Credits)Instructor Consent Required Computer Integrated Manufacturing Systems

Topics in Computer Integrated Manufacturing (CIM) including the fundamentals of automated manufacturing systems; production economics; Just-In-Time (JIT) and Shop Floor Control (SFC) techniques; Computer Numerical Control (CNC) and off-line programming; Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), and release and control of the engineering and manufacturing of new products. Advanced design and research projects. Components:Lecture

ME5441(3 Credits)Instructor Consent Required Design and Engineering Production Systems

Design and engineering functions of production systems. Decision-Making Process, Economic Analysis, Demand Forecasting, Product and Process Design, Optimization and Linear Programming, Integrated Production and Inventory Control, Production Scheduling, Critical Path Methods (CPM), Program Evaluation and Review Technique (PERT), and Statistical Quality Control. Advanced design and research projects. Components:Lecture

ME5507(3 Credits) Engineering Analysis I

Matrix algebra, indicial notation and coordinate transformations. Cartesian and general vectors and tensors, vector and tensor calculus. Partial differential equations: Fourier series, solution procedures to boundary value problems

in various domains. Application to the mechanics of continuous media. Components:Lecture

ME5511(3 Credits) Principles of Optimum Design

Engineering modeling and optimization for graduate students in all areas of engineering. Problem formulation, mathematical modeling, constrained and unconstrained optimization, interior and boundary optima constraint interaction, feasibility and boundedness, model reduction, sensitivity analysis, linear programming, geometric programming, nonlinear programming, and numerical methods in optimization. Components:Lecture Requirement Group:Not open to students who have passed ME 334 (RG609).

ME5513(3 Credits) Modern Computational Mechanics

An advanced course in Computational Mechanics with emphasis on modeling problems using Finite Differences and Finite Element techniques. Projects include initial value problems, ordinary differential equations and partial differential equations. Course evaluation is made by the successful completion of several assigned projects. Components:Lecture

ME5520(3 Credits) Finite Element Methods in Applied Mechanics I

This course and CE 363 may not both be taken for credit. This course and CE 366 may not both be taken for credit. Formulation of finite elements methods for linear static analysis. Development of two and three dimensional continuum elements, axisymmetric elements, plate and shell elements, and heat transfer elements. Evaluation of basic modeling principles including convergence and element distortion. Applications using commercial finite element programs. Also offered as CE 366. Components:Lecture Course Equivalents:CE 5164

ME5521(3 Credits) Finite Element Methods in Applied Mechanics II

Also offered as CE 367. Formulation of finite elements methods for modal and transient analysis. Development of implicit and explicit transient algorithms. Stability and accuracy analysis. Formulation of finite element methods for material and geometric nonlinearities. Development

of nonlinear solution algorithms. Applications using commercial finite element code. Components:Lecture Course Equivalents:CE 5166

ME5895(1 - 3)Instructor Consent Required Special Topics in Mechanical Engineering

Classroom and/or laboratory courses in special topics as announced in advance for each semester. The field of study or investigation is to be approved by the Head of the Department before announcement of the course. Components:Lecture

ME6110(3 Credits) Statistical Thermodynamics

A microscopic development of thermodynamics including statistical ensembles, quantum statistical mechanics, and a comparison of various molecular models. Components:Lecture

ME6130(3 Credits) Advanced Thermo-Fluids II

Review of governing flow equations, instability and transition, Reynolds averaging and closure approximations, Algebraic turbulence models, Two-equation turbulence models, Large eddy simulations, Turbulence statistics: probability density function and power spectral densities, Energy cascade and intermittency, Turbulent boundary layers including heat transfer, Turbulent free shear flows, Turbulent internal flows (pipes and channels) including heat transfer, Natural convection. Components:Lecture

ME6140(3 Credits) Convection Heat Transfer

A study of heat transfer to laminar and turbulent boundary layers for both compressible and incompressible fluids. Free convection heat transfer is also investigated. Components:Lecture

ME6160(3 Credits) Turbines and Centrifugal Machinery

Theory, design and performance of centrifugal and axial flow machinery including turbines, blowers, fans, compressors, superchargers, pumps, fluid couplings and torque converters. A detailed study of the mechanics of the transfer of energy between a fluid and a rotor. Components:Lecture Requirement Group:Prerequisite: ME 5320 (RG406).

ME6170(3 Credits) Combustion and Air Pollution Engineering

Review of thermodynamics and chemical equilibrium. Introduction to chemical kinetics. Studies of combustion processes, including diffusion and premixed flames. Combustion of gases, liquid, and solid phases, with emphasis on pollution minimization from stationary and mobile systems. Air pollution measurement and instrumentation. Components:Lecture Course Equivalents:ENVE 5253

ME6171(3 Credits) Reaction Engines

Dynamics of gas flow, including heat addition of friction. Thermodynamic analysis of ram-jets, gas turbines and rockets and their components. Principles of propulsion systems. Nuclear, thermoelectric, ionic, and high energy propulsion devices. Components:Lecture Requirement Group:Prerequisite: ME 5320 (RG406).

ME6172(3 Credits) Advanced Internal Combustion Engines

An analytical study of the factors influencing the operation and performance of the internal combustion engine. Spark-ignition and compression ignition engine theory. Emphasis on the latest analytical and experimental developments. Components:Lecture

ME6173(3 Credits) Advanced Combustion

Review of thermodynamic properties, transport properties, conservation equations of multicomponent reacting gas. Introduction to chemical kinetics. Classification of combustion waves. Deflagrations, detonations and diffusion flames. Ignition phenomena, droplet and spray combustion and some aspects of turbulent combustion. Components:Lecture Course Equivalents:ENVE 6210

ME6174(3 Credits) Seminar in Combustion Generated Pollution

A study of the mechanism of production of pollutants such as nitrogen oxides, carbon monoxide, sulphur dioxide, soot and unburned hydrocarbons from power plants such as stationary gas turbines, internal combustion engines, and jet engines. Emphasis will be placed on current research problems and recent advances in combustor designs. Components:Lecture

ME6175(3 Credits)Instructor Consent Required Physical Acoustics

The basic principles of the generation and propagation of sound. Mathematical theory of vibration and sound, including single and multi-dimensional waves in stationary and moving media. Physical properties of sound waves; propagation of sound in confined and free space; refraction, reflection, and scattering from strong and weak inhomogeneities. Components:Lecture

ME6176(3 Credits) Hypersonic Aerodynamics

Hypersonic small disturbance theory; similarity laws. Newtonian, shock-expansion and blast-wave theories of hypersonic flow. Aerodynamic shapes for minimum hypersonic drag. Physical properties of real gases; shock waves in real gas flow. Components:Lecture Requirement Group:Prerequisite: ME 5320 (RG406).

ME6177(3 Credits)Instructor Consent Required Aerothermal Analysis

High-speed, viscous compressible flow. Equations of motion. Thermodynamic and transport properties of high temperature gases. Blunt body heating. Boundary layer equations and transformations. Hypersonic boundary layers with heat and mass transfer. Reference enthalpy methods. Components:Lecture Requirement Group:Prerequisite: ME 5320 (RG406).

ME6178(3 Credits) Applied Solar Energy

Study of the technology and economics of solar energy conversion to useful forms. Review of heat transfer and energy storage. Collector design and performance analysis. System design of water heaters and space heating/cooling systems. Review of wind power, wave power, ocean thermal energy conversion and satellite solar power systems. Components:Lecture

ME6179(3 Credits)Instructor Consent Required Underwater Sound

The propagation of sound in sea-water, including effects of temperature and salinity gradients. Transducers. Flow noise. Components:Lecture

ME6222(3 Credits) Non-Linear Vibrations

Vibrations of non-linear single-degree-of-freedom systems. Singular points.

Liapunoff function. Approximation techniques. Stability. Self-excited vibrations. Vibrations of non-linear multi-degree-of-freedom systems. Components:Lecture

ME6223(3 Credits) Random Vibrations

Introduction to theory of sets. Statistical preliminaries. Fourier transforms. Random vibrations of single-degree-of-freedom and two-degree-of-freedom systems. Random vibrations of systems with distributed mass. Theories of failure. Components:Lecture

ME6250(3 Credits) Advanced Analysis and Design of Mechanisms

Kinematic analysis and synthesis of planar and spatial linkages with lower pairs. Type and number synthesis. Finite position and higher order design. Unified treatment of position, path-angle and function generation problems. Approximation synthesis and optimization. Defect elimination and performance evaluation, introduction to commercial software. Components:Lecture

ME6251(3 Credits) Robotic Manipulators

Modeling of 3-D industrial robots; kinematic and dynamic analysis of manipulators. Manipulation techniques. Design workspace and performance criteria. Review of control techniques. Hardware requirements. On-line and off-line optimal trajectory planning. Components:Lecture

ME6255(3 Credits)Instructor Consent Required Computer Graphics for Design

A practical study of interactive computer graphics as applied to engineering design. Graphics hardware, interactive techniques, transformations, remote graphic systems, and stand-alone minicomputer based systems are discussed emphasizing their application in engineering design. Practical experience is gained through assignments involving various graphics systems. Components:Lecture

ME6260(3 Credits) Advances in Control Systems Design

Review of the state space design concepts for control systems. Mathematical modeling of dynamic systems. Lagrange's and Newton's representations. Decentralized or linearized control. Variable structure systems. Sliding

mode control of nonlinear systems and discussions of constraint control cases. Time-delayed systems. Stability-based analysis and synthesis. Engineering applications. Open-ended control system design projects. Components:Lecture Requirement Group:Prerequisite: ME 5160 or ME 5507 (RG423).

ME6300(3 Credits)Instructor Consent Required Independent Study in Mechanical Engineering

Individual exploration of special topics as arranged by student and instructor. Components:Independent Study

ME6301(3 Credits) Macroscopic Equilibrium Thermodynamics II

Review of zeroth, first and second laws of thermodynamics, development of equilibrium thermodynamics from a postulatory viewpoint, examination of thermodynamic potentials and equilibrium states, stability of thermodynamic systems including implications on phase and chemical equilibrium. Thermodynamic availability analysis. Components:Lecture Requirement Group:Prerequisite: ME 5301 (RG403).

ME6303(3 Credits)Instructor Consent Required Macroscopic Non-equilibrium Thermodynamics I

A study of the laws and equations applicable to non-equilibrium processes of a very general nature; this will include the conservation laws, entropy law and entropy balance, the phenomenological equations. Onsager's relations and the fluctuation dissipation theorem. Selected application of the foundations will include heat conduction, diffusion and cross effects, viscous flow and relaxation phenomena, and discontinuous system processes. Components:Lecture

ME6304(3 Credits)Instructor Consent Required Macroscopic Non-equilibrium Thermodynamics II

A study of the laws and equations applicable to non-equilibrium processes of a very general nature; this will include the conservation laws, entropy law and entropy balance, the phenomenological equations. Onsager's relations and the fluctuation dissipation theorem. Selected application of the foundations will include heat conduction, diffusion and cross effects, viscous flow and relaxation phenomena,

and discontinuous system processes. Components:Lecture

ME6320(3 Credits) Environmental Engineering

Design and arrangement of heating, air conditioning and refrigeration equipment and controls to meet comfort and industrial process requirements. Components:Lecture

ME6330(1 - 3)Instructor Consent Required Advanced Measurement Techniques

A critical examination of measurement techniques. Principles of operation of various instruments. Estimates of accuracy, precision, and resolution of measurements. Intended primarily for students contemplating experimental theses. When possible, specific topics covered will be structured to the needs of the class. Components:Lecture

ME6340(0) Graduate Seminar

Presentations by invited guest speakers on topics of current interest in various Mechanical Engineering and allied fields. Components:Seminar

ME6508(3 Credits)Instructor Consent Required Engineering Analysis II

Calculus of variations including transversality conditions, constraints, Lagrange multipliers, Rayleigh-Ritz and Galerkin methods. Integral transform techniques including Laplace, Fourier, Hankel, and Mellin transforms, Integral equations. Components:Lecture

ME6511(3 Credits) Advanced Optimum Design

Advanced techniques in engineering design and process modeling optimization for graduate students in all areas of engineering. Review of theories of multi-variable constrained and unconstrained optimization, and computational techniques in nonlinear programming, structured programming, including integer programming, quadratic programming, genetic algorithms, theories of multivariable optimization from calculus of variations, computational techniques in functional optimization. Components:Lecture Requirement Group:Prerequisite: MATH 3410 or ME 5511 (RG410).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Medieval Studies

Advisors

J. Givens, art history; D. Caner, S. Johnson, and R. Travis, Classics and Ancient Mediterranean Studies; C. D. Benson, F. Biggs, R. Hasenfratz, T. J. Jambeck, and K. A. Tonry, English; S. Olson, history; A. Berthelot, French; M. Masciardo, Italian; E. Rice, Music; D. Baxter, Philosophy, and Spain

Interdisciplinary work leading to the degrees of Master of Arts and Doctor of Philosophy in medieval studies is offered by the Departments of Art and Art History, English, History, Modern and Classical Languages, and Philosophy. Since the program in medieval studies is intended to provide a synthesis of broad areas of medieval culture and thought as a basis for constructive research in specialized aspects of cultural and intellectual history, students normally are required to include in their programs courses offered by the supporting departments.

Admission to Degree Programs.

The Medieval Studies Admissions Committee accepts students either to the master's or Ph.D. program. An undergraduate major in the area of study is not necessarily required, but before admission students must give evidence of adequate preparation to work in their proposed area of emphasis.

The M.A. Program.

Work leading to the degree of Master of Arts in medieval studies may be undertaken under either Plan A (with thesis) or Plan B (without thesis). In either case, course work in medieval studies should be distributed among several departments, and the student's advisory committee is composed of representatives of three departments.

The Ph.D. Program.

Approximately one half of the course work required for the degree of Doctor of Philosophy in medieval studies should be in the department of emphasis, the remaining half to be taken in two or more other cooperating departments. In addition to the Graduate School's requirements for the doctorate, reading examinations in three foreign languages, Latin and two languages significant to the student's program. It is expected that the student will pass these

examinations immediately upon admission and in no case later than the end of the first year of study in the Ph.D. program. The student's advisory committee will consist of representatives of three different cooperating departments.

Courses of study.

Course offerings and staff are listed under the cooperating and supporting departments referred to above. The Committee for Medieval Studies organizes a number of colloquia open to graduate students, featuring staff members or visitors.

Support.

University Predoctoral Fellowships and graduate assistantships for teaching or research are available through cooperating departments for qualified students in the medieval studies program. Other support available for graduate students is described under "University Fellowships and Other Aid."

Molecular and Cell Biology

Department Head: Professor David R. Benson

Associate Department Head for Research and Graduate Education: Professor Michael A. Lynes

Associate Department Head for Undergraduate Education and Research: Professor Kenneth M. Noll

Professors: Albert, Birge, Chen, Frank, Freake, Geary, Gogarten, Kendall, King, Knecht, Lalande, LoTurco, Lynes, Marcus, Noll, Reiter, Rosenberg, Sekellick, Setlow, Silbart, Strausbaugh, Teschke, Visscher, Weller, Yang, and Zinn

Associate Professors: Aggison, Alexandrescu, A. Anderson, Beck von Bodman, Ben Mamoun, Brewer, Burkhard, Cole, Fenteany, Gage, Giardina, Goldhamer, Graf, Hoch, Lee, McGrane, M. O'Neill, R. O'Neill, Pask, Rasmussen, Schiller, Tian, Washington, Zhang, and Zweifach

Assistant Professors:

Abbott, Adler, Bruno, Fridell, Gascon, Gryk, Hao, Nelson, Nyholm, Papke, Pavlopoulos, Robinson, Vinogradova, and Yao

Adjunct Professors:

Bush, Craig, Denoya, Laue, and Oates

Adjunct Associate Professor: Perdrizet

Adjunct Assistant Professors:

Arnold and Ladd

Molecular and Cell Biology offers graduate programs in the following fields of study:

(1) Biochemistry – protein transport through membranes, receptor/ligand interactions, biochemical signalling, transcriptional and translational regulation, protein folding, molecular chaperones and response to stress, plant cell molecular biology;

(2) Structural Biology and Biophysics – enzyme mechanisms, x-ray structural and kinetic analyses of enzymes, structure of membrane interactive peptides and proteins, macromolecular interactions, mechanisms of virus assembly;

(3) Cell Biology – signal transduction, cytoskeleton and cell motility, developmental and stem cell biology, molecular endocrinology, hormones and morphogenesis,

mechanisms of immune function, stress responses, molecular virology and interferons;

(4) Genetics and Genomics – organization and regulation of genes and gene families in microbial, plant, virus and animal model systems; genome analysis; molecular evolution; chromosome structure and function; developmental genetics; transposable genetic elements and gene transfer; genetic responses to stress; applied genetics;

(5) Microbiology – microbial diversity and ecology, evolution, genetics and physiology, microbial biotransformations, symbiosis.

Interdisciplinary Study

Applied Genomics.

The professional M.S. degree program in Applied Genomics trains scientists with interdisciplinary competency in genetics, molecular biology, and computational analysis. The program provides substantial cross-training elements for successful performance in a business or corporate environment. The program has its foundations in the existing strengths of more than 20 faculty members, campus-wide, who conduct genomics-related research and training. Additional information is available at the Professional Science Master's website: <<http://www.smasters.uconn.edu>>.

Applied Microbial Systems Analysis.

A professional M.S. degree program in Applied Microbial Systems Analysis is offered.

Materials Science.

The Department of Molecular and Cell Biology also cooperates with other departments in offering masters' degree programs in materials science. Members of this department serve as advisors for the Ph.D. program in polymer science. For information, write to Dr. Peter Burkhard, Unit 3136, Storrs, Connecticut 06269-3136; peter.burkhard@uconn.edu.

Courses

MCB5001(5) Biochemistry Metabolism of carbohydrates, lipids, amino acids, proteins, and nucleic acids, including regulation, and to the structure and function of biological macromolecules. Provides suitable preparation for advanced course work in biochemistry, biophysics, and other areas of molecular biology. Graduate students with considerable laboratory experience may arrange to take only the lecture portion of this course as Biology: MCB 396 with consent of instructor. Components:Laboratory, Lecture

MCB5002(3 Credits)Instructor Consent Required Biochemistry Laboratory

Theory and application of modern techniques for the separation and characterization of biological macromolecules, including several types of liquid chromatography, liquid scintillation spectrophotometry and SDS polyacrylamide gel electrophoresis. Each student will carry out individual projects using selected techniques. Components:Laboratory, Lecture

MCB5003(3 Credits) Biophysical Chemistry I

Thermodynamics, electrostatics of polar molecules and ionic solutions, dielectric constants, conductance, acid-base equilibria, molecular interactions. Components:Lecture

MCB5004(3 Credits) Biophysical Chemistry II

The physico-chemical behavior of biological macromolecules, their interactions, the forces involved, and the physical methods for studying such systems. Components:Lecture

MCB5007(3 Credits)Instructor Consent Required Biophysical Techniques

Laboratory experience in the characterization of macromolecules in solution. Methods such as velocity- and equilibrium-sedimentation, density determination, refractometry and light scattering are covered. Components:Laboratory

MCB5008(3 Credits) Techniques of Biophysical Chemistry

Theory and applications of biophysical methods for the analysis of the size, shape and interactions of proteins and nucleic acids. Topics include analytical ultracentrifugation, light scattering, X-ray scattering, calorimetry, surface plasmon resonance and single

molecule approaches. Components:Lecture

MCB5010(2) Biological Optical Spectroscopy: Practical Applications

"If a student has taken MCB 5038, this course may only be taken if the content is different. Practical" applications of spectroscopy in biochemistry and the biological sciences. Topics include fluorescence, circular dichroism and various spectroscopic techniques with particular emphasis on biological macromolecules. Analysis of raw data and interpretation of published results will be used to define the suitability and limits of these techniques. Components:Lecture

MCB5011(3 Credits) Enzyme Structure and Function

Information at the molecular level derived from protein chemistry, equilibria, kinetics and X-ray diffraction. Components:Lecture

MCB5012(3 Credits) Foundations of Structural Biochemistry

Comprehensive introduction to the molecular aspects and dynamics of structural biochemistry. Examination of nucleic acid, protein, and lipid structures including current topics in conformation and folding, enzyme kinetics, nucleic acid stability, ligand/receptor binding, and bioenergetics. Overviews of experimental strategies used to study macromolecular structure and interactions. Components:Lecture

MCB5013(3 Credits) Structure and Function of Biological Macromolecules

Fundamentals of protein structure, and the forces that stabilize structure. Recurrent structural motifs, molecular ancestry/homology, and insights into proteins structure evolution. Protein folding and dynamics. Structure-function correlations, and structural basis of regulation. Techniques used to investigate structure: X-ray diffraction, NMR, TEM, AFM, structure prediction, computational simulations. Advanced topics: chaperones; structural genomics; role of misfolded proteins in disease. Components:Lecture

MCB5015(3 Credits)Instructor Consent Required X-ray Structure Analysis

The determination of three-dimensional atomic-level structure by diffraction methods. Small-angle solution scattering. Protein crystallography. Components:Lecture

MCB5019(3 Credits)Instructor Consent Required X-ray Diffraction Laboratory

Analysis of low- and high-angle X-ray data from both synthetic and biological macromolecules in amorphous and crystalline states. Components:Laboratory

MCB5022(3 Credits) Human Disease and the Development of Therapeutic Agents

Molecular basis of human disease and strategies for developing therapeutic treatments. Applications of genetic, cellular, and biochemical information in treating different disease states. Especially appropriate for students interested in biomedical research and the health professions. Components:Lecture

MCB5025(3 Credits) Structure and Function of Biological Membranes

Overview of cell membrane structure and function based on a foundation of physical and biochemistry principles. Topics include lipid bilayers, vesicles and liposomes, cholesterol, membrane protein structure and function, transport, membrane fusion, receptors, drug/membrane interactions and membranes in cell regulation. Components:Lecture Course Equivalents:PHAR 5308

MCB5034(2) Human Metabolism and Disease

A thorough analysis of the inter-relationships of metabolic pathways in connection with human health and disease, including inherited metabolic diseases and the role of hormones in metabolic pathways. Components:Lecture

MCB5035(3 Credits) Protein Folding

In-depth examination of protein folding in vitro and in vivo. Kinetics and thermodynamics of protein folding and assembly; chaperones in folding and misfolding; misfolding in human disease and biotechnology. Experimental methods used to study protein folding, including NMR, mutagenic and spectroscopic techniques. Components:Lecture

MCB5038(2)Instructor Consent Required Techniques in Structural Biology

Also offered as MEDS 338. A short course to introduce graduate students and selected undergraduates to modern techniques in structural biology. Each

course offering covers a specific technique: NMR, computational and graphical analysis of biomolecules, X-ray crystallography, analytical ultracentrifugation, spectroscopy, calorimetry, and others. Components:Lecture Course Equivalents:MEDS 5338

MCB5076(2) Biomolecular Nuclear Magnetic Resonance Spectroscopy

Open to undergraduate students with consent of instructor. Advanced treatment of NMR spectroscopy as applied to problems in structural biology, particularly protein structure and dynamics. Recommended preparation: courses in biochemistry, organic chemistry, and physical chemistry. Components:Lecture

MCB5099(3 Credits) Graduate Seminar in Biochemistry

Components:Seminar

MCB5210(3 Credits) Molecular Endocrinology

This course will be devoted to discussing the molecular mechanism(s) of hormone action in vertebrates and invertebrates. The course will cover molecular cloning and characterization of peptide hormone genes, purification and molecular characterization of receptors, hormone actions at the molecular levels and signal transduction. In addition to regular lectures, part of the lecture time slots will be devoted to student presentation on selective papers taken from relevant literature. Components:Lecture

MCB5217(3 Credits) Biosynthesis of Nucleic Acids and Proteins

Mechanisms of protein and RNA synthesis in prokaryotes and eukaryotes. Topics such as RNA processing, gene splicing, and control of protein and RNA synthesis are discussed. Components:Lecture

MCB5233(3 Credits) Plant Metabolism

Biochemistry and physiology of the principal metabolic systems of plants. Components:Lecture

MCB5240(3 Credits) Virology

Biological, biochemical, genetic, and physical characteristics of viruses, with an emphasis on molecular and quantitative aspects of virus-cell interactions. Components:Lecture

MCB5243(3 Credits) Molecular Analysis of

Development

An analysis of the mechanisms of morphogenesis and differentiation with special emphasis on molecular aspects. Components:Lecture

MCB5253(2)Instructor Consent Required
Eukaryotic Molecular Biology

Considerations of the molecular and cellular biology of eukaryotes with emphasis on current literature. Presentations by faculty and students. Components:Seminar

MCB5255(2)Instructor Consent Required
Cellular and Molecular Immunology

Genetic, biochemical, and cellular control of the immune system, addressing such topics as antigen recognition, immune regulation, stress and immunity, apoptosis, and signal transduction. Components:Lecture

MCB5256(5)Instructor Consent Required
Animal Cell Culture Laboratory

Lecture and laboratory covering basic aspects of cell culture in vitro, including mammalian, avian, fish and insect cells. Laboratory procedures include: preparation of complex and synthetic media; mass and single cell culture; primary and established cell cultures; large scale growth of cells; culture contaminants; cell preservation; growth factors; measurement of cell growth and viability; cell cloning; cell synchrony; cell cycle analysis; karyotyping; mutant isolation; cell fusion/hybridomas; culture of specialized cells; virus propagation; production of specialized cell products; toxicity testing; cell transformation/immortalization; DNA transfection. Components:Laboratory

MCB5280(3 Credits) Advanced Cell Biology

Integrative approach to the study of eukaryotic cell biology emphasizing structure, function, and dynamics of the cytoskeleton, membrane, and extracellular matrix. Components:Lecture

MCB5299(1 - 2)Instructor Consent Required
Current Topics in Cell Biology

Discussion of papers from recent literature. Topics include cytoskeletal function, cell motility, gene expression, and signal transduction, with special focus on their relationship to development, the immune system, and cancer. Components:Seminar

MCB5426(3 Credits) Genetic Engineering

and Functional Genomics

Methods and applications of genetic engineering, including gene manipulation and transfer techniques in prokaryotes and eukaryotes. Emphasis on the application of recombinant DNA technology in the elucidation of gene function. Recent technological developments in molecular genetics and the societal issues related to these developments will also be addressed. Students will prepare a grant application or other written assignment. Components:Lecture

MCB5427(3 Credits)Instructor Consent
Required Laboratory Techniques in
Functional Genomics

Molecular biological techniques utilized in gene discovery and in the functional characterization of genes in animal development. Taught as a series of short modules, each focusing on a different set of techniques. With a change of content, this course may be repeated for credit. Components:Laboratory

MCB5428(3 Credits)Instructor Consent
Required Theory and Practice of Forensic
Identification Methods

Advanced consideration of the theory, practice, and analysis of various techniques used in forensic identification strategies. Taught as a series of stand-alone, "executive format" modules with each focused on a different methodology and consisting of hands-on laboratory combined with lectures and data analysis, problem solving, and/or case studies. With change of content, may be repeated for credit. Components:Laboratory

MCB5429(2)Instructor Consent Required
Theory and Practice of High Throughput
Sequence Analysis

Advanced training in experimental design, sample preparation, quality control, high throughput sequence acquisition and analysis of data sets for a variety of genomics applications. Taught as a series of modules with each focused on a different aspect of the practice of next-generation genome analysis. Components:Laboratory, Lecture

MCB5432(2) Molecular and Genetic
Approaches to Developing Systems

Topics of current interest in developmental biology are presented with related developmental and genetic background information. Components:Lecture

MCB5445(3 Credits) Genome Dynamics and
Epigenetics

An examination of the mechanisms of eukaryotic genome function and dynamics. Topics include, but are not limited to, chromatin organization, chromosome structure and function, and nuclear architecture. Components:Lecture

MCB5449(3 Credits) Molecular Genetics

A course of lectures on the molecular basis of heredity. The nature and properties of hereditary materials, including replication, mutation, recombination, and repair. Components:Lecture

MCB5452(3 Credits) Problems in Genetics of
Eukaryotes

Consideration of such problems as chromosomal organization, mechanisms of meiotic drive, epigenetic inheritance, chromosome distribution, and transposable elements in model genetic organisms. Components:Lecture

MCB5454(2) Molecular Aspects of Genetics

Integration of the biological effects, molecular structure, expression, and evolution of genes and genomes. Components:Lecture

MCB5459(2) Genetics of Higher Plants

Use of tools of molecular genetics to address problems in the biochemistry, cell biology, and physiology of higher plants. Topics covered include organ development, signal transduction, carbon partitioning, plant-microbe interactions, and plant genome projects. Components:Lecture

MCB5470(3 Credits)Instructor Consent
Required Current Advances in Epigenetics

Also offered as ANSC 370. Epigenetics is a field of modern biological research that is concerned with influences on gene expression, developmental biology, and disease that are mediated by mechanisms independent of DNA sequence. This course is a literature review course in which each student will present and critically analyze primary literature in epigenetics. All students will present and participate in detailed technical evaluations of selected papers, and develop a written proposal for future research based on the paper(s) that they present individually. Topics will include imprinting, X chromosome inactivation, chromatin

dynamics, and cloning (nuclear transfer).
Components:Seminar

MCB5471(3 Credits) Current Topics in
Molecular Evolution and Systemics

Current concepts, ideas and techniques
in the field of molecular evolution,
and theoretical problems peculiar to
the phylogenetic analysis of molecular
data. Components:Lecture Course
Equivalents:EEB 5371

MCB5472(3 Credits) Computer Methods in
Molecular Evolution

Practical aspects of molecular data
analyses. Databank searches, sequence
alignments, statistical analyses of sequence
data. Parsimony, distance matrix, and
spectral analysis methods. Students
compile and analyze a data set of their
choice. Components:Lecture Course
Equivalents:EEB 5372

MCB5490(2)Instructor Consent Required
Industrial Insights

Instruction in the research and development,
regulation, intellectual property protection,
and production of commercial services and
products from the vantage point of genomics-
related industries. Taught as a series of
specialized courses with each focused on
a different topic related to the genomics,
biotechnology, and pharmaceutical industries.
Components:Lecture

MCB5499(2) Special Topics in Genetics

Intensive reading and discussion in current
topics in genetics. Students taking this
course will be assigned a final grade of
S (satisfactory) or U (unsatisfactory.)
Components:Seminar

MCB5616(3 Credits)Instructor Consent
Required Experiments in Bacterial Genetics

Experiments in bacterial genetics
emphasizing genetic manipulations using
modern techniques for mutant isolation, DNA
characterization and cloning. These include
the use of transposons, DNA isolation,
restriction analysis, gel electrophoresis,
PCR and DNA sequencing. Each
student conducts an independent project.
Components:Laboratory

MCB5621(3 Credits)Instructor Consent
Required Molecular Biology and Genetics of
Prokaryotes

Molecular genetics of bacteria,
archaeobacteria, and their viruses.
Transcription and replication of DNA,
transformation, transduction, conjugation,
genetic mapping, mutagenesis, regulation
of gene expression, genome organization.
Recommended preparation: a course in
general microbiology. Components:Lecture

MCB5636(3 Credits) Industrial Microbiology

Biology of industrial microorganisms,
including their physiology, selection, and
biochemical and genetic manipulation.
Primary and secondary metabolite
biosynthesis and production. Pollution
microbiology and biodegradation.
Components:Laboratory, Lecture

MCB5650(3 Credits) Genetics of
Microorganisms

Basic genetic processes in microorganisms
including homologous and nonhomologous
recombination, chromosome mechanics,
and mutation; genome organization;
transposable elements, their uses in genetic
analyses and their role in microbial evolution.
Components:Lecture

MCB5679(3 Credits)Instructor Consent
Required Microbial Physiology

Topics in microbial cell organization, growth,
and intermediary metabolism with emphasis
on specialized physiological adaptations.
Components:Lecture

MCB5681(3 Credits)Instructor Consent
Required Mechanisms of Bacterial
Pathogenicity

An in-depth examination of several host-
parasite relationships as models of disease
states. Components:Lecture

MCB5682(3 Credits)Instructor Consent
Required Physiological Genetics of Bacteria

The use of mutants in investigating metabolic
pathways and homeostic mechanisms
in bacteria, with extensive reference to
Escherichia coli and its genetic map.
Components:Lecture

MCB5683(3 Credits) Biotechnology Seminar

Current topics in biotechnology.
Components:Seminar

MCB5684(3 Credits)Instructor Consent
Required Fermentation and Separation
Technology Laboratory

Introduction to techniques used for
industrial mass culture of prokaryotic
and eukaryotic cells and methods used to
extract useful products from these cultures.
Components:Laboratory, Lecture Course
Equivalents:CHEG 5375

MCB5699(3 Credits) Seminar in
Microbiology

Discussion of current topics in microbiology.
Students taking this course will be assigned
a final grade of S (satisfactory) or U
(unsatisfactory.) Components:Seminar

MCB5893(2) Special Topics in Cellular and
Molecular Biology

Consideration of selected topics in cellular
and molecular biology. Presentations are
made by invited speakers. Each session is
preceded by a discussion of readings related
to the subject matter of the presentation.
Components:Seminar

MCB5895(3 Credits)Instructor Consent
Required Independent Study

A reading course for those wishing to pursue
special work in biology. It may also be
elected by undergraduate students preparing
to be candidates for degrees with distinction.
Components:Independent Study

MCB5896(1 - 6)Instructor Consent Required
Investigation of Special Topics

Advanced study in a field within Molecular
and Cell Biology. Components:Seminar

MCB5899(3 Credits) Graduate Seminar

Students taking this course will be assigned
a final grade of S (satisfactory) or U
(unsatisfactory.) Components:Seminar

MCB6897(1 - 6)Instructor Consent Required
Research

Conferences and laboratory work covering
selected fields of Molecular & Cell Biology.
Components:Independent Study

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

Music

Interim Department Head:
Professor Catherine Jarjisian

Professors
Bass, Frogley, Fuchs, Junda, Kaminsky,
Miller, Mills, Renshaw, Stanley, and Stephens

Associate Professor
Lee, Neelly, Rice, Rock, and Squibbs

Assistant Professors
Hanzlik

The Master's Program.

The Master of Music degree is offered with a concentration in performance (including an area of emphasis in conducting). Areas of concentration leading to the Master of Arts degree are historical musicology and theory.

Admission requirements in addition to those of the Graduate School are as follows: Applicants in historical musicology and theory are required to submit a writing sample, and Graduate Record Examination scores (General Test). All applicants must submit the University of Connecticut Graduate Theory Placement Exam. Applicants in applied performance and conducting are required to audition for admission. While a personal audition is preferred, a recorded audition may be submitted by applicants who find it prohibitive to travel to Storrs.

The M.A. degree programs require a minimum of 24 credits plus nine credits of GRAD 5950--Thesis Research and a master's thesis. M.Mus. programs require a minimum of 30 credits.

The D.M.A. Program.

Areas of Concentration in conducting (instrumental, choral) and performance are offered. The program includes applied study, a minor field in theory or history, and electives suited to the student's objectives and needs. For specific information with regard to admission to the D.M.A. program, students should write to the Director of Graduate Studies in Music, Department of Music, Unit 1012, Storrs, Connecticut 06269-1012.

The Ph.D. Program.

Concentrations in Music Theory and History. Plans of study are constructed through consultation between the student and

advisory committee, so that the program is uniquely suited to the student's objectives and needs. For specific information with regard to admission to the Ph.D. program, students should write to the Director of Graduate Studies in Music, Department of Music, Unit 1012, Storrs, Connecticut 06269-1012.

Graduate Performer's Certificate.

For information concerning the Graduate Performer's Certificate, write to the Department of Music, Unit 1012, Storrs, Connecticut 06269-1012.

Special Facilities.

The Music and Dramatic Arts Library maintains an extensive collection of books, scores, periodicals, audio and video recordings, and electronic resources. Listening facilities are available to students in the library. Unique research facilities include the department computer laboratory, the music recording studio, and the Professor Bruce Bellingham Collection of Period Instruments. The von der Mehden Recital Hall, seating 500, is used for student and faculty performances and houses digital recording facilities. A concert hall seating 3,000 provides a full season of concerts, including performances by major symphony orchestras, chamber musicians and internationally known solo artists.

Courses

MUSI5300(1 - 3)Instructor Consent Required Investigation of Special Topics Components:Independent Study Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5301(3 Credits) Research Procedures in Music Education

Research methods and sources.
Components:Lecture

MUSI5302(3 Credits) Analytic Techniques

Structure and style in works from the 18th through the 20th Centuries.
Components:Lecture

MUSI5305(3 Credits) Graduate Performing Ensemble

Symphony Orchestra, Symphonic Wind Ensemble, Concert Band, Concert Choir, Chamber Singers, University Chorale, Voices of Freedom Gospel Choir, Jazz Ensemble, Jazz Lab Band. Components:Laboratory Requirement Group:Open to graduate

students in Music, others with permission (RG812).

MUSI5306(3 Credits) Seminar in Opera Literature

Literature of the opera from the Early Baroque to the present. Course content can change from a general survey to a study of selected works by a composer, or works in a specific country or style period. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5309(3 Credits) Seminar in Woodwind Literature

Historical development of the woodwind instruments; of representative solo and ensemble literature. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5315(2) Seminar in Suzuki String Pedagogy

Philosophy, repertoire and pedagogy of the Suzuki Method, including guided observation and supervised teaching. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5319(3 Credits) Notation and Performance Practice

Notation, ornamentation, and instrumentation from the middle ages through the classic period. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5322(3 Credits) Experimental Research in Music

Investigation of the problems and techniques employed in experimental studies of music. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5323(1 - 4)Program Director Consent Req'd Applied Music

The Applied Music Fee fee is charged all students receiving private instrumental, vocal, or conducting instruction. Participation in an appropriate major ensemble, advanced standing in performance, recommendation by an instructor in this department, and consent of the department head are required.

Components:Practicum Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5324(3 Credits) Graduate Chamber Ensemble

Study and performance of chamber music for various ensembles. Components:Laboratory Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5325(3 Credits) Opera Theater

Study and performance of roles in major opera productions and/or work in production technique. May be repeated for credit. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5330(2) Advanced Instrumental Conducting

Score study, conducting, and rehearsal techniques of selected instrumental literature. Components:Laboratory Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5331(3 Credits) Conducting Seminar

Special topics in instrumental and choral conducting. Components:Seminar

MUSI5333(3 Credits) Foundations and Principles of Music Education

Historical, sociological and philosophical foundations of music education in American elementary and secondary schools. Components:Lecture

MUSI5340(2) Musical Skills for Teachers

Aural, sight-singing and keyboard skills for public school music teachers. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5345(2) Teaching Music at the College Level

Preparation for teaching music in higher education;in the studio, classroom, or rehearsal hall--with attention to late-adolescent development; elements of effective teaching, including legal considerations; pedagogical approaches; institutional contexts; seeking, securing, and beginning work in a position; and procedures

for attaining promotion and tenure. Open to students beyond first-year master;s level. Components:Discussion

MUSI5348(3 Credits) Schenkerian Theory and Analysis

Readings and analytical projects based on the theories of Heinrich Schenker and his followers. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission. Prerequisite: MUSI 5302 (RG813).

MUSI5353(3 Credits) Theory Seminar

Analysis of specific styles and the work of particular theorists: variable topics. With a change of content, this course may be repated to maximum of nine credits. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission. Prerequisite: MUSI 5302 (RG813).

MUSI5354(3 Credits) Advanced Analysis

Methods and models of music analysis applied to selected works from the Middle Ages to the 20th Century. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission. Prerequisite: MUSI 5302 (RG813).

MUSI5359(3 Credits) History of Music Theory

Speculative pedagogical and analytical thought on the music in theoretical treatises from antiquity to the twentieth century. Components:Lecture Requirement Group:Prerequisite: MUSI 5302 (RG430).

MUSI5364(2) Advanced Choral Techniques

Score study, conducting, and rehearsal techniques of selected choral literature. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5365(2) Choral Literature to 1600

Historical-analytical study of choral compositions: c. 1000 A.D. to 1600. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5366(2) Choral Literature from 1600 to 1800

Historical-analytical study of choral compositions: 1600 to 1800. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5367(2) Choral Literature from 1800 to Present

Historical-analytical study of 1800 to the present. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5372(3 Credits) Wind Band Literature

Historical-analytical study of music for wind ensemble and symphony band. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5373(3 Credits) Orchestra Literature

Historical-analytical study of orchestral literature. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI5379(3 Credits) Atonal Theory and Analysis

Set theoretic concepts and operations in applied twentieth-century music. Components:Lecture

MUSI5391(3 Credits) Procedures in Historical Research

A project-oriented approach to bibliographic tools and research methods applicable to the historical study of music. Components:Lecture

MUSI5397(3 Credits) Recital

Components:Laboratory

MUSI6400(1 - 3) Instructor Consent Required Tutorial in Music

Concentrated individualized study and research. Components:Independent Study

MUSI6411(3 Credits) Seminar: The Life and Works of Individual Composers

Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI6412(3 Credits) Seminar: Style Periods in Music History

Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI6413(3 Credits) Seminar: History of Musical Forms

Sonata, concerto, madrigal, motet or other musical forms. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI6491(3 Credits) Seminar: Advanced Research Procedures in Musicology

Critical reading and original research in recent historical musicology. Components:Seminar Requirement Group:Open to graduate students in Music, others with permission (RG812).

MUSI6497(1 - 3) Topics in Music Education

Principles and advanced methods in the teaching of music. Components:Lecture Requirement Group:Open to graduate students in Music, others with permission (RG812).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

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GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Natural Resources

Department Head
Professor John C. Volin

Professors
Civco, Clausen, Robbins, Warner, and Yang

Associate Professor
Meyer, Rudnicki, and Vokoun

Assistant Professors
Anyah

The Department of Natural Resources and the Environment offers study leading to the Master of Science and Doctor of Philosophy degrees in Natural Resources: Land, Water, and Air.

The M.S. Program.

The purpose of the program is to provide advanced study in one of the following specialty areas: atmospheric resources, earth resource information systems, fisheries management, forest resources, water resources, and wildlife management. Both thesis (Plan A) and non-thesis (Plan B) options are available.

The Ph.D. Program.

The purpose of the Ph.D. program is to educate scientists with a broad experience in natural resources and to prepare them to do independent research in one of the following specialties: air resources, earth resources, fisheries resources, forest resources, water resources, and wildlife resources. The program requires at least 20 credits beyond the master's degree, exclusive of the related or supporting area. All Ph. D. candidates are required to take NRME 5800 and NRME 6000. Ordinarily, students enrolled in this program will have completed the master's degree. Students are required to have at least six credits of advanced work in a related or supporting area or have a competent reading knowledge of at least one foreign language appropriate to the general area of study. Candidates should be versed in natural resources management, science and technology, and analytical methods.

Special Facilities.

The Department has state-of-the-art laboratories for atmospheric resources, aquatic resources, fisheries resources, terrestrial resources and the Laboratory for Earth Resources Information (LERIS).

The Department also houses the Wildlife Conservation Research Center, The Center for Landuse Education and Research (CLEAR), and the Connecticut Water Resources Institute. The Department manages the 2,100 Acre UConn Forest for teaching, research, and demonstration.

Courses

NRE5105(3 Credits)Instructor Consent Required Micrometeorology I Study of basic processes of the atmospheric boundary layer including turbulent flow and the exchanges of heat, water vapor, and pollutants. Components:Lecture

NRE5110(3 Credits)Instructor Consent Required Micrometeorology II

Study of current literature on processes in the atmospheric boundary layer
Components:Lecture

NRE5115(3 Credits) Field Methods in Hydrogeology

Field methods associated with ground water and contamination assessments. Not open to students who have passed GEOL 357. Components:Lecture

NRE5125(3 Credits) Environmental Measurements and Instrumentation

Principles that govern the selection and use of both field sensors and recording data systems for field research and environmental monitoring. Components:Lecture

NRE5135(3 Credits) Water Transport in Soils

Application of the principles of transport of water in soil for various physical properties of soils and fluids, initial conditions and boundary conditions. The differential equations describing the movement of energy and mass for both saturated and unsaturated flow conditions will be applied to soil evaporation and plant transpiration, infiltration and percolation of wetting fronts, and movement of tracers and chemical constituents of water. Both uniform flow and preferential flow will be examined. Components:Lecture

NRE5145(3 Credits) Environmental Biophysics

Gas laws and transport processes. Radiation environment. Momentum, heat, and mass transfer. Steady-state and transient

energy balance. Microclimate of plants and animals. Physical and physiological interactions between plants/animals and their environment. Components:Lecture

NRE5155(3 Credits) Principles of Nonpoint Source Pollution

An advanced investigation of sources, impacts, modeling and management of nonpoint sources of water pollution. Components:Lecture

NRE5165(3 Credits) Advanced Ground Water Hydrology

Covers ground water resource assessment, management and protection, understanding the flow of ground water in fractured rock, application of tracer studies in evaluating flow conditions. Not open to students who have passed GEOL 355. Components:Lecture

NRE5175(3 Credits)Instructor Consent Required Climate and Environmental Systems Modeling

“Recommended preparation: Undergraduate Calculus I,II. How physical processes in climate and” environmental systems - such as atmospheric motion, hydrological processes and transport of atmospheric constituents - are represented in numerical models. Topics include classification of numerical models, steps in climate and environmental (mathematical) modeling, conservation theories of mass and energy, mass balance equations, numerical techniques, and initial and boundary conditions. Components:Lecture

NRE5252(3 Credits)Instructor Consent Required Physiology and Ecology of Trees

Also offered as PLSC 5252. An examination of the interactions between trees and their environment at the molecular, individual and forest stand scales. Lectures and reviews of current research span at least two spatial scales of organization for each course topic. Course topics include tree carbon balance, water relations, mineral nutrition, morphology, genomics, phenology, climate change and modeling. Components:Lecture Course Equivalents:PLSC 5252

NRE5325(1 - 6) Wildlife Management

The application of ecological principles as practiced by natural resource agencies throughout North America. Components:Laboratory, Lecture

NRE5335(2 - 3)Instructor Consent Required Advanced Stream Ecology

Advanced Stream Ecology is intended to introduce graduate students to the current state of knowledge and research in rivers and streams. Topics will include both basic structure and function of stream habitats and biotic assemblages as well as branch into the management and conservation applications of ecological information. Term project and paper is required. Instructor consent required - students with previous stream ecology coursework (such as NRME 205) may take the course for 2 credits and attend the single weekly meeting. Students lacking a basic introduction to stream ecology may take the course for 3 credits and will attend NRME 205 lectures in addition to the weekly meeting. Components:Lecture

NRE5345(3 Credits) Advanced Fisheries Management

Principles, practices, and current trends in fisheries science and management. Components:Lecture

NRE5461(3 Credits) Landscape Ecology

Interdisciplinary focus on the effect of landscape pattern on environmental processes and conditions and the influence of disturbance and underlying geomorphology on landscape pattern. Consideration of landscape ecology principles in planning and management of pattern and processes in which conservation and production land uses are intermingled. Components:Lecture

NRE5555(3 Credits) GPS Surveying

Theory and practice of global positioning system (GPS) surveying. Includes network design, control, geodetic coordinate systems, field collection of measurements, data processing, and interpretation of results. Components:Lecture

NRE5565(3 Credits)Instructor Consent Required Digital Terrain Modeling

Theory and practice of digital terrain modeling. Topics include topographic surveying, topographic surface modeling, derivative estimation, and selected applications of digital terrain models. Suggested preparation: NRME 252 (GIS), NRME 253 (Introduction to Geodesy) or equivalent. Components:Lecture

NRE5575(3 Credits) Natural Resource

Applications of Geographic Information Systems

The principles and applications of computer-assisted spatial data analysis in natural resources management will be covered. Both hypothetical and actual case studies of the use of geographic information systems (GIS) to solve natural resource problems will be discussed. Raster- and vector-oriented, microcomputer-based GIS software will serve as the hands-on tools for students. Components:Lecture

University of Connecticut - Agriculture & Natural Resource - Subject: Natural Resources and The Envi

NRE5585(3 Credits) Geospatial Data Processing Techniques

Research approaches and techniques in geospatial analysis, enabling students to pursue integrated research in earth resources data geoprocessing applications. A variety of computer-based tools, including remote sensing, geographic information systems (GIS), and global positioning satellite (GPS), will be utilized in the acquisition, analysis, and presentation of digital earth resource data and information. Components:Lecture

NRE5605(3 Credits) Environmental Data Analysis

Topics on natural resources and environmental data analysis, including: random variables and probability distributions, parameter estimation and Monte Carlo simulation, hypothesis testing, simple regression and curve fitting, wavelet analysis, factor analysis; formulation and classification of optimization problems with and without constraints, linear programming; models for stationary and non-stationary time series; solution of ordinary differential equations with Laplace transforms and Euler integration; solution of partial differential equations with finite differences; basics of modeling. Components:Lecture

NRE5610(2 - 3) Technical Writing and LaTeX

Students learn how to write technical articles and theses using the LaTeX document preparation system. Subjects include grammar, punctuation, technical-writing style elements, citations and bibliographies, plagiarism, and LaTeX. Students are required to install LaTeX on a computer in order to complete assignments. English language learners may take the course for three

units with permission of the in-structor. Components:Discussion, Lecture

NRE5694(3 Credits) Natural Resources Seminar

Active participation in weekly natural resources seminars given by invited speakers. Components:Seminar

NRE5695(1 - 3)Instructor Consent Required Special Topics in Natural Resources

Advanced topics in the field of natural resources. Topics and credits to be published prior to the registration period preceding the semester offerings. Components:Lecture

NRE5698(1 - 6) Natural Resources Colloquium

Study and discussion of readings (journal articles, books, current research) on a selected topic in natural resources. Components:Seminar

NRE5699(1 - 3)Instructor Consent Required Independent Study

Components:Independent Study

NRE5800(3 Credits) Graduate Seminar

The mechanism of presenting and moderating a professional presentation. Topics include: presentation, organization, speaking skills, use of media technology, formulation of questions, and moderator activities.

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

NRE6000(3 Credits) Research Methods in Natural Resources

General research techniques, writing scientific articles and grant proposals, problem solving approaches, experimental design and modeling concepts, and research ethics. Components:Lecture

NRE6135(3 Credits) Small Watershed Modeling

Mathematical modeling of hydrologic processes in small watersheds and aquatic systems. Solutions of mass balance and flow relationships. Investigation of dynamic relationships among variables. Examples include: infiltration, overland flow, channel routing, chemical transport and transformations, surface-subsurface

interactions and biotic growth and degradation. Components:Lecture

NRE6175(3 Credits) Ground Water Modeling Applications

Application of Modflow to ground water flow and contaminant problems. Well head protection modeling. Not open to students who have passed GEOL 356. Components:Lecture

NRE6325(1 - 6) Wildlife Ecology

A discussion of the principles upon which wildlife conservation is based. Components:Lecture

NRE6450(3 Credits)Instructor Consent Required Teaching Practicum

Doctoral students in the Natural Resources: Land, Water, and Air program take primary teaching responsibility for a course under the supervision of a faculty liaison. May be repeated once for a total of 6 credits Components:Practicum

NRE6695(1 - 3)Instructor Consent Required Special Topics in Natural Resources

Advanced topics in the field of natural resources. Components:Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

Nursing

Dean:

Professor Anne R. Bavier

Associate Dean for Academic Affairs and
Advanced Practice: Professor Regina Cusson

Professors:

Bavier, Beck, Cusson, and Politroni

Associate Professor

Anderson, Delaney, Engler, Hegedus,
Kenefick, Long, McDonald, Van Hoof, and
Walsh

Assistant Professors

Bassi, Bellini, Cong, Daisy, Judge, Pearson,
and Telford

Clinical Assistant Professors

Diaz, Evans, Griffith, Kuhnly McCauley,
Panosky, Malcolm, Myrick, O'Conner,
Odesubam Reage

Clinical Instructors

Cross, Fray, McNulty, Stolfi

The School of Nursing offers study leading
to the Master of Science, Doctor of Nursing
Practice, and Doctor of Philosophy degrees
in nursing.

The M.S. Program.

The plan of study includes nursing and
supportive courses according to the plan
of study for each specialty. The program is
accredited by Commission on Collegiate
Nursing Education.

The purpose of the master's program
is to prepare advanced practice nurses
with specialized knowledge, skills, and
values. Graduates assume leadership roles in
the health care system and advance practice
and the discipline of nursing by applying
existing knowledge and using a spirit of
inquiry to examine and test knowledge. Areas
of study include the following: clinical
nurse leader, neonatal, Adult-Gero Nurse
Practitioner or acute care.

Each student completes a core curriculum
in theory, research, statistics, and legal,
regulatory and policy aspects of advanced
nursing practice. All students are required to
follow either a freetime or parttime prescribed
plan of study. Additional courses in the
specialty area are also required. Students need
2,080 hours of clinical experience as an RN
in direct patient care prior to beginning their
first practicum course except in the nurse

leader track.. All master's specialty track
programs are transitioning to the Doctor of
Nursing Practice degree but the M.S. Degree
will continue to be offered. The Clinical
Nurse Leader Program prepares nurses as
generalists in designing change at the micro
systems level. It will remain at the master's
level.

An accelerated master's program is
available for nurses with diplomas or
associate degrees or baccalaureate degrees in
another field.

No student may take more than six (6)
credits as a non-degree student.

Admission Requirements for the M.S.
Program.

In addition to those of the Graduate
School, requirements for admission are: a
baccalaureate in nursing or its equivalent
and current nurse licensure in Connecticut,
a three-credit undergraduate course in both
statistics and research completed with a
grade of C or better, and comprehensive
health assessment knowledge for professional
nursing PRAXIS including a three-credit
course or its equivalent for students enrolling
in individual specialty tracks. One or
more years of experience as a professional
nurse are recommended preparation for
specialized graduate study. Contemporary
nursing and related science knowledge
is expected in order to be successful in
the advanced courses within the graduate
program. Evidence of tetanus immunization
within the past ten years, one poliomyelitis
booster following initial immunization, 2-step
PPD test (chest x-ray required biennially for
positive reactors), rubella, rubeola, varicella,
hepatitis B titers (with vaccine if titer is
negative) are required for clinical practicum
coursework. CPR certification must remain
current as well. A criminal background check
may be required prior to placement in a
clinical assignment. In certain circumstances
evidence of a criminal record may prevent a
student from fulfilling clinical requirements
and/or requirements for professional
licensure.

The D.N.P. Program.

The Doctor of Nursing Practice program
is a post-master's program. The Bachelors -
Doctor of Nursing Practice program, is in the
approval stages. The D.N.P. program provides
a terminal degree in nursing practice for
those currently engaged in advanced practice,
offering an alternative to doctoral programs

focused on the science of research. D.N.P.-
prepared advanced practice nurses focus on
the science of clinical scholarship. D.N.P.-
prepared advanced practice nurses will be
well-equipped to fully implement the science
developed by nurse researchers prepared in
Ph.D., D.N.Sc. and other research-focused
nursing doctorates. The D.N.P. program
consists of a total of 38 credits including: 22
credits of required core course work related
to the science of nursing, evidenced-based
practice, health care policy, health services
research methods, responsible conduct of
research, information systems, and inter-
professional collaboration; 6 credits of
clinical practice coursework and 10 credits
of clinical practice dissertation coursework.
Clinical practice dissertation will involve
an implementation of a change in practice
initiative which will result in the dissertation,
a poster, and a final oral examination. In
addition to 1 - 6 credits of elective credits
may be needed in the DNP residency if
the applicant has fewer than 1000 hours of
supervised clinical rotation experienced in the
Master's Program.

Admission Requirements for the D.N.P.
Program.

In addition to those of the Graduate
School, requirements for admission are: An
earned masters degree in nursing from an
accredited college or university, national
advanced practice certification in the
applicant's area of specialty, submission
of graduate record examination scores
(GRE's), a personal statement from the
applicant addressing his or her reasons for
applying and his or her plans for the future
completion of a graduate level referential
statistics courses, three letters of reference
from faculty or others who can address
the candidate's potential for success in the
graduate program.

Additional D.N.P. Requirements.

Evidence of tetanus immunization within
the past ten years, one poliomyelitis booster
following initial immunization, 2-step PPD
test (chest x-ray required biennially for
positive reactors), rubella, rubeola, varicella,
hepatitis B titers (with vaccine if titer is
negative) are required for clinical practicum
coursework. CPR certification must remain
current as well. A criminal background check
may be required prior to placement in a
clinical assignment.

The Ph.D. Program.

The purpose of the Ph.D. Program is to

prepare nurse leaders who will advance the scientific body of knowledge that is unique to professional nursing practice. Educational experiences are offered in nursing theory development, philosophy of nursing science, qualitative and quantitative research methods, and in advanced statistics. Study in specialty areas further supports the individual's area of clinical interest.

Admission Requirements for the Ph.D. Program.

In addition to those of the Graduate School, requirements for admission are: graduation from an accredited master's program; eligibility for licensure as a registered nurse in Connecticut; a cumulative master's grade point average of 3.25 or higher; submission of Graduate Record Examination scores; completion of a graduate level inferential statistics course; three reference letters; a personal statement; a personal interview; and submission of published works or scholarly papers. Additional information may be obtained by contacting the School of Nursing Office of Admissions and Enrollment Services, 231 Glenbrook Road, Unit 2026, Storrs, Connecticut 06269-2026.

Program information and information concerning the application process is located on the web at www.nursing.uconn.edu

Courses

NURS5000(1 - 6)Instructor Consent Required Investigation of Special Topics
Components:Lecture

NURS5010(3 Credits) Nursing Science

Analysis of the current state of nursing science and the application of knowledge from this science and other disciplines to advanced nursing practice from historical, contemporary and futuristic perspectives. Open to non-degree students.
Components:Lecture

NURS5011(3 Credits)Instructor Consent Required Nursing Science and Patterns of Knowing

An historical, contemporary and futuristic exploration of the art and science of nursing praxis including patterns of knowing: empirical, ethical, aesthetic, existential and emancipatory. Components:Lecture Requirement Group:NURS GRAD and MEIN Student only

NURS5020(3 Credits) Statistical Methods in Nursing

Quantitative procedures including descriptive and inferential statistics, nonparametric approaches to data, and parametric analyses through factorial analysis of variance. Open to MBEIN students only. Cross listed with CLTR 5020. Components:Lecture Course Equivalents:CLTR 5020

NURS5030(3 Credits)Instructor Consent Required Nursing Research in Evidence Based Practice

Analysis of qualitative and quantitative methods employed to answer questions in nursing practice based on available evidence. Emphasis on problem identification; design principles; and accessing, analyzing, disseminating and utilizing research. Components:Lecture Requirement Group:NURS 5020 or EPSY 5605 and NURS5010 or 5011

NURS5040(3 Credits) Needs Assessment and Planning

An interdisciplinary survey course that prepares students to conduct a needs assessment on a selected population. Includes elements of epidemiology, identification of populations at risk and the development of plans to market, implement and evaluate programs to enhance the health and well-being of selected populations. Components:Lecture Requirement Group:Prerequisite: NURS 5020 or EPSY 5605 and NURS 5030 (RG 4109).

NURS5050(3 Credits) Policy Aspects of Advanced Nursing Practice

Analysis and evaluation of legal, regulatory, policy and economic aspects of advanced nursing practice from historical, contemporary and futuristic perspective. Understand the interrelationships among change, power and politics.
Components:Lecture

NURS5060(3 - 4) Advanced Pathophysiology across the Lifespan

Advanced level analysis of the etiology and pathogenesis of diseases that alter the health status of adults. This analysis will be related to adults' clinical and pathophysiologic manifestations of diseases.Course is designed for nurses studying for advanced nursing practice to care for adults with chronic, acute, and life-threatening diseases. Open to non-degree students with consent of instructor. Components:Lecture

NURS5062(3 Credits) Advanced Health Assessment across the Lifespan

The clinical management of individuals experiencing common acute and chronic health problems, focusing on the cardiovascular and respiratory systems and mental health. Principles and techniques of advanced physical assessment are emphasized. Components:Laboratory, Lecture, Practicum Requirement Group:Prerequisite: Either NURS 5350 or NURS 5060, which may be taken concurrently (RG589).

NURS5070(3 Credits) Pharmacotherapeutics Across the Lifespan

Emphasis is placed on pharmacodynamics, on nursing measures that support desired drug responses or reduce side effects which must be tolerated, and on client teaching indicated by pharmacotherapy. Open to nondegree students. Components:Lecture Requirement Group:Prerequisite: Either NURS 5350 or NURS 5060 (RG584).

NURS5080(1 - 3) Health Care Financing

An analysis of economic theory as it relates to health care. Incorporation of expert support systems in the design of nursing department and unit financial plans. Compare and contrast various budgeting systems. Open to non-degree students. Components:Lecture

NURS5089(4)Instructor Consent Required Quality and Microsystems

This course introduces both quality and Microsystems; and the role of the CNL as a leader, educator and advocate for safe, cost effective quality care. Practicum (100 hours required) for individual assessment of Microsystems using the 5-P approach emphasizing the aggregate. Components:Lecture, Practicum Requirement Group:NURS Grad Majors only, then to other clinical disciplines per instructor approval, if seats available (RG4771)

NURS5090(3 Credits) Intellectual Leadership in Nursing Education and Practice

Study of the history, philosophy, and theory of nursing education from the Nightingale Training School to the initiation of the associate and baccalaureate degree nursing programs. Analysis of curriculum development with emphasis on professional practice. Consideration of the articulation of associate and baccalaureate education. Non-traditional, futuristic curricular models are

examined. Evaluation of professional ethics, intellectual leadership behaviors and clinical practice skills. Components:Lecture

NURS5098(1 - 6)Instructor Consent
Required Independent Study

Components:Independent Study

NURS5099(6)Instructor Consent Required
Clinical Nurse Leader Role, Quality and
Clinical Immersion

Utilization of ecological, global and social determinants of health to survey the history of quality, address quality improvement principles and concepts at the point of care, use of information systems/technology and patient care technology supportive of clinical and administrative decision-making and further understand the role of the CNL culminating in a 300-400 hour immersion experience which includes the management of the quality project identified in NURS 5089. Components:Practicum, Seminar
Requirement Group:NURS 5089 is a prerequisite

NURS5150(3 Credits)Instructor Consent
Required Advanced Physical Diagnosis

The diagnosis of patients with acute health problems with a focus on data collection through history, physical examination, laboratory, radiology, and electronic and hemodynamic monitoring. Components:Laboratory, Lecture
Requirement Group:Prerequisite: NURS 5062 (RG439).

NURS5160(2 - 3) Adult/Gerontology Acute
Care: Management of Common and Chronic
Problems

The focus of this course will be the introduction of critical thinking, analysis and application of theories and concepts to care for acutely ill clients. A strong emphasis will be placed on pathophysiology and assessment. Interpretation and management of treatment plans will be explored. Components:Lecture Requirement
Group:Prerequisite: NURS 5011

NURS5169(3 - 4) Adult/Gerontology: Acute
Care Practicum I

The focus of this practicum will be critical thinking, assessment and diagnosis of acutely/critically ill patients. Database creation, formulating a plan of care, and evaluation of outcomes will be explored. Diagnostics and therapeutics will be

emphasized. Components:Lecture, Practicum
Requirement Group:Prerequisite: NURS 5011

NURS5170(2 - 3) Adult/Gerontology Acute
Care: Management of Complex Problems

This course continues to refine the analysis and application of theories for the nurse practitioner and clinical nurse specialist in acute care. The focus is on role development, trends, issues and research into common problems of the acutely ill client. Components:Lecture Requirement
Group:Prerequisite: NURS 5011

NURS5179(3 - 4) Adult/Gerontology: Acute
Care Practicum II

The focus of this practicum will be the refinement of pertinent management abilities and skill for the nurse practitioner student. The student will expand their management to multiple patients. Collaboration within a multidisciplinary team, providing holistic care and evaluation of current research will be explored. Components:Lecture, Practicum
Requirement Group:Prerequisite: NURS 5160, 5011 and 5010; NURS 5010 may be taken concurrently (RG595).

NURS5200(1 - 3)Instructor Consent
Required Nursing Administration I

Introduction to the process of nursing administration. Emphasis is placed on theories of leadership, "motivation, evaluation, organizational design and problem solving. Offered in odd-numbered fall" semesters. Components:Lecture

NURS5215(1 - 4)Instructor Consent
Required Nursing Administration II

Application of management theories to nursing administration focusing on staff development, labor relations, staffing and scheduling, patient classification systems, quality management, performance and program "evaluation, and human resource management. Offered in even-numbered spring semesters. Practicum" applications are due October 1st for spring enrollment. Components:Lecture, Practicum Requirement
Group:Prerequisite: NURS 5200. Co-requisite: NURS 5030 (RG445).

NURS5220(2) Health Care Outcome
Management

An examination and utilization of variance analysis and outcome measurement skills to achieve cost effective quality health care delivery through outcome management.

Open to nondegree students. Offered
in even-numbered fall semesters.
Components:Lecture

NURS5225(1 - 5)Instructor Consent
Required Nursing Administration III

Synthesis of nursing and multidisciplinary theories in the system of nursing administration. Strategic planning, ethics, marketing, entre/intrapreneurship, and multisystem corporations are analyzed and the role of the administrator examined. Offered in even-numbered fall semesters. Practicum applications are due March 1st for fall enrollment. Components:Lecture
Requirement Group:Prerequisite: NURS 5010, NURS 5030, and NURS 5215 (RG447).

NURS5250(2) Community Health Nursing
Theory: Enhancing Wellness

Theoretical formulations from nursing, public health, and related sciences are used to enhance the levels of wellness of selected population groups in the community. A needs assessment is conducted to develop a community diagnosis as the basis for developing a plan for health promotion. Offered in odd-numbered fall semesters. Components:Lecture, Practicum Requirement
Group:Prerequisites or Co-requisites: NURS 5010 (350) and PUBH 5401. Both may be taken concurrently (RG3730).

NURS5259(4) Community Health Nursing
Practicum I: Enhancing Wellness

Practicum experience in community care and consultation focusing on health promotion and disease prevention under the supervision of an advanced practice nurse. A weekly seminar addressing the teaching, coaching, and interdisciplinary collaboration elements of role development is incorporated. Components:Practicum Requirement
Group:Prerequisites: NURS 5250 (334), NURS 5010 (350), and PUBH 5401, which may be taken concurrently (RG4127)

NURS5265(4) Community Health Nursing
Theory and Practice: Risk Reduction

Analysis of risk factors for selected populations/communities through an integration of nursing and public health theories. Opportunity for development, implementation, and evaluation of risk reduction interventions is provided. Components:Lecture, Practicum Requirement
Group:Prerequisite: NURS 5250. Prerequisite or co-requisite: NURS 5080 (RG441).

NURS5269(4) Community Health Nursing
Practicum II: Risk Reduction

Apply integrated knowledge of nursing and public health principles in the appraisal of health risks; development and implementation of risk reduction strategies; and evaluation of plans to promote self-care activities for a selected population Components:Practicum Requirement Group:Prerequisites: NURS 5250 and NURS 5259. Co-requisite: NURS 5265 (RG4302)

NURS5275(4) Community Health Nursing
Theory and Practice: Health Maintenance

Analysis of health maintenance issues and interventions for groups sharing a common health problem. Opportunity to apply integrated knowledge of nursing and public health principles in the development and evaluation of plans to maintain optimum levels of health is provided. Components:Lecture, Practicum Requirement Group:Prerequisite: NURS 5265 (RG442).

NURS5279(4) Community Health Nursing
Practicum III: Health Maintenance

Provide interventions for groups sharing a common health problem. Identify, discuss, and apply various theories and methodologies related to the processes of behavior change. Components:Practicum Requirement Group:Prerequisites: NURS 5265 and NURS 5269. Co-requisite: NURS 5275 (RG4303)

NURS5350(3 Credits) Advanced Neonatal
Embryology/Physiology

This course examines fetal, transitional, and neonatal physiology. Embryology is also discussed, as the basis for neonatal development. Components:Lecture

NURS5362(3 Credits) Neonatal Advanced
Health Assessment

This course is designed to enable students to put into practice the principles and skills needed for advanced health assessment of the neonate. Components:Lecture

NURS5365(3 Credits) Advanced Neonatal
Nursing Theory I

The purpose of this first clinical course is to introduce the role of the neonatal nurse practitioner clinician in the management of normal and high-risk families and infants. The focus of the course is to develop skills in the physical and psychosocial assessment

of high-risk childbearing families during all phases of the childbearing process: antenatal, intrapartum, postpartum, and the neonatal period. Special emphasis will be placed on events during the antenatal, intrapartum, and postpartum periods that impact the neonate. Components:Lecture Requirement Group:Prerequisites or Co-requisites: NURS 5350, NURS 5011 and NURS 5010 (RG585).

NURS5369(3 Credits)Instructor Consent
Required Advanced Neonatal Practicum I

The focus of this practicum is the assessment and management of moderately ill infants and their families. Components:Practicum

NURS5370(3 Credits) Neonatal
Pharmacotherapeutics and Implications for
Nursing Action

Emphasis is placed on neonatal pharmacodynamics, on nursing measures that support desired drug responses or reduce side effects which must be tolerated. Components:Lecture Requirement Group:Prerequisite: NURS 5350 or NURS 5060 (RG 4110).

NURS5375(3 Credits) Advanced Neonatal
Nursing Theory II

Focuses on the acquisition and application of in-depth physiological and psychological knowledge to the nursing care of high-risk neonates and their families. Emphasis is placed on the role of the advanced practice nursing management of high-risk neonatal populations. Components:Lecture Requirement Group:Prerequisite: NURS 5365 (RG433).

NURS5379(3 Credits) Advanced Neonatal
Practicum II

The focus of this practicum is the assessment and management of high-risk neonates and families. Components:Practicum Requirement Group:Prerequisite: NURS 5369 (RG 4111).

NURS5385(2 - 3) Advanced Neonatal
Nursing III

This course focuses on the components essential for preparation of students for advanced practice in neonatal nursing. Components:Lecture Requirement Group:Prerequisite: NURS 5375 (RG434).

NURS5389(2 - 3) Advanced Neonatal
Practicum III

The focus of this course is the assessment and management of critically ill high-risk neonates and their families. Components:Practicum Requirement Group:Prerequisite: NURS 5379 (RG 4112)

NURS5400(3 - 4) Manage. of Common
Health Prob in Adult Geront. and Family Pop.

Focus is on the health promotion/disease prevention and the assessment and management of selected acute and chronic health problems, including respiratory, cardiovascular, and endocrine systems. Assessment skills applied to diagnosis and treatment of human responses to acute and chronic health problems are emphasized. Family theory is introduced. Components:Lecture Requirement Group:Prerequisite: NURS 5011

NURS5409(3 - 4) APN Practicum I

Focus is health promotion/disease prevention and the clinical diagnosis and management of individuals/families experiencing common acute and chronic health problems. The role of the nurse in primary care is examined. Includes a seminar and clinical hours per week. Components:Lecture, Practicum Requirement Group:Prerequisites: NURS 5060, NURS 5010, NURS 5011 and NURS 5062. Co-requisite: NURS 5400 (RG451).

NURS5410(3 - 4) Adult/Geron Prim Care:
Management of Common & Chronic Health
Problems

Assessment and management of selected acute and chronic health problems, focusing on endocrine, gastrointestinal, integumentary and genitourinary systems, women's health and behavioral health. Components:Lecture Requirement Group:Prerequisite: NURS 5011

NURS5419(3 - 4) APN Practicum II

The focus of this practicum will be assessment and management of complex acute and chronic health problems. Includes a seminar and clinical hours per week. Components:Lecture, Practicum Requirement Group:Prerequisites: NURS 5410, which may be taken concurrently (RG449).

NURS5420(3 Credits) Adult/Gerontology
Primary Care: Management of Complex
Problems

Special focus will be on assessment and management of adolescents and adults with acute and chronic health problems. Violence, ethics, and genetic counseling will be

addressed. A grade of B or higher is required to receive endorsement for certification examination. Components:Lecture
Requirement Group:Prerequisite: NURS 5011

NURS5429(3 - 5) APN Practicum III

Depending on track, practicum focuses on specialty practice with 1.) Childbearing women and children or 2.) Clinical management of individuals experiencing acute and chronic health problems in adult primary care, building on all previous didactic and practicum courses. Includes a seminar and clinical hours per week. A grade of B or higher is required to receive endorsement for certification examination. Components:Lecture, Practicum Requirement Group:Prerequisite: NURS 5420 or 5430, which may be taken concurrently (RG591).

NURS5430(3 Credits) Management of Childbearing Women and Children

The focus of this course on health promotion/disease prevention and clinical diagnosis and management of management of childbearing women and children. In addition, common acute and chronic health problems will be addressed. Components:Lecture Requirement Group:NURS Grad Majors only, then to other clinical disciplines per instructor approval, if seats available (RG4771)

NURS5450(3 Credits) Psychopharmacology for Advanced Practice Nurses

The neurobiology of psychiatric disorders and the complex biochemical interactions of treatment with psychotropic medication are addressed. Specific medications, side effects, polypharmacy, and nursing management of prescriptive practices are explored. Required preparation includes an M.S. degree in nursing including research, population assessment, policy, and science/theory courses. Components:Lecture Requirement Group:Prerequisite: NURS 5070 (311), NURS 5060 (329), and NURS 5062 (384) (RG 3731)

NURS5460(3 Credits) Advanced Psychiatric Nursing I

The advanced practice psychiatric nurse practitioner role in multiple settings and specific psychiatric disorders from a historical and contemporary perspective will be addressed, while detailing treatment models. The required course paper will focus on a developmental stage and the associated psychiatric issues that can effect that population. Components:Lecture

Requirement Group:Prerequisite: NURS 5450 (341) (RG3732)

NURS5469(5) Advanced Psychiatric Practicum I

The provision of psychiatric mental health care and consultation under the supervision of an APRN. A weekly seminar addressing the teaching and coaching and interdisciplinary collaboration elements of role development is incorporated. Enrollees select a modality of care and the experience is arranged to maximize learning and implementing this modality. Components:Practicum

NURS5470(4) Psychiatric Treatment Modalities

This course addresses the treatment modalities available to advanced practice psychiatric nurses--individual, family, and group treatment. Case management is addressed. Students would focus the course paper on one treatment modality and do an in-depth analysis of the principles and practice associated with modality. Components:Lecture

NURS5480(3 Credits) Advanced Psychiatric Nursing II

Specific advanced psychiatric disorders, etiology and treatment will be explored. The course project involves planning and implementing a primary mental health prevention project with a defined population. Components:Lecture Requirement Group:Prerequisite: NURS 5460 (342) (RG3733)

NURS5489(5) Advanced Psychiatric Practicum II

The provision of advanced psychiatric mental health nursing care and consultation under the supervision of an APRN utilizing a new modality of care and enhancing the application of a previous modality of care. A weekly seminar addressing the case management and leadership elements of role development is incorporated . Components:Practicum

NURS5700(3 Credits) Health Professions Education: Evaluation and Planning

This course will introduce students to important principles of adult learning, evaluation science, curriculum and instruction, diffusion of innovations research, and to evidence-based practices of health professions education. The course will focus

on planning and evaluating educational activities for health care professionals. Components:Seminar Requirement Group:NURS Grad Majors only, then to other clinical disciplines per instructor approval, if seats available (RG4771)

NURS5710(3 Credits) Health Professions Education: Implementation

This course will introduce students to important principles of adult learning and curriculum and instruction, and to evidence-based practices of health professions education. The course addresses critical aspects of implementing educational activities for health care professionals. Components:Seminar Requirement Group:NURS5700;open to NURS graduate students first, then to other disciplines, if seats are available. (RG4700)

NURS5811(3 Credits) Application of Genetics to Healthcare

“Open to graduate students in Nursing. The role of the Human Genome Project in genetic diagnostics, health” promotion, disease prevention, therapeutic interventions and counseling, as well as the mechanisms of genetic inheritance and the genetic contribution to common and complex disorders, will be analyzed using a multidisciplinary context. Students will evaluate the ethical, financial, cultural, moral and legal issues that arise using case study discussion and analysis to augment didactic knowledge. Components:Lecture Requirement Group:Open to graduate students in Nursing (RG 4704).

NURS5845(3 Credits) Health Services Statistics & Research Methods for the Scholarship of Application

This course will encompass elements of needs assessment, statistics, research methods/design, and epidemiology/populations health serving as the foundation for subsequent development of clinical scholarship. Components:Lecture

NURS5850(3 Credits) Scientific and Theoretical Underpinnings for the Scholarship of Application

This course explores foundational theories applicable to the practice arena. Topics include: Systems theory, organizational development theory, complexity theory, social worlds theory, nursing mid-range theory and nursing model's of evidence-based practice. Components:Lecture

<p>NURS5855(3 Credits) Evidence-Based Practice for the Scholarship of Application</p>	<p>students only</p> <p>NURS5875(1 - 3) Advanced Pathophysiology and Diagnosis</p>	<p>assist students in the development of the DNP Clinical Practice Dissertation (CPD). Components:Practicum</p>
<p>This course focuses on the development of skills in the translation, application, and evaluation of research, with an emphasis on evidenced-based practice. Skills in the integration of knowledge from diverse sources and disciplines and its application to solve clinical problems and improve health outcomes will be emphasized Components:Lecture</p>	<p>This course provides an advanced level synthesis of the pathophysiology of diseases, the predicted trajectory of illnesses, and the therapeutic options for cure of diseases and control of illness. It is designed for nurses studying for advanced nursing practice to care for adults with chronic, acute, and life-threatening diseases. Components:Lecture</p>	<p>NURS6000(1 - 3) Special Topics in Doctoral Methods</p> <p>Variable credit course in doctoral research methods. Components:Seminar Requirement Group:Prerequisite: Open only to D.N.P. and Ph.D. students in Nursing (RG 4378).</p>
<p>NURS5860(3 Credits) Quality and Organizational/Systems Leadership for the Scholarship of Application</p>	<p>NURS5879(3 Credits) Doctor of Nursing Practice Residency I</p>	<p>NURS6100(3 Credits) Philosophy of Science in Nursing</p>
<p>This course addresses assessment and diagnosis of organizations, facilitation of system-wide change, development of political skill for change, engagement in the process of quality and performance improvement methodologies, and application of leadership theory within organizations. Components:Lecture Requirement Group:NURS Grad Majors only, then to other clinical disciplines per instructor approval, if seats available (RG4771)</p>	<p>The first of 2 clinical courses, NURS 5879 requires the student to complete a nursing practicum in the specialty area of their choice. Students will select an area of specialization, develop individual objectives, and plan their project, which will be implemented during the subsequent clinical semester. Components:Practicum</p>	<p>A critical examination of the meanings, methods, and logical structure of science. Contemporary and historical views pertaining to the nature of truth, explanation, law, theory and methodology will be analyzed and compared. Examples drawn from nursing epistemology as well as that of other disciplines will be utilized to depict the presuppositions of modern science. Components:Lecture</p>
<p>NURS5865(3 Credits) Information Systems for the Scholarship of Application</p>	<p>NURS5880(3 Credits) Advanced Pharmacodynamics</p>	<p>NURS6101(3 Credits) Introduction to Grantsmanship</p>
<p>This course focuses on the evaluation and use of information systems/technology and patient care technology supportive of clinical and administrative decision-making relevant to patient care, care systems, and quality improvement. Components:Lecture</p>	<p>This course provides an advanced level synthesis of the pharmacotherapy of diseases and control of illnesses. It is designed for nurses studying for advanced nursing practice to care for adults with chronic, acute, and life-threatening disease. Components:Lecture</p>	<p>This course presents an introduction to the process of securing grants. Practical application is stressed to enhance the development of skills needed to secure funding for scholarly research endeavors. Components:Seminar</p>
<p>NURS5869(1 - 6) Doctor of Nursing Practice Residency Elective</p>	<p>NURS5885(1 - 3) Leadership and Management for the Scholarship of Application</p>	<p>NURS6110(3 Credits) Analysis of Contemporary Nursing Knowledge</p>
<p>This course requires the student to complete a nursing practicum in the specialty area of their choice with hours as necessary for total of 1,000 post-BSN. Components:Clinical</p>	<p>This course will encompass elements of leadership development, advanced practice management issues, and financial planning including budgeting and business planning. Components:Lecture</p>	<p>Methods of analysis and evaluation of the concepts and theories in nursing both grand and mid range. Components:Lecture</p>
<p>NURS5870(1 - 3) Health Policy and Populations-based Advocacy for the Scholarship of Application</p>	<p>NURS5889(3 Credits) Doctor of Nursing Practice Residency II</p>	<p>NURS6115(3 Credits) Experimental Design and Analysis in Nursing Research</p>
<p>This course focuses on the role of the advanced practice nurse in collaborative health care teams pertaining to health policy, health promotion, risk reduction, and illness prevention for population health. The role of the advanced practice nurse as advocate is explored. Educational strategies necessary for transformation of clinical education to decrease preventable deaths will be incorporated. Components:Lecture Requirement Group:Open to NURS DNP</p>	<p>The second of 2 clinical courses, NURS 5889 requires the student to complete a nursing practicum in the specialty area of their choice. Students will select an area of specialization, develop individual objectives, and implement their project, which was designed in NURS 5879. Components:Practicum Requirement Group:Prerequisite: NURS 5879 (RG4304)</p>	<p>This course will focus on the study and application of quantitative research methods from design through statistical analysis for experimental designs in nursing and healthcare. Options for the structures of experimental designs and techniques of data analysis appropriate to experimental studies of varying complexity, including emerging research methodologies, will be addressed. Students will conduct a pilot study using the most appropriate experimental design. Components:Lecture Requirement Group:Prerequisite or Co-requisite: NURS 6100 (RG 4399).</p>
	<p>NURS5895(1 - 9)Instructor Consent Required Doctor of Nursing Practice Clinical Practice Dissertation Seminar</p>	<p>NURS6120(3 Credits) Constructing Nursing Theory</p>
	<p>This recurring seminar is designed to</p>	

Integrates the student's experiential worldview into the construction of knowledge relevant to the evolving epistemology in nursing. Provides a forum for dialogue focused on the process of caring in the human health experience as informed by research and theoretical developments. Components:Lecture Requirement Group:Prerequisite: NURS 6110 (RG455).

NURS6130(3 Credits) Qualitative Methodology in Nursing Inquiry

The study of the relationship among philosophy, theory, and qualitative methodology within the human science of nursing. Techniques related to sampling, research design, data collection, and data analysis will be explored through a combination of lecture, class discussion and course assignments. Components:Lecture

NURS6135(3 Credits) Exploring the Nature of Nursing Knowledge

The course is a critical examination of the development of nursing's disciplinary knowledge as it relates to the nature of nursing and its epistemic, ontologic, and ethical claims. This examination will include historical analysis and evaluation of nursing's meta-paradigm (meta language), conceptual models, and theories both grand and middle range. Components:Lecture Requirement Group:Prerequisite: NURS 6100 (RG 4426).

NURS6140(3 Credits) Quantitative Methodology Applied to Nursing

Study and application of theories of sampling and probability testing to nursing research. Different approaches to research design, variable specification, data collection and analysis are explored within quantitative methods of scientific inquiry. Components:Lecture Requirement Group:Prerequisite EPSY 5613 (RG457).

NURS6145(3 Credits) Quasi and Non Experimental Design and Analysis in Nursing Research

This course focuses on application of quantitative research methods from design through statistical analysis for quasi and non experimental designs in nursing and healthcare. Options for the structures of quasi and non experimental designs and techniques of data analysis appropriate to studies of varying complexity, including emerging research method innovations, will be addressed. Limitations to the

justification/feasibility of applying an experimental approach to human subjects will be included. Students will conduct a pilot study utilizing the most appropriate research design. Components:Lecture Requirement Group:Prerequisite: NURS 6115 (RG 4506)

NURS6150(3 Credits) Instrument Development in Nursing

A study of the theories and methods of instrument development as applied to nursing. The basic psychometric properties to be assessed and built into a useful measure for clinical or research applications are explored. Components:Lecture

NURS6160(3 Credits) Advanced Qualitative Methods

This seminar is designed for students in nursing and other disciplines to achieve an advanced level of expertise in selected qualitative approaches. Expected course outcome is a completed qualitative project. Components:Lecture Requirement Group:Prerequisite: NURS 6130 (RG460).

NURS6165(3 Credits) Mixed Methods in Nursing Research

This course presents mixed methods as a third paradigm that combines and complements the qualitative and quantitative approaches traditionally used in nursing research. Theoretical, paradigmatic, and programmatic issues, as well as practical application will be discussed. Components:Lecture Requirement Group:Prerequisite: NURS 6145 and NURS 6160 (RG)

NURS6170(3 Credits) Grantsmanship: The Pursuit of Scholarly Support

A pragmatic exploration of the societal and professional realities of grantsmanship. Experiences are practical so as to enhance the development of skills needed to secure funding for scholarly research endeavors. Components:Lecture Requirement Group:Prerequisites: NURS 6130 and NURS 6140 (RG461).

NURS6175(3 Credits) Advancing Nursing Knowledge Development

The course is a critical application of nursing knowledge to nursing research. Each student will identify and justify the epistemology, theoretical perspective, methodology, and methods that will provide a scaffold for his/her dissertation topic. Components:Lecture Requirement Group:Prerequisite: NURS

6135 (RG 4427).

NURS6180(1 - 3) Research Internship in Nursing

The research internship will be completed under the mentorship of an experienced researcher. The course will meet in seminar format to provide direction and support during the internship. Components:Seminar †GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Nutritional Sciences

Department Head:
Professor Sung I. Koo

Professors
Fernandez, Freake, Rodriguez, and Watkins

Associate Professors:
Bruno, Kerstetter, Lee, and Volek

Assistant Professors
Bolling and Chunl

The degrees of Master of Science (Plan A thesis and Plan B non-thesis options) and Doctor of Philosophy in the field of Nutritional Science are offered.

Admission to Degree Programs.

In addition to the standard requirements of the Graduate School, applicants also should submit scores from the Graduate Records Examinations (GRE). Prior study in the biological sciences and nutrition is required, however, some prerequisites may be taken after matriculation in the program. More detailed information can be obtained from the department.

Program of Study.

There are three major areas of expertise within the Department: molecular nutrition, nutritional biochemistry and metabolism, and community nutrition and health. Molecular nutrition is based on laboratory studies utilizing molecular biological techniques to examine mechanisms of nutrient action and metabolism in the cell, tissue, and whole animal. Nutritional biochemistry and metabolism involves human and animal studies to examine nutrient metabolism in health and disease. Community nutrition and health focuses on public health areas of nutrition including community-level nutrition assessment, education and intervention programs. These areas are interdisciplinary in approach and are supported by other departments as well as by collaborative arrangements with other institutions. Opportunities for interdisciplinary research and study exist. All programs require a thesis, dissertation, or expanded paper, in addition to the successful completion of the appropriate graduate courses and examinations.

Courses

NUSC5100(2) Concepts of Nutrition An introduction to the broad field of nutrition. Intended for entering graduate students, the course provides a conceptual framework for research and study in the nutritional sciences. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

NUSC5200(3 Credits) Macronutrient Metabolism

The function and metabolic pathways of energy, carbohydrates, protein and lipids; their interrelationships and factors controlling their metabolism. Methodologies for studying metabolism and assessing nutrient requirements in man and animals. Components:Lecture Requirement Group:Prerequisite: MCB 5001 (RG462).

NUSC5300(3 Credits) Vitamins and Minerals

Comprehensive study of vitamins, trace elements, and selected macrominerals, including biochemical function(s), metabolic pathways, interactions, and toxicities. Components:Lecture Requirement Group:Prerequisite: MCB 5001 (RG462).

NUSC5312(3 Credits)Instructor Consent Required Assessment of Nutritional Status

This course is designed to discuss and critique the methodologies of nutritional status assessment, namely dietary, anthropometric and biochemical. Analysis of human blood and urine samples provides exposure to laboratory techniques and equipment used in nutritional assessment. Components:Laboratory, Lecture Requirement Group:Prerequisite: NUSC 5200 (RG463)

NUSC5314(3 Credits)Instructor Consent Required Nutrition for Healthy Communities

Development of knowledge and and skill in public nutrition, including community assessment, development of program policies, and program planning, implementation, and evaluation. Components:Lecture Course Equivalents:GPAH 5331

NUSC5390(1 - 6) Field Work on Community Nutrition

Supervised field studies of community nutrition problems and visits with community agencies and families. Readings, conferences

and reports required. Components:Practicum

NUSC5394(3 Credits) Seminar

Students develop the skills required for the analysis and presentation of current literature and research problems. Components:Seminar Requirement Group:Prerequisite: NUSC 5100 (RG464).

NUSC5398(1 - 6)Instructor Consent Required Special Topics in Nutrition

Advanced study in a given area of nutritional science. Components:Lecture

NUSC5399(1 - 6)Instructor Consent Required Independent Study in Nutritional Science

Research problems or critical review of literature in any area of nutrition. Components:Independent Study

NUSC6313(3 Credits) Nutrition and Gene Expression

Regulation of eukaryotic gene expression by specific nutrients, hormones, and metabolites. Transcriptional, post-transcriptional, and translational mechanisms. Components:Lecture Requirement Group:Prerequisite: MCB 5001 (RG462).

NUSC6315(3 Credits) Lipid Metabolism in Health and Disease

Comprehensive study of lipid and lipoprotein metabolism. Influence of diet, drugs, exercise and obesity. Overview of relationship between genetics, lifestyle factors and chronic disease. Components:Lecture

NUSC6317(3 Credits)Instructor Consent Required Nutritional Epidemiology

Principles and applications of nutritional epidemiology with emphasis on research design. Components:Lecture

NUSC6365(3 Credits)Instructor Consent Required Advanced Clinical Nutrition

A study of topics of current clinical interest. Lectures, readings, reports and discussion. Components:Lecture Requirement Group:Prerequisite: NUSC 5200 (RG463)

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Pathobiology

Department Head:
Professor Herbert J. Van Kruiningen

Professors
Bushmich, Garmendia, Geary, and Khan

Associate Professor
De Guise, Frasca, French, and Smyth

Assistant Professors
Risatti and Tufts

Adjunct Assistant Professor
Borca and Smolowit

Graduate instruction leading to the M.S. and Ph.D. degrees is offered by the Department of Pathobiology and Veterinary Science. All M.S. degrees are granted in Pathobiology. Ph.D. degrees are granted in Pathobiology with areas of concentration in bacteriology, pathology, and virology. Standard admission requirements are maintained for these programs. There also is a study area offered in veterinary pathology, which is open only to Ph.D. students with the D.V.M. degree. In all of these areas, the accent is on basic sciences as related to diseases of animals.

Requirements.

For the M.S. degree, generally 15 credits of course work and a thesis are required. No established sequence of courses is required for the Ph.D. degree. Since students possessing the D.V.M. degree usually have four more years of advanced education than the typical Ph.D. applicant, fewer courses may be required. In addition to graduate courses offered within the Department, the candidate is expected to take graduate courses in biochemistry, nutrition, toxicology, immunology, pharmacology, cell biology, genetics, statistics, and molecular biology in appropriate departments.

Special Facilities.

The Department houses the Connecticut Veterinary Medical Diagnostic Laboratory which is equipped with a fully functioning mammalian and avian necropsy laboratory, histology laboratory and diagnostic microbiology, virology and serology laboratories. State of the art molecular biology facilities are present in the Department for research on infectious, immunologic, toxic and metabolic diseases. The Department also houses the Northeastern Research Center for Wildlife Diseases.

Collaborative opportunities exist with the USDA Plum Island Animal Disease Center and the School of Pharmacy.

Courses

PVS5094(3 Credits)Instructor Consent
Required Pathobiology Seminar

Components:Seminar

PVS5099(1 - 6)Instructor Consent Required
Research and Independent Study in Animal
Diseases

Components:Independent Study

PVS5201(2) Microbiology of Atypical
Bacteria

An in-depth presentation of current information on medically significant atypical bacteria, with emphasis on molecular aspects of pathogenesis. Components:Lecture

PVS5202(2) Viral Pathogenesis

Disease processes of the virus and host at the organic and molecular levels. Various aspects of selected viral infections will be covered, including contemporary topics of interest. Active student participation through presentations and discussion of literature. Components:Lecture

PVS5300(3 Credits)Instructor Consent
Required Disc of Pathobiology and
Veterinary Science Literature

Weekly discussion of current peer-reviewed literature related to pathobiological basis of disease. Components:Discussion

PVS5331(2)Instructor Consent Required
Toxicological Pathology

Principles of toxicological pathology are covered, with special attention to chemical carcinogenesis and systemic toxicological pathology. For the different systems, the particularities of structure and function of the system are reviewed, along with the particular mechanisms of toxicity to that system, the specific responses of that system to injury, and the methods to test for toxicity. The discussion of related scientific journal articles supplement the textbook information reviewed in lectures. Components:Lecture

PVS5392(3 Credits)Instructor Consent
Required Practicum in Veterinary Anatomic
Pathology

Open only to veterinarians accepted into the residency program in veterinary pathology. Service-based learning of veterinary anatomic pathology through gross and histologic evaluation of necropsy and biopsy case material by direct review with faculty pathologists. Components:Practicum

PVS5394(2)Instructor Consent Required
Veterinary Pathology Seminar

Blinded examination of gross and histologic lesions with emphasis on lesion recognition, description and disease diagnosis, followed by group discussion of each case. Components:Seminar

PVS5401(3 Credits)Instructor Consent
Required Immunobiology

Principles of basic and clinical immunobiology; phylogeny and ontogeny of the immune response, characteristics of the immune response, cellular and humoral immunity; central and peripheral lymphoid tissues; mechanisms of immunologic injury and immunologic diseases; comparative and veterinary immunology; transplantation and tumor immunology. Components:Lecture

PVS5431(2)Instructor Consent Required
Avian Pathology

A comprehensive study of systemic avian pathology, stressing the correlation of pathological changes with clinical and microbiological findings. Components:Lecture

PVS5502(2)Instructor Consent Required
Evaluation of Diagnostic Test

Sampling criteria and size determination, diagnostic test selection, diagnostic strategies, test result evaluation and interpretation. Components:Lecture

PVS5503(2)Instructor Consent Required
Molecular Approaches to Disease Diagnosis and Prevention

Molecular aspects of disease, with emphasis on methodologies and strategies for diagnosis, analysis and prophylaxis. Components:Lecture

PVS5594(3 Credits)Instructor Consent
Required Current Veterinary Pathology Literature

Detailed study of current veterinary pathology literature, with particular emphasis

on lesions and mechanisms of disease. Components:Seminar

PVS5632(3 Credits)Instructor Consent
Required Vaccines: Mechanisms of Immune Protection

The focus is on several different approaches to inducing prophylactic immunity in the host. Both traditional and modern molecular approaches to vaccine design will be discussed. In addition, the mechanisms employed by pathogenic microbes to avoid hosts' immune responses will be examined in the context of vaccine design. The students will gain an appreciation for the transition from basic research to practical applications. Also offered as ANSC 306. Components:Lecture Course
Equivalents:GPAH 5632

†GRAD 5930. Full-Time Directed Studies
(Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research
(GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research
(GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's)
(GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD
399) Non-credit.

†GRAD 6930. Full-Time Directed Studies
(Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation
Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research
(GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral)
(GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation
(GRAD 499) Non-credit.

Pharmaceutical Science

Department Head: Professor Debra A. Kendall

Associate Department Head: Professor Amy C. Anderson

Professors: Anderson, Boelsterli, Burgess, Kalonia, Kendall, Pikal, Manautou, Morris and Wright

Associate Professors: Aneskievich, Bogner, Gianutsos, Grant, Hubbard, Rasmussen, Vinogradova and Zhong

Assistant Professors: Balunas, Chaudhuri, Hadden, Lu and Wiemer

Programs leading to the M.S. and Ph.D. degrees in Pharmaceutical Sciences are offered in three areas: (1) Medicinal Chemistry and Natural Products, (2) Pharmacology and Toxicology, and (3) Pharmaceutics. These programs make full use of courses offered by departments in such areas as organic, analytical, and physical chemistry; biochemistry; molecular and cell biology; neurobiology; biophysics; physiology; statistics; mathematics; microbiology; pathology; and materials science. A brief description and a statement of objectives for each program area are offered below.

Medicinal Chemistry

Medicinal chemists design, discover and optimize drug molecules for a desired biological activity. The sources of lead molecules stem primarily from natural products, including cofactors and secondary metabolites, as well as rational design using structures of drug targets. Optimization often includes synthetic chemistry methods to arrive at improved compounds that exert potency and specificity for the target. Medicinal chemists also study the molecular mechanisms of drug action, including interactions of the drug with the target biopolymers through which drug activity is induced. Although their major concern is with chemistry, medicinal chemists must be also familiar with the pharmacological and biochemical systems on which the drug molecules act.

The M.S. (Plan A) and the Ph.D. are offered in the area of medicinal chemistry. A strong background in chemistry is essential for admission. Required course work varies with the background and interests of the

student. This includes advanced courses in medicinal chemistry as well as courses from the following disciplines: organic, physical, and biophysical chemistry; spectroscopy; biophysics; biochemistry; molecular biology; pharmacology; microbiology.

Pharmacology and Toxicology

Scholarly laboratory research and the education of graduate students in all aspects of drug and chemical action are paramount activities of the pharmacology and toxicology faculty. Therapeutic and toxic reactions to drugs and chemicals and their physiological and biochemical mechanisms of action are emphasized in this program. Emphasis is also placed in the areas of biochemical toxicology, inhalation toxicology, molecular toxicology, molecular pharmacology of nuclear receptors, hepatotoxicology, and immunology. The Ph.D. is offered in the concentration of pharmacology and toxicology. For admission to the graduate program, a strong background in biology as well as proficiency in chemistry, mathematics, and physics are essential. Course requirements for the Ph.D. degree are individualized, although advanced courses in pharmacology, physiology, and biochemistry are uniformly required.

Pharmaceutics

Pharmaceutics deals with those factors bearing on the design of drug delivery systems that are safe and efficacious. Understanding the stability of the drug molecule in a multitude of environments, the release of the drug from various dosage forms, surface and colloid chemistry, and the subsequent absorption, metabolism, and excretion of the drug requires a diversified educational and research experience. Faculty interests and graduate plans of study may emphasize kinetics, thermodynamics, transport phenomena, biopharmaceutics, pharmacokinetics, biopharmaceutics of proteins, and biotechnology. Moreover, each of these exposures entails an emphasis on quantitative appraisals which demand grounding in advanced mathematics. While individual dissertation problems usually are sharply focused, the overall thrust of the graduate program in pharmaceutics is the education of a generalist in drug delivery systems.

The M.S. (Plan A) and the Ph.D. are offered in the concentration of pharmaceutics. In particular, course work in advanced pharmaceutics, physical chemistry, and mathematics is required.

Special Facilities

The Department has well-equipped laboratories in diverse research areas. Major equipment includes a high-throughput screening facility, Rigaku X-ray diffractometer for protein crystal diffraction and nuclear Magnetic Resonance Facility with Bruker Avance 300, 400, and 500 MHz spectrometers and a Varian Inova 600 MHz spectrometer equipped with a cryoprobe. Other equipment available includes ultraviolet, F.T. infrared, dual wavelength, and fluorescence spectrophotometers, liquid scintillation spectrometers, analytical and preparative gas-liquid chromatographs, high-pressure liquid chromatographs, preparative and ultra centrifuges, low and high voltage electrophoresis apparatus, differential thermal analytical and scanning calorimeter, thermal gravimetric and analytical equipment. Langmuir film balance, atomic absorptometer, gas chromatography-mass spectrometry unit, mass spectrometers and electron microscopes are available on campus. Animal quarters and cold rooms are also located in the School of Pharmacy.

Courses

PHAR5215(3 Credits)Instructor Consent Required Pharmaceutical Biotechnology
A survey of medicinal chemistry and pharmaceuticals of pharmaceutical products derived from modern methods of molecular biology. This course will consider products in use or in clinical trials to emphasize the conceptual basis, design, and synthesis of biotech products in the context of current practical applications. Components:Lecture

PHAR5216(3 Credits) Dosage Forms I

Introduces the student to the principles of thermodynamics, ionic equilibrium, chemical kinetics and diffusion. Application of these principles to formulation, stability and dissolution of a drug product, and release from the dosage form for optimum therapeutic outcome. Required of entering graduate students in Pharmaceutics who do not have a Pharmacy background as well as those who do not pass the qualifying examination within the first year of the program. Components:Lecture

PHAR5217(3 Credits) Dosage Forms II

Covers the basic principles of the surface and colloid chemistry and rheology, as these relate to the performance of dispersed system dosage forms including colloids, suspensions, emulsions, suppositories, aerosols, ointments, and transdermals. Required of entering graduate students in Pharmaceutics who do not have a Pharmacy background, and those who do not pass the qualifying examination within the first year of the program. Components:Lecture

PHAR5219(3 Credits) Biopharmaceutics and Pharmacokinetics

Basic principles of biopharmaceutics, bioavailability, and pharmacokinetics, including their application to the rational design of both dosage forms and maximally effective dosing regimens. Intended for graduate students who may not have sufficient previous exposure to biopharmaceutics and pharmacokinetics. Components:Lecture

PHAR5239(3 Credits) Current Literature in Pharmaceutics

Designed to familiarize students with current pharmaceutics literature and to educate students in critical peer review in the pharmaceutics literature. Components:Discussion

<p>PHAR5293(3 Credits) Seminar in Pharmaceutics</p> <p>Reports and discussions. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar</p> <p>PHAR5295(1 - 4)Instructor Consent Required Special Problems in Pharmaceutics</p> <p>Individualized course for students desiring research experience in any of the areas of pharmacy other than the area chosen by the student for thesis research. Components:Independent Study</p> <p>PHAR5297(1 - 6) Special Topics in Pharmaceutics</p> <p>Includes topics not presently covered in courses which are pertinent to current departmental research and areas of recent development in the literature. Components:Lecture</p> <p>PHAR5301(3 Credits)Instructor Consent Required Drug Design</p> <p>A cooperative presentation of the fundamentals of medicinal chemistry. Components:Lecture</p> <p>PHAR5308(3 Credits) Structure and Function of Biological Membranes</p> <p>Overview of cell membrane structure and function based on a foundation of physical and biochemistry principles. Topics include lipid bilayers, vesicles and liposomes, cholesterol, membrane protein structure and function, transport, membrane fusion, receptors, drug/membrane interactions and membranes in cell regulation. Components:Lecture Course Equivalents:MCB 5025</p> <p>PHAR5393(3 Credits) Seminar in Medicinal Chemistry</p> <p>Reports and discussions. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar</p> <p>PHAR5395(1 - 4)Instructor Consent Required Special Problems in Medicinal Chemistry</p> <p>Individualized course for students desiring research experience in any of the areas of medicinal chemistry other than the area</p>	<p>chosen by the student for thesis research. Components:Lecture</p> <p>PHAR5397(1 - 6) Special Topics in Medicinal Chemistry</p> <p>Current developments in Medicinal Chemistry. A course for students needing exposure to topics not covered in other department offerings. Components:Lecture</p> <p>PHAR5403(3 Credits) Current Toxicology Literature</p> <p>Designed to familiarize students with current toxicology literature and to educate students in critical peer review of this toxicology literature. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture</p> <p>PHAR5454(3 Credits) Principles of Safety Evaluation</p> <p>Introduction to toxicologic risk assessment. Fundamentals of dose-response relationships and risk characterization, and their application in the establishment of permissible exposure limits for drugs and other chemicals in the environment or workplace. Components:Lecture</p> <p>PHAR5458(2)Instructor Consent Required Analytical Toxicology</p> <p>Qualitative and quantitative determination of xenobiotics. Isolation techniques; principles of chromatography and spectrometry; theory, instrumentation and analysis of data. Components:Lecture</p> <p>PHAR5471(3 Credits)Instructor Consent Required Advanced Pharmacology I: Basic Principles</p> <p>Molecular mechanisms of drug action including occupation and rate theories. Characterization of receptors in-situ and in-vitro. Components:Lecture</p> <p>PHAR5472(2) Advanced Pharmacology II: Drug Disposition</p> <p>Drug absorption, distribution, excretion, metabolism, interaction, allergy, resistance, tolerance, idiosyncrasy and toxicity. Components:Lecture</p> <p>PHAR5475(3 Credits) Toxicology Scholars Colloquium</p> <p>Reviews, discussions and seminars focused on the research of scientists who have made</p>	<p>significant contributions to the science of toxicology. Components:Lecture</p> <p>PHAR5493(3 Credits) Seminar in Pharmacology and Toxicology</p> <p>Reports and discussions on journal and review articles and presentation of personal research results.</p> <p>Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar</p> <p>PHAR5494(3 Credits) Seminar in Immunology</p> <p>Reports and discussions. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar Requirement Group:Prerequisite: PHAR 393 (RG466).</p> <p>PHAR5495(1 - 4)Instructor Consent Required Special Problems in Pharmacology I</p> <p>The course is individualized for students desiring research experience in any of the areas of pharmacology. Components:Independent Study</p> <p>PHAR5496(1 - 4)Instructor Consent Required Special Problems in Toxicology</p> <p>Individualized course for students desiring research experience in any of the areas of toxicology. Components:Independent Study</p> <p>PHAR5497(1 - 6)Instructor Consent Required Special Topics in Pharmacology</p> <p>Includes topics not presently covered in courses, which are pertinent to current departmental research and areas of recent development in the literature. Components:Lecture</p> <p>PHAR5498(1 - 6)Instructor Consent Required Special Topics in Toxicology</p> <p>Basic principles of toxicology as emphasized by recent developments in the biochemical toxicology literature. Components:Lecture</p> <p>PHAR5746(3 Credits)Instructor Consent Required Introduction to Managed Care Pharmacy</p> <p>A study of managed care pharmacy within the United States health care system, with emphasis on managed care organization and control, pharmacy benefits design and</p>
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management, outcomes measurement, pharmacoeconomics, health care provider and client education, benefits plan financing and marketing, and legal issues of managed care pharmacy. Components:Lecture

PHAR5764(3 Credits)Instructor Consent Required Advanced Pharmacy Administration

A study of modern management techniques applicable in terminal drug distribution. Special emphasis is placed upon quantitative methods and the utilization of electronic data processing. Components:Lecture

PHAR5793(3 Credits)Instructor Consent Required Seminar in Pharmacy Administration

Reports and discussions. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

PHAR5795(1 - 4) Special Problems in Pharmacy Practice

Individualized course for students desiring research experience in pharmacy administration or hospital pharmacy administration. Components:Independent Study

PHAR5797(1 - 6)Instructor Consent Required Special Topics in Pharmacy Administration

Current developments in Pharmacy Administration. A course for students needing exposure to topics not covered in other Department of Pharmacy Practice offerings. Components:Lecture

PHAR6234(3 Credits) Advanced Biopharmaceutics

Overview of physico-chemical, biopharmaceutic, and physiologic factors controlling the delivery of drug and their sites of action. Components:Lecture

PHAR6241(2)Instructor Consent Required Advanced Kinetics and Mechanisms of Drug Degradation

An advanced treatment of the physical organic chemistry critical to the characterization and understanding of stability in pharmaceutical products. Components:Lecture Requirement Group:Prerequisite: PHARM 6288 (RG 3063).

PHAR6242(2)Instructor Consent Required Freeze Drying of Pharmaceuticals

The science and technology of freeze drying, including fundamentals of heat and mass transfer gas systems, process design considerations, and formulation strategies with emphasis on stabilization of therapeutic proteins. Components:Lecture

PHAR6285(3 Credits) Complex Equilibria

A study of the physico-chemical and mathematical treatment in pharmaceutical systems. Topics center on thermodynamics, activity coefficients, acids and bases, solubility, complexation solubilization and protein binding. Components:Lecture

PHAR6286(3 Credits)Instructor Consent Required Transport Processes

Emphasis is on the application of the laws of diffusion to dissolution, membrane transport and release of drugs from dosage forms. Components:Lecture

PHAR6288(3 Credits)Instructor Consent Required Kinetics and Mechanisms of Drug Degradation and Stability

A study of the kinetics and mechanisms of drug degradation in the solid and liquid states and drug stabilization. Components:Lecture

PHAR6289(3 Credits)Instructor Consent Required Pharmacokinetics

A discussion of absorption, distribution, and clearance mechanisms, and their impact on concentration-time profiles and drug response. Components:Lecture

PHAR6290(3 Credits)Instructor Consent Required Colloid Chemistry and Interfacial Phenomena

Interfacial phenomena, colloid chemistry. Components:Lecture

PHAR6452(2)Instructor Consent Required Toxicology of the Respiratory System

Anatomic and functional aspects of toxic injury to the respiratory tract with an emphasis on biochemical and physiologic mechanisms of toxic pulmonary injury. Lectures and student presentations. Components:Lecture Requirement Group:Prerequisite: PHAR 6455 (RG465).

PHAR6455(4) Advanced Toxicology

A study of the harmful effects of toxic chemicals on biological systems. Emphasis is on mechanisms of toxicant action and on practical applications of modern techniques to assess toxicity and hazard. Components:Lecture

PHAR6459(2)Instructor Consent Required Immunotoxicology

Demonstrates the detrimental effects on the immune system and/or inflammatory response, by a variety of physical and chemical xenobiotics. Emphasis is placed on the mechanisms of chemical and drug-induced immunosuppression, autoimmune response, and allergic response. Components:Lecture

PHAR6465(2)Instructor Consent Required Pharmacology of the Circulatory System

A study of the cardiovascular system. Both physiological and pharmacological responses of the cardiovascular system are reviewed. Emphasis is placed upon the biochemical and physiological changes associated with atherosclerosis. Components:Lecture

PHAR6473(2) Function and Dysfunction of Brain Synapses

This course covers the functional and structural regulation events that influence synaptic activity, as well as corresponding ideas related to memory encoding. In addition, pathogenic processes are addressed which have a negative influence on brain circuits. These include age-related changes, stroke, and Alzheimer-type pathogenesis. Lastly, new and future therapeutic strategies are discussed in regard to the enhancement of memory mechanisms and repair systems. The format of the course is formal lectures and journal article discussions by students. Components:Lecture

PHAR6475(2)Program Director Consent Req'd Mechanistic Toxicology I

Mechanistic toxicology describes the processes of how chemicals exert their toxic effects in biological systems. Therefore, understanding of the underlying mechanisms of toxicity, together with exposure estimates, provides key information that links the toxic hazard of a chemical with the actual human health risk. This first course explores some fundamental cellular and molecular mechanisms of toxicity and integrates them into a larger picture; reactive intermediates, oxidative and nitrate stress, and mitochondria-mediated

toxicity will be covered. The basic concepts will be illustrated with specific examples (drugs and environmental chemicals).
Components: Discussion, Lecture

PHAR6484(2) Instructor Consent Required
Cutaneous Differentiation: Molecular Mechanisms and Cellular Processes

This course examines mammalian skin structure, keratinocyte, immune and pigment cells, mechanisms of mesenchymal-epithelial induction, replication- and cytoskeletal-based diseases, stem cell identification and plasticity, and transcriptional regulation of differentiation-dependent gene expression.
Components: Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Philosophy

Department Head:

Professor Crawford L. Elder

Professors

Beall, Baxter, Clark, Kupperman, Lynch, and Wheeler

Associate Professor

Bloomfield, Bontly, and Hiskes

Assistant Professors

Parekh, Rossberg and Shapiro

The Department of Philosophy offers study leading to the degree of Master of Arts and Doctor of Philosophy. The department is primarily an Analytic Philosophy department. Courses of study typically focus on philosophy of psychology and mind, philosophy of language and philosophical logic, or on ethics. However, students can plan a dissertation on metaphysics, history of philosophy, Asian philosophy, or other areas. The instruction is broad enough to make students versatile undergraduate instructors, and concentrated enough to enable students to do significant research.

Students are able to work closely with the faculty at every stage of progress from the initial construction of a plan of study to the completion of a dissertation.

Admission.

After reviewing the basic requirements for admission to the Graduate School, applicants should present to the Philosophy Department their scores for the General Test of the Graduate Record Examinations, three letters of recommendation from individuals (preferably philosophy professors) familiar with their academic work, and a philosophical writing sample. Students admitted to the program normally are awarded full graduate assistantships.

The M.A. Program.

The Department generally offers only Plan B (non-thesis) for the M.A. Thus a student must have 24 credits in Philosophy in order to take the MA examination. First year students must satisfy a formal logic requirement, normally by taking Philosophy 5307. First year students also should take Philosophy 5301 unless they have a strong background in contemporary analytic philosophy.

The M.A. examination consists of turning in two papers written for seminars in philosophy

at UConn. On the basis of these papers, the students record, and recommendations from professors under whom the student has worked, the student is either passed with a promise of funding (given satisfactory progress) for three years in the PhD program, passed without such funding, or failed.

The Ph.D. Program.

The Ph.D. degree requires eight graduate seminars beyond the M.A. level. Students who enroll in the Ph.D. program with an M.A. from another institution are reviewed after one year, at which time funding for another two years is either awarded or not.

The General Examination consists of three papers, normally seminar papers, in the three areas of philosophy we have defined, namely (1) Metaphysics and Epistemology, (2) Social and Political Philosophy and Ethics, and (3) History of Philosophy. The papers are read by the examining committee and the student is either passed or failed. General examination papers may be turned in to the Director of Graduate Studies at any time. See the Guide to Graduate Students on the Philosophy Department website <www.philosophy.uconn.edu/grad> for further details and a definition of satisfactory progress.

Special Facilities.

The holdings of the Homer Babbidge Library are adequate for the pursuit of scholarly research in most fields of philosophy. The Library subscribes to all major philosophical journals and has a complete collection of past issues of most journals. The Department conducts informal weekly seminars at which graduate students and faculty discuss current research with their colleagues. It runs a program of colloquia featuring distinguished philosophers from around the country, and presents the yearly Ruth Evelyn Parcells Lecture in ethics. Students interested in logic may participate in the Uconn Logic Group (<http://logic.uconn.edu>).

Courses

PHIL5300(1 - 6) Independent Study for Graduate Students
Components: Independent Study Requirement Group: Open to graduate students in Philosophy, others with permission (RG799).

PHIL5301(3 Credits) Seminar in Contemporary Philosophy

An introduction to contemporary philosophers such as Russell, Carnap, Ayer, Quine, Putnam, and Kripke.

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5305(3 Credits) Seminar in Aesthetics

A consideration of some of the basic problems in aesthetics. Components:Lecture Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5307(3 Credits) Logic

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5311(3 Credits) Properties of Formal Systems

The development of formal deductive systems. The completeness and consistency of logical systems adequate for the expression of parts of mathematics. A consideration of aspects of the foundations of logic and mathematics. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5312(3 Credits) Seminar in the Philosophy of Science

A discussion of selected current, methodological issues in the philosophy of science. Topics may include scientific realism versus nonrealism; theories of scientific explanation; the nature of scientific revolutions; theories of the lawfulness of nature; and feminist theories of science. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5313(3 Credits) Seminar in the Philosophy of Physics

Examination of philosophical issues associated with physical concepts of space, time, and matter. Topics may include relational versus absolute theories of space and time, and philosophical implications of quantum mechanics. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5314(3 Credits) Action Theory

Examination and analysis of the concept of “action” and related concepts such as “agent” and “intention”.

Components:Seminar Requirement
Group:Open to graduate students in Philosophy and to others with instructor consent (RG 3641).

PHIL5315(3 Credits) Seminar in Moral Philosophy

A discussion and analysis of significant problems in ethical theory. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5316(3 Credits) Seminar in the Philosophy of Social Science

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5317(3 Credits) Seminar in the Philosophy of Psychology

Philosophical examination of contemporary issues in the philosophy of psychology. Topics may include a philosophical analysis of the nature of behavior, consciousness, perception, cognition, and emotion; the nature of psychological explanation; comparison of the science of human psychology with ethology and other biological sciences, the physical sciences, and computer science. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5318(3 Credits) Seminar on Plato

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5319(3 Credits) Seminar on Aristotle

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5320(3 Credits) Seminar in the History of Philosophy

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5321(3 Credits) Seminar on the British Empiricists

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5327(3 Credits) Seminar on Kant

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5330(3 Credits) Seminar on Theory of Knowledge

Problems in the foundations and nature of knowledge. A critical study of recent treatments of the problem of mind. Issues such as the mind-body problem, our knowledge of the existence of other minds, the existence of private languages, will be dealt with in detail. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5331(3 Credits) Seminar in Philosophy of Mind

A critical study of recent treatments of the problem of mind. Issues such as the mind-body problem, our “knowledge of the existence of other minds, the existence of private languages, will be dealt with in” detail. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5333(3 Credits) Seminar on Nietzsche

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5340(3 Credits) Seminar on Metaphysics

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5342(3 Credits) Seminar in Philosophy of Language

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5344(3 Credits) Instructor Consent Required Seminar in Philosophical Logic

Topics in the philosophies of logic and mathematics. May include completeness results for non-classical logics, higher-order languages and logics, diagonalization, limitative theorems (Tarski, Godel), paradoxes, and formal theories of truth. Open to graduate students in Philosophy, others with permission. This course may

be repeated to a maximum of nine credits.
Components:Seminar

PHIL5350(3 Credits) Seminar in Recent Social and Political Philosophy

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5352(3 Credits) Seminar in Feminist Theory

The focus of inquiry might be the history of feminist theory, a school of contemporary feminist theory, an issue or a selection of issues in feminist theory, or feminist approaches to major texts or themes in the history of philosophy. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5360(3 Credits) Seminar in Recent Continental Analytic Philosophy

Critical reading of selected texts of recent European philosophers such as Derrida, Irigaray, Kristeva, Heidegger, and Foucault; along with related work of analytic philosophers such as Davidson, Quine, Rorty, and Kripke. Components:Seminar Requirement Group:Open to graduate students in Philosophy, others with permission (RG799).

PHIL5397(3 Credits) Seminar

Components:Seminar Requirement
Group:Open to graduate students in Philosophy, others with permission (RG799).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Physical Therapy

Dean:
Professor Thomas C. DeFranco

Department Head:
Professor Carl M. Maresh

Program Head:
Professor Craig R. Denegar

Professors:
Bohannon and Smey

Associate Professors:
Kinsella-Shaw

Assistant Professors:
Bhat , Bubela, Joseph

Director of Clinical Education:
Ward

The Physical Therapy Program in the Department of Kinesiology at the Neag School of Education offers a post-baccalaureate Doctor of Physical Therapy (D.P.T.) degree program. A description of all other graduate programs in the Department of Kinesiology is found in this Catalog under the heading Kinesiology. The program in Physical Therapy is accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE). The three-year program integrates didactic preparation in clinical sciences and clinical practice with 32 weeks of full-time clinical practicum. The Physical Therapy program is committed to the advancement of evidence-based clinical practice and developed around practice in acute care, musculoskeletal care and neurological rehabilitation. Through the development of the skills and abilities needed for excellence in clinical practice including interpersonal communication, time and resource management, and problem solving skills students are prepared to practice across the spectrum of physical therapy in an ever-changing health care environment. A commitment to professionalism and life-long learning is valued by the faculty and expected of the students and graduates.

Academic Plan.

The D.P.T. program begins in late May each year and requires nine semesters (summer, fall, spring for three years) to complete. The academic plan is found at <www.pt.uconn.edu>.

Admission.

In addition to the standard requirements of the Graduate School (found in this Catalog under the Heading Admission), applicants must (1) have completed the following pre-requisite courses prior to matriculation: biology, anatomy, and physiology (8 credits), general chemistry (8 credits), general physics (8 credits), psychology (2 courses), pre-calculus or calculus, and statistics; (2) meet the Technical Standards established for the program which can be found at <www.pt.uconn.edu>; and (3) complete of the supplemental admissions requirements found at <www.education.uconn.edu/howtoapply/dpt.cfm>. Applicants to the D.P.T. program are expected to demonstrate outstanding ability and to show on the record of previous scholarship and experience that they are likely to do superior work in their professional preparation. Meeting minimum requirements does not assure acceptance into the program

Transfer Credit.

Transfer of credit for coursework completed at other institutions is approved only if (1) the course(s) were completed in a CAPTE accredited Physical Therapy Education program, (2) a grade of B (not B-) was earned in each course being considered for transfer, and (3) the coursework being considered for transfer is substantially similar to coursework offered in the D.P.T. program at the University of Connecticut.

Tuition and Fees.

In addition to the standard graduate student tuition and fees, a tuition differential of \$1,750 is required for physical therapy students for the fall and spring semesters of each year of enrollment in the program.

Scholarships.

Scholarship assistance is available to students in the D.P.T. program. A listing is available at <http://www.education.uconn.edu/students/scholarships/pt%20scholarships/scholarships_pt.cfm>. The amount of scholarship awards varies and is dependent on available funds.

Clinical Education.

The role of clinical education in the preparation of Physical Therapy professionals cannot be overstated. The Physical Therapy Program is committed to excellence in this most important area. Clinical sites are selected based on a known history of superior patient care and a clear statement of dedication to the learning process. The costs of travel, housing and other expenses related to clinical education are the responsibility of

the student.

Health Policies and Insurance.

Physical Therapy students must be free of communicable disease and in good health in order to be admitted to clinical experiences and complete the PT program. Health services are provided through Student Health Services. All students are required to carry personal health insurance throughout the program. All students are required to provide the University with documentation of well being and good health prior to any course work that may require direct, or indirect, patient contact. Information regarding Student Health Services is found at <<http://www.shs.uconn.edu/>>.

Physical Therapist Licensure.

Under the provisions of N 19a-14(a) of the Connecticut General Statutes, as amended by Public Act 86-365, <<http://www.cga.ct.gov/2007/pub/Chap368a.htm#Sec19a-14.htm>>, the Department of Public Health of the State of Connecticut may deny licensure to applicants who have been convicted of a felony or are addicted to drugs or alcohol. Students are responsible for being aware of what the licensure requirements are in the State in which they intend to apply for a license.

Performance Evaluation.

The members of the Physical Therapy faculty regularly monitor the performance of each student in all facets of the program (classroom, laboratory and clinic) at the close of each semester of their graduate education to determine their readiness to progress in the program. Performance evaluations are conducted by the Physical Therapy faculty in advance of each clinical practicum experience specifically to determine the adequacy of each student's knowledge, proficiency level and their preparedness to interact safely with patients and clients during the clinical education experience. If at any time, a student's level of performance, progress in completing the academic requirements for the degree, or professional development/or suitability is considered to be unsatisfactory, the faculty and the program/student advisory committee may require remedial action on the part of the student or recommend dismissal to the Dean of the Graduate School.

Courses

PT5307(3 Credits) Integrative Seminar I
One of a series of seminars which integrate application, assessment and intervention knowledge and experience across multiple courses. Focus is on the acute, sub-acute and long-term nursing home patient population. Students develop competency in critical thinking, problem-solving, clinical decision making and best practice recommendations for the acute, sub-acute and long-term nursing home patient population. Students demonstrate critical reading skills of the professional literature that reflects an understanding of the problems and functional limitations of the acute, sub-acute and long-term nursing home. Components:Seminar Requirement Group:Open only to students in the Program in Physical Therapy (RG 467).

PT5308(3 Credits) Integrative Seminar II

One of a series of seminars which integrate application, assessment and intervention knowledge and experience across multiple courses; and develops the research project-professional paper. Focus is on the acute, sub-acute and long-term nursing home and musculoskeletal patient population. Students identify and discuss professional issues generated by observations made in the acute, sub-acute and long-term nursing home practicum setting. Students develop competency in critical thinking, problem solving, clinical decision making and best practice recommendations for the musculoskeletal patient. Students demonstrate critical reading skills of the professional literature that reflects an understanding of the problems and functional limitations of the musculoskeletal patient population. Students submit a research project proposal that includes a comprehensive literature review, research hypotheses and methods. Components:Seminar Course Equivalents:PT 5308W Requirement Group:PT 307. Physical Therapy majors only.

PT5308W(3 Credits) Integrative Sem II

One of a series of seminars which integrate application, assessment and intervention knowledge and experience across multiple courses; and develops the research project-professional paper. Focus is on the acute, sub-acute and long-term nursing home and musculoskeletal patient population. Students identify and discuss professional

issues generated by observations made in the acute, sub-acute and long-term nursing home practicum setting. Students develop competency in critical thinking, problem solving, clinical decision making and best practice recommendations for the musculoskeletal patient. Students demonstrate critical reading skills of the professional literature that reflects an understanding of the problems and functional limitations of the musculoskeletal patient population. Students submit a research project proposal that includes a comprehensive literature review, research hypotheses and methods. Includes a writing component. Components:Seminar Course Equivalents:PT 5308
Attributes:Writing Competency Requirement Group:Prerequisite: PT 5307. Pre-Physical Therapy majors only.

PT5309(3 Credits) Integrative Seminar III

One a series of seminars which integrate application, assessment and intervention knowledge and experience across multiple courses; and develops the research project-professional paper. Focus is on the musculoskeletal and neuromuscular patient population. Students identify and discuss professional issues generated by observations made in the musculoskeletal practicum setting. Students develop competency in critical thinking, problem solving, clinical decision making and best practice recommendations for the neuromuscular patient. Students demonstrate critical skills of the professional literature that reflects an understanding of the problems and functional limitations of the neuromuscular patient population. Students collect data and prepare preliminary results of their findings. Components:Seminar Requirement Group:Prerequisites: PT 5308 and PT 5318 (RG469).

PT5310(3 Credits) Integrative Seminar IV

One of a series of seminars which integrate application, assessment and intervention knowledge and experience across multiple courses. Focus is on the neuromuscular patient population. Students identify and discuss professional issues generated by observations made in the neuromuscular practicum setting. Students meet identified standards on competency in critical thinking, problem solving, clinical decision making and best practice recommendations for all patient populations in this culminating

course. Components:Seminar Requirement Group:Prerequisite: PT 5309 and PT 5320 (RG470).

PT5311(3 Credits) Integrative Seminar V

One of a series of seminars which develops the research project-professional paper. Focus is to complete and present the research project-professional paper in this culminating course. Components:Seminar Requirement Group:Prerequisite: PT 5309 (RG471).

PT5314(3 Credits) Principles of Rehabilitation

Explores the role of physical therapists in the rehabilitation of patients with complex problems and multi-system dysfunction. Students develop competency in assessment, treatment planning and implementation, and evaluation of treatment outcomes in the areas of functional mobility and accessibility, patient education and prevention of complications. Components:Laboratory, Lecture, Practicum

PT5316(7) Acute Care Practicum

In a supervised acute care setting, sub-acute care setting or long-term nursing home, students apply a variety of patient care procedures and techniques leading to the development of entry level competency. Clinical teaching facilities are located throughout the United States. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory). Components:Practicum

PT5318(6) Principles of Musculoskeletal Rehabilitation

Focus is on the physical therapy care of patients with existing or potential musculoskeletal dysfunction. The student learns to establish physical therapy diagnoses, identify realistic goals, plan and implement programs for patients with musculoskeletal problems, giving full consideration to their physical, social and psychological well being. Components:Laboratory, Lecture, Practicum Requirement Group:Prerequisites: PT 5308 (RG474).

PT5320(6) Principles of Neuromuscular Rehabilitation

Through comprehensive problem solving, students analyze patient situations where neuromotor dysfunction is a complicating factor. Students develop neurophysiological sound evaluation and treatment skills integrating physical and psychological patient considerations. Components:Laboratory, Lecture, Practicum Requirement Group:Prerequisites: PT 5308 (RG 475).

PT5330(3 Credits) Lifespan Growth and Development

Provides an overview of motor development, individual development and family development from a lifespan perspective as they relate to the practice of physical therapy. The impact of disease and disability on the individual and the family is explored with a focus on recognizing dysfunction and facilitating effective coping and adaptation. Components:Lecture Requirement Group:Prerequisites: PT 5308 (RG478).

PT5343(3 Credits) Physical Therapy Issues Seminar

Through discussion of current issues and problems in the professional field of physical therapy, students explore the possible solutions to those problems from their own perspective as aspiring professionals, the professional organization's perspective and from the perspective of the consumer of their services. Components:Lecture Requirement Group:Prerequisites: PT 5308 (RG479).

PT5384(3 Credits) Balance and Postural Control

This course will explore historical and contemporary perspectives on human balance and sway while standing. The interplay between Center of Mass and Center of Pressure will be examined. Conceptual models of balance strategies and the theoretical basis for different "approaches" to balance will be discussed. Different strategies for analyzing data will be discussed with regard to normal and physically challenged individuals. Components:Lecture

PT5410(4)Program Director Consent Req

<p>Human Anatomy Trunk and Upper Extremity</p> <p>Discussion of the conceptual and structural basis of osteology, myology, neurology, human development, and basic kinesiology and biomechanics. Selected anatomical and physiological dysfunctions of the trunk and upper extremity will also be discussed . Components:Laboratory, Lecture</p>	<p>as well as the principles governing the use and actions of drugs in the treatment of disease. (NSOE C&C 5/18/11) Components:Discussion, Lecture</p>	<p>Consent Reqd Functional-Biomechanical Relationships</p>
<p>PT5412(4)Program Director Consent Reqd Human Anatomy Pelvis and Lower Extremity</p>	<p>PT5420(3 Credits)Program Director Consent Reqd Foundation in Clinical Pathology</p>	<p>Students will receive detailed descriptions and analyses of structures of the musculoskeletal system in general as well as within individual functional regions. Students will also examine how structure affects function within each region. Lastly, they will also examine the forces sustained by the various regions during function, in normal and pathological conditions thus preparing them to apply knowledge of normal anatomical structure and function to therapeutic intervention. (NSOE C&C 5/18/11) Components:Discussion, Laboratory, Lecture</p>
<p>Discussion of the conceptual and structural bases of osteology, myology, neurology, human development, and basic kinesiology and biomechanics. Selected anatomical and physiological dysfunctions of the pelvis and lower extremity will also be discussed. Components:Laboratory, Lecture</p>	<p>A comprehensive presentation of the general principles of disease with an emphasis on general pathology. Focus is on the mechanisms underlying disease and their management as a basis for therapeutic program planning in physical therapy. Components:Lecture</p>	<p>PT5431(2)Program Director Consent Reqd Prevention, Health Promotion, Fitness and Wellness</p>
<p>PT5414(3 Credits)Program Director Consent Reqd Clinical Human Physiology</p>	<p>PT5422(2)Program Director Consent Reqd Cardiopulmonary Pathology</p>	<p>This course prepares the student to provide culturally competent evidence based physical therapy services for prevention, health promotion, fitness and wellness to individuals, groups, and communities. Components:Discussion, Lecture</p>
<p>Discussion of the biochemical, nutritional, cellular and physiological principles necessary for the analysis of the normal and abnormal function and for the rehabilitation of the human musculoskeletal, cardiovascular and respiratory systems using patient cases. (NSOE C&C 5/18/11) Components:Lecture</p>	<p>A comprehensive presentation of cardiopulmonary diseases. Focus is on the mechanisms underlying disease and their management as a basis for therapeutic program planning in physical therapy. Components:Lecture</p>	<p>PT5432(4)Program Director Consent Reqd Motor Control and its Clinical Application</p>
<p>PT5416(4)Program Director Consent Reqd Neuroanatomy and Clinical Neurology</p>	<p>PT5424(4)Program Director Consent Reqd Musculoskeletal Pathology</p>	<p>Introduction to and discussion of contemporary theories of motor control, research evidence on normal, abnormal, developmental, and aging-related processes governing motor control will be provided. These ideas will be applied to understand the various impairments of neurological populations and their treatment using the model of evidence based practice. (NSOE C&C 5/18/11) Components:Lecture</p>
<p>This course is designed to provide healthscience professionals an up-to-date comprehensive investigation into the human nervous system. Complex interrelationships between structure and function of the nervous system are being clarified. This course will relate these facts into information of clinical significance. Clinical examples in each area will offer opportunities for practice in neurophysiological analysis that health professionals use daily. (NSOE C&C 5/18/11) Components:Lecture</p>	<p>Mechanical properties of musculoskeletal tissues will be described. Growth and maintenance mechanisms of the different tissues will be detailed. Diseases and disorders of the musculoskeletal system will be covered. The underlying tissue pathology and clinical symptoms will be addressed from the orthopedic and physical therapy perspective. Therapeutic interventions will be presented. Components:Discussion, Lecture</p>	<p>PT5433(3 Credits)Program Director Consent Reqd Management for the Physical Therapist</p>
<p>PT5418(3 Credits)Program Director Consent Reqd Clinical Pharmacology</p>	<p>PT5426(3 Credits)Program Director Consent Reqd Neuromuscular Pathology</p>	<p>This course will introduce the student to the field of disability studies. Physical, cognitive, emotional, social, and cultural factors related to the presence of disability and chronic illness throughout the life span will be explored. Emphasis is placed on those aspects of disability that affect the practice of physical therapy assessment and treatment. (NSOE C&C 5/18/11) Components:Discussion, Lecture</p>
<p>This course is designed to integrate and summarize the essentials of medical pharmacology. The main molecular and cellular actions of drugs will be emphasized</p>	<p>This course introduces students to basic mechanisms of neuropathology, the neurological examination and tests, and specific pathologies they are likely to encounter in physical therapist practice. The course will emphasize the medical and surgical diagnosis and management of patients with neurologic pathology. Components:Lecture</p>	
	<p>PT5430(3 Credits)Program Director</p>	

<p>PT5434(2)Program Director Consent Req Foundations for System Review</p> <p>A foundations course for Physical Therapy Majors in Differential Diagnosis. The course scope covers a broad spectrum of clinical sciences and provides training in screening (i.e. history taking) of a culturally diverse patient/client population across the lifespan for appropriate healthcare management. Components:Lecture</p>	<p>Professionalism for the Physical Therapist</p> <p>Through readings, lecture, personal investigation, and discussion of current issues, "hot topics" and problems in the profession of physical therapy, students will demonstrate an understanding of their environment of practice. Students learn selected laws, rules, regulations, guidelines and ethical codes governing the practice of physical therapy and will explore possible solutions to common professional problems. Emphasis is placed on the importance of ethical and legal practice. Components:Lecture</p>	<p>C&C 5/18/11) Components:Discussion</p> <p>PT5450(5)Program Director Consent Req Fundamentals of Physical Therapy Examination</p> <p>This course covers the fundamentals of physical therapist examination in the context of overall practice as described in the Guide to Physical Therapist Practice. Students will be introduced to basic tests and measures as well as to information relevant to their selection and interpretation. Students will apply the tests in laboratory and clinical settings and will learn to appropriately document their findings. Components:Laboratory, Lecture, Practicum</p>
<p>PT5435(2)Program Director Consent Req Health Care Issues for Physical Therapists</p> <p>A course for Physical Therapy students with a focus on health care issues related to the individual, community, and health care institutions. Components:Lecture Requirement Group:Open to students enrolled in the D.P.T. program and to others with departmental consent (RG 4104).</p>	<p>PT5440(3 Credits)Program Director Consent Req Evidence-Based Practice in Physical Therapy</p> <p>A foundations course in research, statistical analyses, and evidence-based clinical-decision for Physical Therapy students. Students will develop skills for conducting literature searches, critically appraising clinical research and developing research questions. Applications will fall within the Physical Therapy Profession Patient/Client Management Model. (NSOE C&C 5/18/11) Components:Discussion, Lecture</p>	<p>PT5451(5)Program Director Consent Req Acute Care Management</p> <p>An exploration of the practice of Physical Therapists in the acute care setting. Students will develop competency in clinical evaluation of impairments and functional limitations, identification of appropriate intervention options, and implementation of a plan of care to improve performance of functional activities for patients commonly encountered in acute care practice settings. This course encourages problem solving and critical thinking through the integration of knowledge and skills in the laboratory and clinic and through a written assignment and presentation. (NSOE C&C 5/18/11) Components:Discussion, Laboratory, Lecture</p>
<p>PT5436(3 Credits)Program Director Consent Req Disability Studies</p> <p>This course will introduce the student to the field of disability studies. Physical, cognitive, emotional, social, and cultural factors related to the presence of disability and chronic illness throughout the life span will be explored. Emphasis is placed on those aspects of disability that affect the practice of physical therapy assessment and treatment. (NSOE C&C 5/18/11) Components:Lecture</p>	<p>PT5446(2)Program Director Consent Req Evidence-Based Practice Seminar</p> <p>A course for Physical Therapy students focusing on clinical research related to diagnosis, and prevention / treatment outcomes with emphasis on musculoskeletal and neuromuscular physical therapy. Students will participate in meetings and discussions to facilitate their research projects. (NSOE C&C 5/18/11) Components:Discussion, Lecture</p>	<p>PT5452(3 Credits)Program Director Consent Req Therapeutic Exercise and Physical Agents</p> <p>An exploration of interventions commonly used by physical therapists in both inpatient and outpatient settings. Students will develop competency in selection and implementation of therapeutic exercise and physical agents as interventions to improve performance of functional activities for patients commonly encountered in a variety of settings. The assessment of therapeutic effects, and modification of the interventions is an integral components of this course. Components:Laboratory, Lecture</p>
<p>PT5437(3 Credits)Program Director Consent Req Education and Communication for Physical Therapists</p> <p>This course covers fundamental aspects of education and communication as they relate to physical therapy as described in the Guide to Physical Therapist Practice. Students will be introduced to learning theories and theories of change. Learner assessment and strategies for communication and instruction will be covered. Students generate written and oral communications and will plan and deliver an educational unit relating to physical therapy. (NSOE C&C 5/18/11) Components:Lecture</p>	<p>PT5448(2)Program Director Consent Req Capstone Scholarly Report Preparation</p> <p>Students in the Doctor of Physical Therapy program are required to participate in a scholarly project (original research, systematic review or clinical case report) with one or more faculty mentors and students. Course requirements are met by the preparation of a manuscript meeting professional standards for form and content, culminating in a document appropriate for submission to a refereed journal. (NSOE</p>	<p>PT5453(3 Credits)Program Director Consent Req Musculoskeletal Rehabilitation - The Spine</p>
<p>PT5438(2)Program Director Consent Req</p>		

<p>A course for Physical Therapy students focusing on the management of musculoskeletal conditions affecting the spine. Elements of patient management consist of: examination, evaluation, diagnosis, prognosis, and intervention with attention to outcomes, differential diagnosis, and screening strategies. Evidence-based practice is reinforced. Applications will consider client populations across the life span. Components:Laboratory, Lecture, Practicum</p>	<p>examination and treatment will be consistent with foundational movement science under the evidenced based practice model. (NSOE C&C 5/18/11) Components:Discussion, Laboratory, Lecture</p>	<p>learned in PT 453 and PT 454 in an outpatient setting. Students will utilize examination and manual therapy skills in the development and implementation of plans of care for outpatients with various musculoskeletal conditions.</p>
<p>PT5454(3 Credits)Program Director Consent Req Musculoskeletal Rehabilitation - The Extremities</p>	<p>PT5460(3 Credits)Program Director Consent Req Introduction to Clinical Education</p>	<p>Components:Practicum</p>
<p>A course for Physical Therapy students focusing on the management of musculoskeletal conditions affecting the extremities. Elements of patient management consist of: examination, evaluation, diagnosis, prognosis, and intervention with attention to outcomes, differential diagnosis, and screening strategies. Evidence-based practice is reinforced. Applications will consider client populations across the life span. Components:Laboratory, Lecture, Practicum</p>	<p>This one-week course is intended to provide students with a foundation for all future full time practical experience courses. Students will learn how evaluation methods and tools will be implemented during full time practica. Roles and responsibilities of persons associated with practicum courses will be explored. Through lecture and discussion, students will develop an understanding of the importance of professional behaviors, self-evaluation and personal reflection. (NSOE C&C 5/18/11) Components:Lecture</p>	<p>PT5464(8)Program Director Consent Req Musculoskeletal Practicum</p> <p>Under close supervision by an experienced, licensed Physical Therapist, students will perform all patient management functions for patients in an outpatient orthopedic setting. The course is held off campus at individually assigned clinical facilities throughout the country. Each student is assigned one or two clinical instructors who are physically present and immediately available for direction and supervision. Through this experience, students learn to apply their didactic education to the management of patients with musculoskeletal conditions. (NSOE C&C 5/18/11) Components:Practicum</p>
<p>PT5454(3 Credits)Program Director Consent Req Musculoskeletal Rehabilitation - The Extremities</p>	<p>PT5461(8)Program Director Consent Req Acute Care Practicum</p>	<p>PT5465(3 Credits)Program Director Consent Req Public Engagement in Prevention, Health Promotion, Fitness and Wellness</p>
<p>A course for Physical Therapy students focusing on the management of musculoskeletal conditions affecting the extremities. Elements of patient management consist of: examination, evaluation, diagnosis, prognosis, and intervention with attention to outcomes, differential diagnosis, and screening strategies. Evidence-based practice is reinforced. Applications will consider client populations across the life span. Components:Laboratory, Lecture, Practicum</p>	<p>Under close supervision by an experienced, licensed Physical Therapist, students will perform patient management functions for patients in a hospital. The course is held off campus at individually assigned clinical facilities throughout the country. Each student is assigned one or two clinical instructors who are physically present and immediately available for direction and supervision. (NSOE C&C 5/18/11) Components:Practicum</p>	<p>This course is designed to provide experiences for students in the development and delivery of service related to prevention, health promotion, fitness, and wellness in settings that support supervised interaction with the surrounding community. (NSOE C&C 5/18/11) Components:Practicum</p>
<p>PT5455(3 Credits)Program Director Consent Req Essentials of Rehabilitation Practice</p>	<p>PT5462(3 Credits)Program Director Consent Req Internal Integrated Musculoskeletal Clinical Practicum I</p>	<p>PT5466(2)Program Director Consent Req Internal Integrated Neuromuscular Clinical Practicum</p>
<p>An exploration of the practice of Physical Therapists in the area of orthotics prosthetics, Diabetes and Spinal Cord Injury. Students will develop competency in clinical assessment of functional limitations, specifically in locomotion, identification of appropriate treatment options and implementation of interventions, through the use of orthotics and prosthetics, to improve performance of functional activities for patients with a variety of deficits. Components:Laboratory, Lecture, Practicum</p>	<p>A clinical experience that provides students the opportunity to integrate interventions learned in PT 452 in an outpatient setting. Students will develop and administer plans of care that include therapeutic exercise and physical agents for outpatients with various musculoskeletal conditions. Components:Practicum</p>	<p>A clinical experience that provides students the opportunity to integrate interventions learned in PT456 and PT 457 in a clinical setting. Students will utilize examination and intervention skills in the development and implementation of plans of care for patients with various neuromuscular conditions.</p>
<p>PT5456(6)Program Director Consent Req Neuromuscular Rehabilitation</p>	<p>PT5463(2)Program Director Consent Req Internal Integrated Musculoskeletal Clinical Practicum II</p>	<p>Components:Practicum</p>
<p>Through comprehensive problem solving, students will learn to manage patients with neuromuscular dysfunction. Students will develop neurophysiologically sound examination and intervention skills integrating physical and psychological patient considerations. The skill set for</p>	<p>A clinical experience that provides students the opportunity to integrate interventions</p>	<p>PT5467(8)Program Director Consent Req Neuromuscular/Rehabilitation Practicum</p>

Under close supervision by an experienced, licensed Physical Therapist, students will perform all patient management functions for patients in a setting where the team approach is used to improve functional abilities and prevent disability. The course is held off campus at individually assigned clinical facilities throughout the country. Each student is assigned one or two clinical instructors who are physically present and immediately available for direction and supervision. Through this experience, students learn to apply their didactic education to the management of adult patients with neurological conditions, amputations, spinal cord injuries and other diagnoses requiring relatively lengthy rehabilitation services. (NSOE C&C 5/18/11)
Components:Practicum

PT5468(8)Program Director Consent Req'd Individualized Practicum

Under supervision by an experienced, licensed Physical Therapist, students will perform all patient management functions for patients in a facility chosen by the student because of his/her special interest and site availability. The course is held off campus at individually assigned clinical facilities throughout the country. Each student is assigned one or two clinical instructors who are physically present and available to supervise all patient/client management performed by the student. Since the learning experience is intended to allow the student to gain clinical experience in an area related to their individual professional interests, any type of caseload is allowed for the course. (NSOE C&C 5/18/11)
Components:Practicum

PT5469(3 Credits)Program Director Consent Req'd Integrated Acute Care Practicum

This course provides students with clinical experience at hospitals and sub acute health care facilities. Students will observe and will assist as appropriate with patient care under the supervision and direction of a licensed physical therapist. The course allows students to integrate and apply the didactic component of the curriculum in an acute or sub acute environment. It is designed to foster the student's appreciation for the multidisciplinary nature of hospital care. (NSOE C&C 5/27/2011)
Components:Practicum

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Physics

Department Head:
Board of Trustees Distinguished Professor
Douglas Hamilton

Associate Department Head for
Undergraduate Education:Professor Barret
Wells

Associate Department Head for Graduate
Education and Research:Professor Gerald V.
Dunne

Associate Department Head for
Administration:
Professor George N. Gibson

Professors

Alpay, Best, Boggs, Birge, Budnick,
Cormier, Cote, Dobyrynin, Dunne, Dutta,
Eyler, Ferando Gai, Gibson, Gilliam, Gould,
Hamilton, Hines, Islam, Javanainen, Kappers,
Kessel, Kharchekno, Klemens, Kovner,
Mallett, Mannheim, Michels, Montgomery,
O'Donnell, Papdimitrakopoulos, Please,
Peterson, Rawitscher, Roychoudhury, J.
Schweitzer, Smith, Stwalley, Swanson and
Wells

Associate Professors

Blum, Brooks, Edson, Gordina, Jones, Joo,
Liu, Sinkovic, Teplyaev, Wolgemuth, and
Yelin

Assistant Professor

Gao, Huber, Jain, P. Schweitzers, Till

The Master of Science and Doctor of
Philosophy degrees are offered.

Admission.

For admission to either the M.S. or Ph.D.
program, completion of a bachelor's degree
normally is required. It is expected that the
applicant will have majored in physics or in a
related subject.

The Master of Science Degree

Each student in the Master's program follows
an individual plan of study arranged jointly
by the student and an advisory committee,
based on the student's career goals as well as
prior preparation. Candidates for the Plan B
Master's degree are required to complete 24
credits of courses. Under Plan A, a thesis is
required, as well as completion of 9 credits of
Thesis Research courses as stipulated in the
Standards and Degree Requirements section
of this catalog.

The Ph.D. Degree.

Each doctoral student's course of study is supervised by an advisory committee, headed by the student's major advisor. The committee and the student jointly plan a curriculum that is designed to provide the general knowledge of physics appropriate for the Ph.D. and also the specialized expertise necessary to conduct dissertation research. This research is conducted under the supervision of the major advisor and culminates in an original scientific contribution.

There are numerous research projects in the Department of Physics which provide graduate students with opportunities for conducting the scientific investigations necessary for the Ph.D. degree. These include atomic, molecular and optical physics (experimental and theoretical), condensed matter physics (experimental and theoretical), nuclear physics (experimental and theoretical), particle and field theory (including relativity and cosmology) and quantum optics (experimental and theoretical). Active research groups are engaged in each of these areas. Their work is described on-line at <www.phys.uconn.edu>. A brochure that describes the Department's graduate program also is available on-line.

Special Requirements for the Ph.D.

The requirements for the Ph.D. include all the general requirements listed in the Standards and Degree Requirements section of this catalog. In addition, satisfactory completion of Physics 5302 (Electrodynamics II) and Physics 5403 (Quantum Mechanics III) is required for the Ph.D. degree.

The General Examination in physics consists of written and oral sections. A set of written examinations must be completed satisfactorily to qualify for admission to the oral part of the General Examination.

Independent Study A special reading course for graduate students. This course may be taken, with change of topic, up to three times for a maximum of nine total credits. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Independent Study

Courses

PHYS5020(1 - 6)Instructor Consent Required Research in Physics

Experimental and theoretical research in selected topics in physics. This course may

be taken up to three times for a maximum of nine credits. Components:Laboratory

PHYS5050(3 Credits) Modern Physics for Teachers

New teaching materials and techniques as developed by the Physical Science Study Committee for secondary school teachers of physics. Components:Lecture

PHYS5094(3 Credits)Instructor Consent Required Physics Seminar

"The treatment of special topics, primarily by individual readings and reports. Students taking this course" will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

PHYS5101(3 Credits) Methods of Theoretical Physics I

Vector and tensor analysis, curvilinear coordinates, linear algebra, functions of complex variables, differential equations, special functions, elements of Green's functions. Components:Lecture

PHYS5102(3 Credits) Methods of Theoretical Physics II

Abstract vector spaces, Hilbert space, group theory. Fourier series and integral representations, Theory of Green's functions and integral equations. Complex function theory. Components:Lecture Requirement Group:Prerequisite: PHYS 5311 (RG 482).

PHYS5105(1 - 6) Methods of Experimental Physics

Experimental methods used in modern research are applied to experiments from various fields of physics, including: low temperature conductivity of metals, x-ray diffraction, acoustic attenuation, optical constants of metals, color centers in alkali halides, nuclear beta decay, Zeeman effects and others. Components:Laboratory

PHYS5201(3 Credits) Theoretical Mechanics I

Classical mechanics: Lagrange equations, central force motion, rigid body motions, small oscillations, Hamilton equations, canonical transformation. Components:Lecture

PHYS5202(3 Credits) Theoretical Mechanics II

Dynamics of continuous media, hydromechanics, elasticity, wave motion, wave interactions and scattering, non-linear processes. Components:Lecture Requirement Group:Prerequisite: PHYS 5318 (RG481).

PHYS5301(3 Credits) Electrodynamics I

Differential formulations of electrostatics and magnetostatics, electromagnetic induction. Maxwell equations, electromagnetic waves, application to wave guides, cavities, and dispersive media. Foundations of special relativity. Components:Lecture Requirement Group:Prerequisite: PHYS 5101 (311) (RG4040)

PHYS5302(3 Credits) Electrodynamics II

Maxwell's equations with time dependent sources; radiation from relativistic charged particles; dynamical laws for charged particles; diffraction of electromagnetic waves. Components:Lecture

PHYS5350(4)Instructor Consent Required Computerized Modeling in Science

Development and computer-assisted analysis of mathematical models in chemistry, physics, and engineering. Typical topics include chemical equilibrium, reaction rates, particle scattering, vibrating systems, least square analysis and quantum chemistry. Components:Lecture Course Equivalents:MATH 5540

PHYS5401(3 Credits) Quantum Mechanics I

Mathematical formulation and interpretation of quantum mechanics. Illustrative examples. Hydrogen atom. Dirac ket and bra vectors, matrix methods. Scattering theory. Components:Lecture Requirement Group:Prerequisite: PHYS 5101 (311) and PHYS 5201 (318) (RG 4041).

PHYS5402(3 Credits) Quantum Mechanics II

Symmetry and angular momentum. Approximation methods for stationary and time-dependent problems, with applications. Relativistic theory of the electron. Components:Lecture Requirement Group:Prerequisite: PHYS 5401 (RG487).

PHYS5403(3 Credits) Quantum Mechanics III

Occupation number representation, electron gas, Hartree-Fock approximation, correlation energy, superconductivity, perturbation theory, Green's functions, Feynman

diagrams. Components:Lecture Requirement Group:Prerequisite: PHYS 5402 (RG490).

PHYS5500(3 Credits) Statistical Mechanics

Ensembles, distribution function, partition function. Bose-Einstein and Fermi-Dirac distributions, fluctuations, applications to the properties of solids and liquids and to the kinetic theory of gases. Components:Lecture Requirement Group:Prerequisite: PHYS 5401 (RG488).

PHYS5600(3 Credits) Modern Physics

Experimental and theoretical milestones in the development of contemporary physics. Atomic, molecular, and optical physics including quantum optics; condensed matter physics; nuclear and particle physics; and cosmology and astrophysics. Components:Lecture Requirement Group:Prerequisite: PHYS 5401 (RG487).

PHYS5621(1 - 6)Instructor Consent Required Advanced Topics in Physics I

Selected topics in theoretical and experimental physics. Components:Lecture

PHYS5622(1 - 3)Instructor Consent Required Advanced Topics in Physics II

Selected topics in theoretical and experimental physics. Components:Lecture Requirement Group:Prerequisite: PHYS 5621 (RG489)

PHYS6110(3 Credits) Atomic Physics

Coupling of angular momenta. Hartree-Fock theory of many electron atoms, fine structure and hyperfine structure. Introduction to group theory. Components:Lecture Requirement Group:Prerequisite: PHYS 5402 (RG490).

PHYS6120(3 Credits) Molecular Physics

Heitler-London and molecular orbital theories for diatomic molecules, semi-empirical methods of poly-atomic molecules. Components:Lecture Requirement Group:Prerequisite: PHYS 6110 (RG 495).

PHYS6130(3 Credits) Quantum Optics

Semiclassical theory of light-matter interactions. Quantum states of light. Generation, detection and interactions of nonclassical radiation. Components:Lecture Requirement Group:Prerequisite: PHYS 5401 (RG487).

PHYS6140(3 Credits) Principles of Lasers

The physics of lasers, including optical pumping and stimulated emission, laser rate equations, optical resonators, non-linear optics, the Kerr effect and Faraday rotation. Applications to gas, crystal, glass, liquid, dye, semiconductor, chemical and ultraviolet lasers, Q-switching, mode-locking, and parametric devices. Components:Lecture

PHYS6150(3 Credits) Semiconductor Optical Devices

Semiconductor based optical devices such as lasers, amplifiers, modulators, and photodetectors, and their application to optical fiber transmission systems. Components:Lecture Requirement Group:Prerequisite: PHYS 6201 (RG1114).

PHYS6201(3 Credits) Fundamentals of Solid State Physics I

Crystal structure, phonons, electronic band structure, metals, insulators and semiconductors. Components:Lecture

PHYS6202(3 Credits) Fundamentals of Solid State Physics II

Optical, magnetic and transport properties. Lattice defects. Non-crystalline solids. Components:Lecture Requirement Group:Prerequisite: PHYS 6201 (RG506).

PHYS6211(3 Credits) Condensed Matter Physics I

Crystal structure; lattice vibrations; electronic band structure of solids; transport theory; basic properties of metals, semiconductors and insulators; magnetism; super-conductivity. Components:Lecture Requirement Group:Prerequisite: PHYS 5402 (RG490).

PHYS6212(3 Credits) Condensed Matter Physics II

Crystal structure; lattice vibrations; electronic band structure of solids; transport theory; basic properties of metals, semiconductors and insulators; magnetism; super-conductivity. Components:Lecture Requirement Group:Prerequisite: PHYS 6211 (RG491).

PHYS6220(3 Credits) Advanced Solid State Physics

The many-body problem in solid state physics. The electron gas, normal

metals, electron-phonon interactions, superconductivity, ferro- and antiferromagnetism and spin waves, polaron theory. Components:Lecture Requirement Group:Prerequisite: PHYS 6212 or PHYS 6342 (RG496).

PHYS6234(3 Credits) Non-Equilibrium Properties of Solids

Electrical and thermal conduction, thermoelectricity. Electrons and phonons. Perturbation techniques to estimate interaction rates; electron-phonon, phonon-phonon and imperfection scattering processes. Ultrasonic generation and attenuation, spin-lattice interactions. Components:Lecture Requirement Group:Prerequisite: PHYS 6211 (RG501).

PHYS6236(3 Credits) Microwave Physics I

The principles of microwave and radio frequency techniques applied to investigation of the properties of matter. Components:Lecture Requirement Group:Prerequisite: PHYS 5301 (RG493).

PHYS6244(3 Credits) The Electrical Properties of Polymers

Experimental and theoretical aspects of electrical phenomena in polymers: DC and AC conductivity, dielectric constant, electrical breakdown, photoconductivity, etc. Extended and localized electron wavefunctions; band and hopping conduction. Components:Lecture

PHYS6246(3 Credits) Nuclear Magnetic Resonance I

Basic theory and experimental methods of NMR with emphasis on resonance and relaxation in metals. Brief discussion of interpretation of NMR in non-metallic solids, liquids, and gases. Components:Lecture Requirement Group:Prerequisite: PHYS 5401 (RG487).

PHYS6247(3 Credits) Nuclear Magnetic Resonance II

Basic theory and experimental methods of NMR with emphasis on resonance and relaxation in metals. Brief discussion of interpretation of NMR in non-metallic solids, liquids, and gases. Components:Lecture Requirement Group:Prerequisite: PHYS 6246 (RG502).

PHYS6254(3 Credits)Instructor Consent Required Low Temperature Physics I

Lectures and seminars on selected topics in low temperature physics; superfluidity and super-conductivity, solid state, nuclear alignment and polarization, transport properties in solids. Components:Lecture

PHYS6256(3 Credits) X-Ray Physics I

Symmetry of crystals. Production and properties of x-rays. Application of x-rays in the study of crystalline and amorphous solids by diffraction and spectroscopic techniques, including synchrotron radiation for studying atomic and electronic structures in materials. Components:Lecture

PHYS6264(3 Credits) Semiconductor Physics

Semiconductors and semiconductor devices. Band structure, phonon scattering, velocity-field relations, effects of doping and magnetic fields, optical and transport properties. Components:Lecture Requirement Group:Prerequisite: PHYS 6201 and PHYS 5402, which may be taken concurrently (RG1115).

PHYS6300(3 Credits) Instructor Consent Required Astrophysics and Modern Cosmology

“Basic principles of contemporary astrophysics; applications to stars, galaxies, and modern cosmology. “ Instructor consent required. Preparation equivalent to PHYS 257 and PHYS 261 is expected. Components:Lecture

PHYS6310(3 Credits) Relativity

Special relativity, tensor analysis, foundations of general relativity, Petrov classification of curved spacetimes, Schwarzschild and Kerr solutions, experimental tests and recent developments. Components:Lecture

PHYS6320(3 Credits) Nuclei and Particles

Properties of nuclei and particles, conserved quantities, isospin, quark model, Fermi gas model, electroweak interaction, high energy scattering. Components:Lecture

PHYS6331(3 Credits) Nuclear Physics I

A quantum mechanical treatment of nuclear forces and nuclear structure, including the shell and collective models, and of reaction and radiation phenomena. The second semester is reserved for a discussion of selected topics on an advanced level. Components:Lecture Requirement

Group:Prerequisite: PHYS 5402 (RG490).

PHYS6332(3 Credits) Nuclear Physics II

A quantum mechanical treatment of nuclear forces and nuclear structure, including the shell and collective models, and of reaction and radiation phenomena. The second semester is reserved for a discussion of selected topics on an advanced level. Components:Lecture Requirement Group:Prerequisite: PHYS 6331 (RG497).

PHYS6341(3 Credits) Quantum Theory of Fields I

Local gauge invariance, Lagrangian formulation, Noether currents, spontaneous breakdown of symmetry, Higgs mechanism and superconductivity, canonical quantization, Feynman diagrams, Green's functions. Components:Lecture Requirement Group:Prerequisite: PHYS 5403 (RG498).

PHYS6342(3 Credits) Quantum Theory of Fields II

Topics chosen from the following: Path integral formalism, generating functionals, renormalization, abelian and non-abelian gauge theories (QED and QCD), electroweak theory, solitons, instantons. Components:Lecture Requirement Group:Prerequisite: PHYS 6341 (RG499).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Physiology and Neurobiology

Department Head

Professor J. Larry Renfro

Professors

Armstrong, Chapple, Chen, Crivello, de Blas, Gallo, Kraemer, LoTurco, Maresh, Moiseff, Pescatello, and Zinn

Associate Professor

Cantino, Conover, Nishiyama, and Walikonis

Assistant Professors

Anastasios Tzingounis, Kanadia, Schwartz, Mulkey

Physiology and Neurobiology includes the following major areas of research:

- (1) Neurobiology – cellular and comparative neurobiology with emphasis on neural integration of behavior patterns, synaptic transmission, developmental neurobiology, glial cell biology, regulation and biophysics of ion channels, neuronal mechanisms of calcium and pH regulation, molecular neurobiology and functional neuroanatomy;
- (2) Physiology – evolution of physiological adaptations in higher organisms, comparative aspects of osmotic and ionic regulation in vertebrates, transepithelial ion and water transport, renal physiology, muscle physiology, cardiovascular and respiratory physiology.

Interdisciplinary Study

Neurosciences.

This is an interdisciplinary area of concentration. Neuroscience is concerned with the structural and functional characteristics of the nervous system and its relation to the adaptive physiology and behavior of the organism. Students in this program may approach the full range of neuroscience studies through courses and research at the cellular, systemic, and organismic levels. A particular strength of the area is the analysis of behavior, its development, and its neurological bases. This area of concentration is offered in the fields of study of pharmaceutical science, physiology and neurobiology, and psychology. Application is made to the preferred field of study, but the applicant must be acceptable to the Neuroscience Committee.

Biomedical Engineering Program.

The Department of Physiology and Neurobiology participates in a joint program with the School of Engineering for graduate students interested in interdisciplinary work in which biological and engineering disciplines are interrelated. Applicants may have primary training in biology or physical sciences. For information with regard to the biological engineering program, students should write to Dr. William Chapple, Unit 3156, Storrs, Connecticut 06269-3156.

Courses

PNB5302(3 Credits) Fundamentals of Physiology Introduction to integrative biology. Associations of molecules, cells and tissues and their integrated functions across all organizational levels. Application of language and basic concepts of physiology to the development of problem-solving skills. Components:Lecture

PNB5314(2) The Physiology of Excitable Cells

In depth study of the molecular structure, function and regulation of ion channels and the mechanisms that control membrane potential and cell excitability. Reading and discussion focus on primary literature. Components:Lecture

PNB5325(3 Credits) Biological Rhythms

Neuroendocrine and environmental factors in the control of biological rhythmicity, especially circadian and annual rhythms. Emphasis on animals. Components:Lecture

PNB5330(3 Credits) Hormones and Behavior

Hormones and regulation of behaviors, reproductive, parental, social and aggressive behaviors, as well as migration, hibernation, and learning and memory. Components:Lecture

PNB5347(1 - 3)Instructor Consent Required Electron Microscopy

Lectures and laboratory exercises on the principles and practice of biological electron microscopy. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Lecture

PNB5351(1 - 3)Instructor Consent Required Projects in Electron Microscopy

Electron microscopy as a research method in

biological sciences. Components:Independent Study

PNB5390(3 Credits) Membrane Transport

Fundamental mechanisms by which water and small molecules are transported across biological membranes. Biophysical and biochemical analysis of transport by diffusion, osmosis, channels, carriers and pumps. Physiological integration of different transport mechanisms. Components:Lecture

PNB5395(3 Credits) Independent Study

A reading course for those wishing to pursue special work in biology. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Independent Study

PNB5396(1 - 3) Investigation of Special Topics

Advanced study in a field within Physiology and Neurobiology. Components:Independent Study

PNB5397(1 - 6) Research

Conferences and laboratory work covering selected fields of Physiology and Neurobiology. Components:Independent Study

PNB6400(3 Credits) Seminar in Neurobiology

An in-depth study of selected topics in the molecular, cellular, and central aspects of neurobiology.

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

PNB6402(3 Credits) Seminar in Comparative Physiology

Components:Seminar

PNB6403(3 Credits) Seminar in Endocrinology

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

PNB6404(3 Credits) Seminar in Biological Rhythms

Components:Seminar

PNB6405(3 Credits) Seminar in Research and Journal Presentations in Physiology and Neurobiology

Provides the opportunity for graduate students to present journal articles and their laboratory research in physiology and neurobiology to the department. Students enrolled in this course receive a grade of S (satisfactory) or U (unsatisfactory). Components:Seminar

PNB6417(3 Credits) Developmental Neurobiology

Molecular mechanisms of neurodevelopment. Neural induction, cell fate determination, neurogenesis, axon targeting, neuronal migration, synapse formation and activity-dependent synaptic remodeling. Components:Lecture Requirement Group:Prerequisite: PNB 5301 (RG178).

PNB6418(3 Credits) Integrative Neurobiology

Physiology of the central nervous system: information processing and central mechanisms in vertebrates and invertebrates; physiological aspects of behavior. Components:Lecture Requirement Group:Prerequisite: PNB 5301 (RG178).

PNB6423(3 Credits) Human Reproduction

The physiology of human reproduction. Components:Lecture

PNB6424(3 Credits) Reproductive Neuroendocrinology

Analysis of the functional interaction between the body's two regulatory systems, the nervous and endocrine systems, with respect to the regulation of female reproduction. Components:Lecture

PNB6426(3 Credits) Molecular and Cellular Neurobiology

Molecular and cellular aspects of modern neurobiology including the analysis of neuronal proteins and their "post-translational modifications, the dynamics of cellular substructures, and various signaling mechanisms" in nerve cells including synaptic transmission. Molecular and cellular biology of selected neurological disorders. Components:Lecture Requirement Group:Prerequisites for undergraduates: Seniors only; PNB3251 and PNB 3275 and one of the following: MCB "2210, MCB 2000 or MCB 3010. Consent of instructor

required for graduate students who are in” programs other than PNB.

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†GRAD 5950. Master’s Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master’s Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master’s) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Plant Science

Department Head
Professor Richard McAvoy

Professors
Adams, Berkowitz, Brand, Guillard, Li, McAvoy, Singha,

Associate Professor
Alexopoulos, Auer, Elliott, Miniutti, Morris, Schulthess, Schwab, Westa

Assistant Professors
Henderson, Kuzkovkina-Eischen, and Legrand

The Department of Plant Science offers M.S. and Ph.D. degree programs. Research is conducted in the following major areas: Agronomy (including turf management); Horticulture (including plant biotechnology); Soil Science, and Landscape Architecture (M.S. only). Research areas are highly diverse and continuously developing. Prospective applicants should check the department website (www.canr.uconn.edu/plsci/) for current information on faculty research.

All applicants must provide results of the Graduate Record Examination general tests and three letters of recommendation with their application.

The M.S. program is available with either a thesis (Plan A) or non-thesis (Plan B) option, although most students are admitted under Plan A. Students with deficiencies in their undergraduate preparation may be expected to include preparatory coursework in their plan of study. All M.S. students must enroll in at least one semester of PLSC 5897, Graduate Seminar.

Applicants for the Ph.D. program should have adequate training and experience to enable them to perform independent research. Required coursework will depend on the nature of the research project and the student’s background. A minimum of two years of full-time study beyond the master’s degree (or equivalent) is expected. All Ph.D. students must enroll in at least two semesters of PLSC 5897, Graduate Seminar.

Special Facilities. The Department of Plant Science has research facilities in several buildings and field locations. Most laboratories are new or recently renovated and are well equipped. Several faculty laboratories are located in the college’s Agricultural Biotechnology Laboratory. The Department also operates the University

Plant Biotechnology Facility and the Soil Nutrient Analysis Laboratory that can be utilized for research purposes. The Plant Science Research Farm and Nursery is located within one mile of the main campus and contains 160 acres (65 hectares) and a small greenhouse range that are available for field research projects. The Floriculture greenhouse on the main campus provides about 15,000 square feet (1400 square meters) of growing area, and additional greenhouse space is associated with both the Agricultural Biotechnology Laboratory and the Plant Biotechnology Facility.

Courses

PLSC5150(4) Instructor Consent Required
Design and Analysis of Agricultural Experiments

The design and analysis of experiments commonly conducted in agricultural field, greenhouse, and laboratory research. Presentation of summarized data using computer generated graphics from printers, plotters, and film recorders will be covered. Emphasis is placed on use of computers (mainframe and personal) and appropriate computer programs (e.g., SAS, Sigma Plot).
Components: Laboratory, Lecture

PLSC5240(3 Credits) Plant Biotechnology

Principles of recombinant DNA and plant gene transfer technologies. Applications of plant biotechnology in agriculture, horticulture, forestry, human/animal health care, and the pharmaceutical industry. Social and environmental impacts of plant biotechnology. Components: Lecture

PLSC5250(3 Credits) Plant Gene Transfer Techniques

Techniques of plant gene delivery and transgenic plant production. Verification and analysis of transgenic plants.
Components: Laboratory

PLSC5252(3 Credits) Instructor Consent Required
Physiology and Ecology of Trees

Also offered as NRE 5252. An examination of the interactions between trees and their environment at the molecular, individual and forest stand scales. Lectures and reviews of current research span at least two spatial scales of organization for each course topic. Course topics include tree carbon balance, water relations, mineral nutrition, morphology,

genomics, phenology, climate change and modeling. Components:Lecture Course
Equivalents:NRE 5252

PLSC5298(3 Credits) Current Topics in Plant Biology

Informal discussions of current concepts, research and techniques in the areas of plant biotechnology, plant physiology and molecular biology. Components:Lecture

PLSC5410(4) Soil Chemistry Components

Basic concepts of the physical chemistry of soil constituents. Topics include soil atmospheres, soil solutions, soil organic matter, soil mineralogy, and surface characteristics and analysis. Term paper required. Not open to students that have passed PLSC 259C. Components:Laboratory, Lecture

PLSC5420(3 Credits) Soil Chemistry Reactions and Equilibrium

Physical chemical characteristics of soil minerals and soil organic matter, and their reactivity with compounds present in the aqueous and vapor phase. Topics include: modern spectroscopic surface analyses, soil organic matter and its interactions with metals, redox reactions, solubility, derivation of ion-exchange equations, and kinetics of soil reactions. Term paper required. Also offered as ENVE 303. Components:Lecture Course
Equivalents:ENVE 5230

PLSC5620(3 Credits) Soil Fertility

Factors governing nutrient uptake by plants, fate of nutrients applied to soils, principles and practices in the use of fertilizers and amendments for crop production, laboratory and field studies of social and plant response to applied nutrients. Components:Laboratory, Lecture

PLSC5897(3 Credits) Seminar

Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Seminar

PLSC5898(1 - 6)Instructor Consent Required Topics in Plant Science

Topics and credits to be published prior to the registration period preceding the semester offerings. Components:Seminar

PLSC5899(1 - 6)Instructor Consent Required Independent Study

Components:Independent Study

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†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Political Science

Department Head
Professor Mark A. Boyer

Professors
Clifford, Hiskes, Lewis, and Zirakzadeh

Associate Professor
Best, Dudas, Hertel, Hettinger, Kelly, Ladewig, Kingstone, Lefebvre, Morrel, Pressman, Scruggs, Simien, Sterling-Folker, Waddell, and Yalof

Assistant Professors
Bayulgen, Cole, Dolgert, Dyson, Herrera, Kashwan Morrell, Moscardelli, Nunnally, Richards, Singer, Turcotte, Venator Santiago, and Zheng

The Department of Political Science offers study leading to the degrees of Master of Arts and Doctor of Philosophy. Master's degree students usually take a less specialized program, including work in several areas of political science.

Admission to the Master of Arts Degree Program.

All applicants are required to take the Graduate Record Examinations. Only those applicants showing high scholastic promise are admitted. Usually, an undergraduate major in political science (or an equivalent body of course work) is required for admission. However, exceptions are made for promising candidates who have majored in related subjects. Some undergraduate work in history, economics, and sociology also is desirable. Except where the M.A. degree clearly is intended to be a terminal degree, the admissions committee is reluctant to act favorably in the case of an applicant whose record shows no successful academic exposure to one or more foreign languages.

Requirements for the Master's Degree.

After fulfilling the requirements for the master's degree, a final examination is administered. The final examination for the M.A. degree is both written and oral

Admission to the Ph.D. Degree Program.

Students pursuing the M.A. in Political Science who wish to continue for the Ph.D. degree are admitted to the doctoral program only upon recommendation of the committee administering the M.A. final examination. Those who have earned the M.A. degree elsewhere are admitted to pursue doctoral

work here only with very convincing professional recommendations and demonstrated evidence of scholarly ability. Such applicants also must submit the results of the Graduate Record Examinations.

Departmental Requirements for the Ph.D. Degree.

The Ph.D. program involves two distinct stages. Doctoral students first prepare for a comprehensive written and oral general examination. After passing this examination, they devote themselves to research and the writing of a dissertation. All doctoral students must prepare in two of the following areas: international relations, comparative politics, American politics, political theory and public law.

All doctoral students are required to take, as early in their program as possible, Political Science 5600, Political Science 5605, and Political Science 5610.

Ph.D. students are required to have a competent reading knowledge of at least one foreign language appropriate to the general area of study or, upon recommendation of the advisory committee, at least six credits of advanced work in a related area or a supporting area such as statistics. However, an advisory committee may require additional advanced work in a related or supporting area, alone or in conjunction with a foreign language.

Special Facilities.

Students interested in comparative politics will find the Center for Latin American and Caribbean Studies⁸⁷ a valuable resource. A vast archive of survey data from polls taken both in the United States and abroad is housed at the Roper Center. Excellent computer facilities together with expert technical help from the Roper Center's staff provide ready access to these survey materials.

Courses

POLS5000(1 - 6) Instructor Consent Required Independent Study in Political Science
Components:Independent Study

POLS5010(1 - 3) Investigation of Special Topics in Political Science

Components:Seminar

POLS5100(3 Credits) Proseminar in Political

Theory

Historical survey and analysis of fundamental concepts in political theory.
Components:Seminar

POLS5105(3 Credits) Political Theory

Historical and conceptual analysis of selected political ideas such as justice, liberty, rights, political obligation, or the state; including an examination of one or more major schools or bodies of political thought from ancient to contemporary times. Components:Seminar

POLS5110(3 Credits) Seminar in American Thought and Ideology

Components:Seminar

POLS5200(3 Credits) Proseminar in Comparative Government

Political institutions and processes compared. Derivation of generalizations.
Components:Seminar

POLS5205(3 Credits) West European Politics

Contending approaches to the political systems of West European nations. Comparative analysis of industrialization, institutional structure, and political economy.
Components:Seminar

POLS5210(3 Credits) Seminar in Latin American Politics

Components:Seminar

POLS5215(3 Credits) Comparative Political Development

Development of political systems in relation to socio-economic level and other conditioning factors. Political stability and change. Components:Seminar

POLS5220(3 Credits) Seminar in African Politics

Focus on the rise of nationalism in post-war Africa, the process of decolonization, and the problems of economic growth and national integration. Attention will also be given to the role of ideology as a determinant in the choice of development policies.
Components:Seminar

POLS5225(3 Credits) East European Politics

Comparative analysis of the political development, economic modernization, social

stratification, and indigenous ideologies of post-Communist Eastern Europe.
Components:Seminar

POLS5230(3 Credits) Development Administration

Strategies of implementing development in Latin America, Asia, and Africa; social, political, and cultural obstacles to administrative reform in developing nations; problems of technical assistance in overseas administration; theories of development administration. Components:Seminar

POLS5235(3 Credits) Comparative Democratization

Democratization and major approaches to regime change away from authoritarianism.
Components:Seminar

POLS5240(3 Credits) Research Seminars in Comparative Politics

Components:Seminar

POLS5300(3 Credits) Proseminar in International Relations

Current theories of and methodological approaches to international relations.
Components:Seminar

POLS5305(3 Credits) Foreign Policy Analysis

Analysis of foreign policy processes from a comparative, theoretical perspective.
Components:Seminar

POLS5315(3 Credits) International Security

Political and military issues as they intersect at the international level, such as war, terrorism, alliances, and intervention.
Components:Seminar

POLS5320(3 Credits) International Conflict and Cooperation

Examination of theories and methodologies relating to the study of international conflict and cooperation. Topics include deterrence, negotiation and bargaining, theories of conflict and war, and approaches to conflict resolution. Components:Seminar

POLS5325(3 Credits) International Political Economy

Major problem areas in which politics, economics, and business intersect at

the international level -- trade, foreign investment, and monetary relations. The politics and mechanisms of U.S. foreign economic policy. Components:Seminar

POLS5330(3 Credits) International Organization and Law

International cooperation to resolve economic, social, and political transnational problems. Components:Seminar

POLS5335(3 Credits) U.S. Foreign Policy in the Middle East

Examination of U.S. political, economic and strategic interests and aims in the Middle East. Components:Seminar

POLS5340(3 Credits) Politics and Security in the Middle East

Examination of security issues in the Middle East and the responses of regional actors and external powers. Components:Seminar

POLS5345(3 Credits) Foreign Policies of the Russian Federation and the Former USSR

Regional and global roles of the former USSR and postCommunist Russia. Components:Seminar

POLS5390(3 Credits)Instructor Consent Required Economic Rights

Economic Rights include the right to an adequate standard of living, the right to work, and the right to basic income guarantees for those unable to work. These rights are grounded in international law - particularly in the Universal Declaration of Human Rights and the International Covenant on Economic, Social, and Cultural Rights. This class will explore the conceptual bases, measurement, and policy applications of economic rights. Specific topics will include: child labor, the right to development, non-governmental initiatives, and the institutionalization of economic rights (e.g., constitutionalization versus statutory implementation versus discretionary policies). Components:Seminar
Course Equivalents:HRTS 5390, ECON 5128

POLS5400(3 Credits) Proseminar in American Politics

Theory and practice of American government and politics, with an emphasis on various theoretical and methodological perspectives. Components:Seminar

POLS5405(3 Credits) National Decision-

Making Process: Presidency and Congress

The interaction of the institutionalized Presidency and the Congress in the formulation and execution of public policy. Emphasis given to current issues and problems. Components:Seminar

POLS5406(3 Credits) Seminar in the American Political System

Examination of empirical research in American politics, including institutions and processes. Components:Seminar

POLS5407(3 Credits) Special Topics in American Political Institutions and Policy

The institutions and policy-making process of American government. Components:Seminar

POLS5408(3 Credits) Special Topics in American Political Behavior

The political behavior of the American public, including public opinion, voting behavior, and other forms of participation. Components:Seminar

POLS5409(3 Credits) Special Topics in American Race, Gender and Ethnic Politics

The politics of American race, gender and ethnicity, with a focus on disadvantaged groups and their influence on the political process. Components:Seminar

POLS5410(3 Credits) Black Feminist Theory and Politics

Major debates at the core of black feminist theory, emphasizing the ways in which interlocking systems of oppression uphold and sustain each other in contemporary U.S. politics. Components:Seminar

POLS5415(3 Credits) Administrative Ethics

Examination of models and standards of ethics in public administration, decision-making techniques and tools, and analyses of selected, contemporary dilemmas confronting public administration and public policy. Components:Seminar

POLS5420(3 Credits) Public Opinion and American Democracy

Theories of democracy and what they imply about the public's capabilities and role; empirical research on the American public and public opinion in the context of democratic theory. Components:Seminar

POLS5425(3 Credits) American Political Parties

The development, organization, and role of political parties in the United States, with implications for public policy. Components:Seminar

POLS5430(3 Credits) Politics, Society, and Educational Policy

The analysis of the interactions among educational policy, politics and other social forces. In-sights and concerns from politics and other social sciences disciplines will be applied to different levels and types of schooling. Components:Seminar

POLS5435(3 Credits) Proseminar in Public Policy

Major works in U.S. public policy, with comparative illustrations of general principles. Components:Seminar

POLS5440(3 Credits) Proseminar in Public Administration

Theory and structure of administration and the public service. Components:Seminar

POLS5445(3 Credits) Public Budgeting

An examination of the development and structure of the public financial sectors; the principles and roles of operating and capital budgets in public organizations; and introduction to the relationships between funding mechanisms and public policy. Components:Seminar

POLS5450(3 Credits) Politics of Organization and Bureaucracy

Components:Seminar

POLS5455(3 Credits) Public Opinion and Public Policy

Theoretical and empirical study of public opinion and its role in policy formation. Components:Seminar

POLS5460(3 Credits) Social Policy

Components:Seminar

POLS5505(3 Credits) Seminar in Public Law

Selected topics in public law, the administration of justice, and jurisprudence. Components:Seminar

POLS5510(3 Credits) Judicial Decision-Making

The judicial decision-making process in terms of methods and models developed in the framework of the behavioral sciences. Components:Seminar

POLS5515(3 Credits) Constitutional Interpretation

An exploration of the theories and process of constitutional interpretation in the United States, with an emphasis on the role the Supreme Court plays in defending and enforcing civil liberties. Components:Seminar

POLS5600(3 Credits) Nature of Political Inquiry

The scope of political science, modes of inquiry, the role of concepts and theory. Graduate students are urged to take the course in their first semester. Components:Seminar

POLS5605(3 Credits) Seminar in Quantitative Methods of Political Science

Introduction to the data analysis techniques most often used by political scientists. Requires no previous background in statistics. Components:Seminar

POLS5610(3 Credits) Research Design in Political Science

Introduction to quantitative and non-quantitative empirical research design in political science. Components:Seminar

POLS5615(3 Credits)Program Director Consent Req'd Seminar in Qualitative Methods of Political Science

A survey of qualitative research methods. Training in use of case studies, comparative historical approach, interviewing and focus groups, ethnography and interpretive methods. Components:Seminar Requirement Group:POLS 5600 5605, 5610 are prerequisites

POLS6100(3 Credits) Research Seminar in Political Theory

Investigation of special topics in political theory, with emphasis on the preparation and completion of original research projects. Components:Seminar

POLS6400(3 Credits) Research Seminars in American Politics

Components:Seminar

POLS6500(3 Credits) Research Seminar in Judicial Process

Components:Seminar

POLS6610(1 - 6) Research Seminar in Quantitative Methods

Research in quantitative applications

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GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

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†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Polymer Science

Program Director:
Professor Douglas H. Adamson

Professors
Papadimitrakopoulos, Dobrynin, Parnas, Sotzing

Research Professor:
Scola

Associate Professors:
Adamson, Asandei, Burkhard, Nieh, and Seery

Assistant Professors:
Kasi, Lin, and Ma

Work leading to the degree of Master of Science and Doctor of Philosophy is offered in the interdisciplinary field of polymer science in the Institute of Materials Science (www.ims.uconn.edu/polymer). Admission to Degree Programs.

In addition to the basic admission requirements of the Graduate School, an applicant should submit Graduate Record Examinations (GRE) General Test scores at the time of application. A sound undergraduate major in science and/or engineering normally is required for entrance to the degree programs.

The M.S. Program.

Other than the GRE General Test scores, there are no special requirements for admission to the master's program beyond those of the Graduate School. Selection of Plan A (thesis) or Plan B (non-thesis) is made after consultation with the advisory committee.

The Ph.D. Program.

Admission to the doctoral program is based upon a careful assessment of the student's potential for creative research in polymer science. There are no special requirements for the doctoral program beyond those of the Graduate School, other than the GRE General Test scores.

Facilities.

The Institute of Materials Science, (IMS) has well-equipped, environmentally controlled research laboratories that are continually being upgraded. These include a clean room for surface and interface research, a monochromic source, variable angle ESCA, a relaxation spectrophotometer, and a tuneable UV/visible pulsed Nd:YAG laser. The IMS

Microscopy Laboratory has a new JEOL 6335F cold field emission gun SEM with an automated digital interface and a fully automated digital JEOL 2010 FasTEM. The polymer processing area includes a Brabender Prep Center, a Brabender Plasti-Corder torque rheometer, twin screw extruder/mixer, pelletizer, and an injection molding machine. Among recently acquired instruments and facilities particularly relevant to polymer research are a Rheometrics ARES controlled strain rheometer, a PAAR Physica UDS-200 controlled stress rheometer and a Rheometric System IV, H/P 5890 and H/P 6890 Gas Chromatograph/Mass Spectrometers, and a Bruker GADDS wide-angle diffraction instrument, Bruker D5005 and D8 Advance power diffractometers, a Bruker Anton-Parr, a Renishaw Ramascope System, a Nicolet Magna 560 FT/IR, TA Instruments STA 600, T6A 500, and DSC 100. There are many other large and small instruments too numerous to list.

The Institute also operates a state-of-the-art materials simulation laboratory with a parallel cluster based on more than 24 PCs of the latest architecture. Students also have access to the main University computer system, as well as dozens of PCs, Macs, and Unix work stations.

COURSES OF STUDY

Course offerings are shown below. These are co-sponsored by departments in the sciences and engineering. Special Topics (Chemistry 5394) is offered each semester. The subject of these courses varies widely and depends on student and faculty interest and availability. In addition, the program sponsors weekly seminars of outstanding speakers representing various study areas in polymer science and engineering. Topics offered have included Liquid Crystals, Inorganic Polymers, Nanomaterials, Biopolymers, Polymers for Energy Storage and Generation, and Lifetime Chemical Engineering

5351. Polymer Physics
 5352. Polymer Properties
 5355. Polymer Structure and Morphology
 5356. Adhesion
 5358. Composite Materials
 5367. Polymer Rheology
 5368. Polymer Rheology and Processing Laboratory

Chemistry

5380. Polymer Synthesis
 5381. Polymer Physical Chemistry
 5382. Polymer Characterization I
 5384. Polymer Characterization II
 5385. Reactions of Polymers
 5394. Investigation of Special Topics
 - Inorganic Polymers

- Polymer Biomaterials
 - Polymer Photonics
 - Polymer Spectroscopy - Conducting Polymers

Molecular and Cell Biology

5013. Structure and Function of Biological Macromolecules
 5015. X-ray Structure Analysis
 Physics
 6244. The Electrical Properties of Polymers

Professional Studies

Department Head
 Dr. Susan W. Nesbitt

Program Head:
 Associate Professor Peter Diplock

Associate Professor
 Sullivan

Assistant Professors
 Allen

The Master of Professional Studies (M.P.S.) is a flexible, convenient on-line degree program. This unique graduate study opportunity is available to students from anywhere in the world and at a time that fits into each student's schedule. Working adults can complete all degree requirements within two years although the typical time to complete the program is three years.

The M.P.S. degree program is specifically designed for individuals and practitioners with established career paths who are interested in developing marketable skills to meet evolving workforce demands, in seeking professional development, and in expanded promotional opportunities.

The degree program provides skills and knowledge for immediate application in the following fields of study:

Homeland Security Leadership (HSL).

The Homeland Security Leadership field of study prepares graduates to provide strategic leadership in the field of homeland security. Emphasis is on understanding the complexities of homeland security in terms of policy, strategy, resources capabilities, and leadership. This degree prepares graduates to work in field operative and administrative homeland security positions in law enforcement, fire service, emergency management, corporate security, transportation security, and public health preparedness.

The Master of Professional Studies with a field of study in Homeland Security Leadership is a cohort-based program and is open only to U.S. citizens. At the present time, the courses are only open to students who are matriculated in the Homeland Security field of study. This program has a residency requirement.

Human Resource Management (HRM).

The Human Resource Management field of study is designed for beginning and mid-career HR professionals or those interested in making a transition to the field. Graduates will be qualified to assume professional labor or management related HRM positions in both the private and public sector. This program has a residency requirement.

Humanitarian Services Administration (HSA).

The Humanitarian Services Administration field of study prepares graduates to work in organizations involved in humanitarian response and development initiatives. Graduates will be qualified to work in disaster relief and sustainability areas. This program has a residency requirement.

Occupational Safety and Health Management (OSHM).

The Occupational Safety and Health Management field of study prepares graduates to work in and manage safety and health departments within a variety of industries. Graduates will be qualified to direct the day-to-day operations of the safety and health initiatives of their employers. This program has a residency requirement. New students are not being admitted at this time.

Courses

GPPS5300(1 - 3)Instructor Consent Required Independent Study

Independent study in a topic related to the graduate program in Professional Studies as designated and approved by the instructor assigned to oversee and grade the project. Components:Independent Study

GPPS5301(1 - 3)Instructor Consent Required Special Topics in Professional Studies

The instructor assigned will designate the special topic(s) related to the graduate program in Professional Studies and oversee and grade students' work in the course. With a change of content, this course may be taken for credit twice. Components:Lecture

GPPS5325(3 Credits) Issues in Economic**Development**

This course concerns economic, social, and demographic change in those countries comprising the less wealthy regions of the South. It examines development from linear (neoclassical), structuralist (political economy), and other perspectives, and emphasizes relationships between "advanced" and "developing" countries within the context of the global economy. In addition to theoretical grounding, the course provides practice in preparing development profiles of individual countries. Components:Lecture

GPPS5347(3 Credits) Program Evaluation

This course is intended to provide students with skills required to apply the methods of science to the assessment of social programs. Here a social program refers to organized, goal-directed activities designed to address a social problem. The goal of this course is to provide you, the student, with enough skill that you are able to design and implement evaluations of programs. The extent to which you are able to do this without assistance reflects largely your familiarity with scientific methods. Some of the more technical forms of impact studies may require additional study, or assistance from consultants. Components:Lecture

GPPS5352(3 Credits)Instructor Consent Required Systemic Analysis

Provides students with a foundational understanding of the complex and dynamic relations between issues and the systems that cause them. Systemic analysis trains students to understand in the operational dynamics of the social and structural dimensions of a society or group. Components:Lecture

GPPS5357(3 Credits) Quantitative Analysis

This course is designed to help students develop skills necessary to understand and utilize research based on quantitative methods while building fundamental skills in quantitative analysis. The course will include basic univariate statistics, bivariate statistics and basic multivariate statistics including basic analysis of variance and basic multiple regression analysis. This course stresses the use of Microsoft Excel for performing statistical analysis. Components:Lecture

GPPS5389(3 Credits)Instructor Consent Required MPS Internship

The internship will provide professional experience in the student's field of study in a private or public organization. Students will select the organization and specific internship position with the approval of the major advisor. Students will be expected to perform professional duties for a minimum of 160 hours during the semester. Prior to the beginning of the internship, student will develop a set of professional objectives for the internship experience. Students will maintain a log of experiences and activities during the internship. At the conclusion of the internship, students will write a paper evaluating the experience gained in light of the stated objectives. Components:Field Studies Requirement Group:Open to students enrolled in the Master of Professional Studies degree program (RG3471).

GPPS5395(0)Instructor Consent Required MPS Residency Program

The Master of Professional Studies (MPS) program requires students to complete a professional residency. The residency is a milestone towards the completion of the MPS degree. Consistent with the criteria for the MPS Capstone Project, each residency will be subject to the approval of the student's advisory committee. Appropriate residencies are those designed to: (a) provide students with an opportunity to develop a sense of affiliation and identification with the program and the university; (b) provide students with an opportunity for scholarly dialogue related to their capstone project; or (c) provide students with an opportunity for professional socialization by developing relationships with peers, faculty, and practitioners in the field. Examples of appropriate residencies include but are not limited to sessions at the Storrs campus, attendance and participation in approved regional national or international professional conferences. Components:Discussion Requirement Group:Corequisite: GPPS 5397 (RG3472).

GPPS5397(3 - 6)Instructor Consent Required MPS Capstone Project

Towards the end of the M.P.S. program, students will select, with faculty approval, a topic for a major project that demonstrates

the student's ability to define, analyze, synthesize, evaluate, and recommend actions or solutions to deal with a major issue, problem, or opportunity within the field of study. Capstone Projects may include job-related field projects, integrative analyses of professional literature, and comprehensive project proposals for adoption by third parties. In all cases, the Capstone Project is intended to demonstrate an extensive understanding of the topic area selected, the ability to develop and integrative and systemic analysis of a problem, and the ability to identify appropriate solutions and recommendations. A written report documenting all aspects of the project will be presented for faculty approval. Components:Independent Study Requirement Group:Open to students enrolled in the Master of Professional Studies degree program (RG3471).

HSL5310(3 Credits)Instructor Consent Required Introduction to Homeland Security

Provides an understanding of the operational and organizational dynamics of terrorism. By the end of the course, students should be able to design effective measures for countering and responding to terrorism. Components:Lecture

HSL5311(3 Credits)Instructor Consent Required Terrorism, Asymmetrical Conflict and Homeland Security

This course will provide learners with an intellectual framework for engaging in ongoing self-directed learning within the Homeland Security domain. By the end of the course, students should be able to design effective measures for countering and responding to terrorism based on an understanding of the organizational dynamics of terrorism. Components:Lecture

HSL5312(3 Credits) Intelligence for Homeland Security: Organizational and Policy Challenges

This course will examine contemporaneous issues facing the intelligence community and its role in homeland security. The emphasis will be on critical thinking of issues related to policy development, implementation, and intelligence support to senior decision makers in the homeland security community. By the end of this course, students will have had the opportunity to address policy, organizational and substantive issues pertaining to homeland security and intelligence; interact with each other, and author well researched papers. Components:Lecture

HSL5313(3 Credits) Critical Infrastructure Protection in Homeland Security

This course develops a network theory of vulnerability analysis and risk assessment called ""modelbased vulnerability analysis"" that is used to extract the critical nodes from each sector, model the nodes' vulnerabilities by representing them in the form of a fault-tree, and then applying fault and financial risk reduction techniques to derive the optimal strategy for protection of each sector. At the completion of this course, students will be able to apply the model-based vulnerability technique to any critical infrastructure within their multi jurisdictional region. Components:Lecture

HSL5315(3 Credits) Contemporary Issues in Homeland Security Leadership

This course is designed to support the overarching goals of the Homeland Security Leadership program by providing an intellectual framework for engaging in ongoing self-directed learning within the Homeland Security domain; developing a cadre of leaders across the Homeland Security continuum who share substantive skills in analysis, interpretation, policy development, and administration of approved policy; and to complement other more operationally oriented training programs. Components:Lecture

HRM5300(1 - 3)Instructor Consent Required Independent Study Independent study in a topic related to the Human Resources Management certificate program as designated and approved by the instructor assigned to oversee and grade the project. Components:Independent Study

HRM5301(1 - 3)Instructor Consent Required Special Topics in Occupational Safety and Health

The instructor assigned will designate the special topic(s) related to the Human Resources Management certificate and oversee and grade the students' work in the course. Components:Lecture

HRM5304(3 Credits) Employment Law

This course addresses the applicable federal and state laws, the different forums (federal court, state courts, Equal Employment Opportunity Commission, and state Commissions on Human Rights and Opportunities), and prevention of claims through the diversity training, a system of reporting/handling disputes, and the proper employer response. This course

will not address the NLRB, collective bargaining agreements, or union rights. Components:Lecture

HRM5340(3 Credits) Negotiations and Administration

This course provides the student with the fundamental skills needed to participate fully in any situation requiring bargaining skills. Components:Lecture

HRM5341(3 Credits) Labor Relations and the Law

This course will cover the basic legislation that impacts today's workplace in the public as well as the private sector. Legislation that prevents and remedies employment discrimination will be included. Components:Lecture

HRM5342(3 Credits) Introduction to Alternative Dispute Resolution' (Process

This course provides the student with the fundamental skills needed to understand and participate fully in alternative dispute resolution. Components:Lecture

HRM5351(3 Credits) Human Resources and Public Policy

This course examines the government's influence on the workplace and the impact of public policy on the human resource function within organizations. The course is geared towards developing a better understanding of public policy frameworks, processes, and analytical methods, and their impact on HR issues, problems, challenges, and the resulting actions required in the practice of Human Resources Management. Components:Lecture

HSA5300(1 - 3)Instructor Consent Required Independent Study

Independent study in various topics related to the HSA certificate program as designated and approved by the instructor assigned to oversee and grade the project. Components:Independent Study

HSA5301(1 - 3)Instructor Consent Required Special Topics in Humanitarian Services Administration

The instructor assigned will designate the special topic(s) related to the Humanitarian Services Administration certificate and oversee and grade the students' work in the course. Components:Lecture

HSA5302(3 Credits)Instructor Consent
Required Seminar on Complex Humanitarian
Emergencies

This seminar offers an in-depth examination of both theoretical and applied aspects of complex humanitarian emergencies. It provides students with a comprehensive, multidimensional understanding of the needs of displaced persons and systems and practices currently in place to meet these needs. Components:Seminar

HSA5303(3 Credits) Poverty and Public
Health

Provides students with a foundational understanding of the complex and dynamic relationships between poverty and poor health among the poor, worldwide. It examines classic and current studies on poverty and public health from an historical and interdisciplinary perspective (Public Health, Epidemiology, Social Medicine, and Social Economics), and reviews the ways in which the government and non-governmental organizations have addressed the problem. The course will prepare students to engage in thoughtful debate about needed changes in values, perspectives and interventions in order to address and ameliorate the health problems of the economically poor. Components:Lecture

HSA5304(3 Credits) Nutrition During
Human Emergencies

The course examines the cycle of malnutrition and disease, and major food and nutrition challenges faced by refugee and displaced populations. It covers types of feeding and nutrition supplementation programs in emergencies, and nutritional assessment as a tool to design, target and evaluate feeding and supplementation programs in emergencies. The course addresses feeding of special populations such as: infants, pregnant and lactating women, and the elderly during emergencies; international agencies, non-government organizations, and government programs involved with food aid and relief; and food as a human right. Components:Lecture

HSA5305(3 Credits) Principles of
Sustainability

This course will provide students with an understanding of the basic principles of environmental, social, and economic sustainability and will assist students to develop the ability to apply these

principles to current issues of sustainability.
Components:Lecture

HSA5312(3 Credits)Instructor Consent
Required Issues in Humanitarian Studies

This seminar offers an opportunity for students to examine current issues of Global Human Development from the perspective of non-governmental organizations (NGOs), private voluntary organizations, international organizations (IOs), multi-governmental aid and humanitarian assistance agencies, the U.S. military and government sponsored aid organizations. Students will gain a comprehensive, multidisciplinary understanding of issues facing these organizations and stresses that are currently forcing many to reevaluate their current policies and procedures. Components:Seminar

HSA5322(3 Credits)Instructor Consent
Required Applied Organizational
Management

This course will help students to develop management and leadership skills for working within an organization by understanding and analyzing some rational management techniques, concepts of organization and supervisory skills that are useful for effective organizations. Components:Lecture Requirement
Group:BGS students only.

HSA5323(3 Credits) Community
Development for Local Capacity Building

This course provides the student with the essentials of community development and the skills of local capacity building. Local capacity building skills are needed by Humanitarian workers in order to foster sustainable community development. Components:Lecture

HSA5324(3 Credits) Gender and
International Development

This course provides the student with essential understanding of the factors that shape the social, political and economic roles of women in developing countries. The course will include considerations of specific projects aimed at integrating women into community development and the costs and benefits of various development alternatives as perceived by outside agencies and by the women themselves. Components:Lecture

HSA5325(3 Credits) Advocacy and
Grassroots Development

This course addresses the importance of advocacy in the sustainable development process. Students will be introduced to the concept of advocacy, its role and functions in a sustainable development and empowerment. Students will be given the opportunity to explore ways and means to develop effective advocacy programs. Components:Lecture

HSA5332(3 Credits)Program Director
Consent Req'd International Human Rights

The course will address the evolution of international human rights and of the legal instruments designed for their promotion and protection, It will study the theoretical foundations of the idea of human rights in various civilizations and cultures, evaluate its legacy within the western and non-western traditions, and examine its meaning and relevance in the contemporary world. Components:Lecture

HSA5377(3 Credits) Environmental
Compliance & Regulations

Compliance and knowledge of a whole new generation of environmental regulations is required of all managers. This course begins with general compliance obligations, common law, trespass, nuisance and negligence. The major Federal environmental laws affecting companies and agencies are reviewed along with even more stringent State and local regulations. Also presented is a view of the severe civil and criminal penalties liabilities attached to environmental regulations, and a discussion of the sharply increasing punishments for non-compliance. The final section of the course will outline strategies for compliance with specific comments on proactive environmental management as a method for reducing legal exposure from environmental issues. It is required of managers. It empowers private citizens. FM-8/13/02 Components:Lecture

OSH5300(1 - 3)Instructor Consent Required
Independent Study

Independent study in a topic related to the Occupational Safety and Health Certificate program as designated and approved by the instructor assigned to oversee and grade the project. Components:Independent Study

OSH5301(1 - 3)Instructor Consent Required
Special Topics in Occupational Safety and
Health

The instructor assigned will designate the special topic(s) related to the Occupational

Safety and Health Certificate program and oversee and grade students' work in the course. Components:Lecture

OSH5321(3 Credits) Seminar in Occupational Safety and Health Management

This course is an in-depth study of the impact of issues such as the changing demographics, and globalization of regulations, on promoting prevention of injuries and illness to workers, and protection of property and the environment in the workplace. This course is taught as a series of active seminars requiring students to research, write, and discuss papers. Components:Seminar

OSH5322(3 Credits) Industrial Pollution Management

This course provides students with management and applied techniques to prevent and control pollution from industrial activities. It includes legal aspects of pollution prevention and control, setting up pollution prevention programs, performing pollution prevention assessments, performing economic evaluations and management principles in controlling industrial pollution. Components:Lecture

OSH5325(3 Credits) Systems Safety Analysis

This course will acquaint students with empirical methods and techniques for proactively identifying, assessing, and eliminating or controlling safety-related hazards to acceptable levels. Components:Lecture

OSH5326(3 Credits) Managing Environmental Systems

This course will provide guidance and detailed information on developing environmental management systems with special reference to ISO 14001; measuring corporate needs, advantages and disadvantages; liability issues; and internal and external auditing. Components:Lecture

OSH5376(3 Credits) Occupational Safety and Health

This is a graduate course that provides the student with the rationale for providing an occupationally safe and healthy work environment for employees. These skills are needed to be able to work effectively in the area of human resources and employee development as well as industrial relations since workers have been provided by law with specific safety and health rights.

Components:Lecture

OSH5378(3 Credits) Advanced Industrial Hygiene

This is a graduate-level course in the field of industrial hygiene. It is directed at protecting workers' health through the recognition, evaluation and control of hazards in the work environment. Components:Lecture

OSH5380(3 Credits) Loss Control Methods

This course offers a detailed study of loss control research methods and application techniques with emphasis on the control of hazards using safety engineering methods in a variety of industrial settings. Components:Lecture

University of Connecticut - College of Continuing Studies - Subject: Occupational Safety and Health

OSH5381(3 Credits) Advanced Loss Control and Management Theory

This course provides students with opportunities to apply management and loss control techniques to analyze and address occupational safety and health issues. Topics in this course include: epidemiology concepts in analyzing occupational safety and health injuries and illnesses; hazard analysis; prevention and control of hazards; tools of accident prevention; safety and health training; motivating safety and health; and communicating safety. Components:Lecture Requirement Group:Prerequisite: OSH 5380 (RG3875)

OSH5382(3 Credits) Analysis of Occupational Safety and Health Law and Regulations

This course provides the substance for understanding the Occupational Safety and Health laws and regulations, the regulatory process; and the research data and analyses required to promulgate or revise a law or regulations. Components:Lecture

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Psychology



Department Head

Professor Charles A. Lowe

Associate Department Head and Coordinator of Graduate Studies: Professor Etan Markus

Associate Department Head and Coordinator of Undergraduate Studies: Professor David Miller

Distinguished Professors:

Fein, Fisher, Kenny, and Salamone

Professors

Barnes-Farrell, Burton, Carello, Chaffin, Fowler, Green, Johnson, Kalichman, Leach, Lillo-Martin, Naigles, Park, Pratto, and Swadlow

Research Professor:

Michaels

Associate Professor

Barton, Chrobak, Cruess, Dixon, Fitch, Henning, Magley, Magnuson, Marsh, Mellor, Milan, Quinn, Read, Rueckl, Tabor, Treadwell, Volgushev, and Williams

Assistant Professors

Eigsti, Frank, Gorin, Read, and Wargo Aikins

Assistant Research Professor:

Agocha

The Department of Psychology offers study leading to the degree of Doctor of Philosophy in the several areas described below. There is a pervading emphasis on the acquisition of a general background in research findings and theoretical interpretations. All students are expected to conduct independent research projects prior to their for the dissertation research. Opportunities are provided for pre-professional experience in undergraduate teaching, research on grant-supported projects, and research and applied opportunities with clinical agencies. The Departmental website is <http://psychology.uconn.edu>

Behavioral Neuroscience.

This area of concentration offers study that focuses on the biological basis of behavior, through research participation, seminars, and formal course work. Research programs make use of a variety of approaches – of neurophysiology, neurochemistry, neuroanatomy, neuroendo-crinology, genetics, ethology, and behavioral analysis – to study problems in sensation, perception, emotion, motivation, learning, motor activity,

aggression, sex differences, reproductive behavior, communication, brain lateralization, and the organization of sensory cortex.

Clinical Psychology.

The clinical program is designed to produce psychologists able to work on a scientific and professional level, with special competence in research, diagnosis, and therapy. At least one year of internship at an approved facility is required. The program has APA accreditation. The program emphasizes both child/family and adult interventions and also provides a neuropsychology area of emphasis.

Developmental Psychology.

Training in the conduct of research and the in theoretical treatments of processes of change over time. Emphasis is on breadth of training in developmental content areas, including developmental cognitive neurosciences, early social development, language acquisition and quantitative methods for developmental psychology.

Perception/Action/Cognition.

Two areas of specialized study are offered: (1) the ecological approach to perception and action, and (2) language and cognition. Facilities exist for research and training on many topics, including: the perceptual control of action, coordinated movement, psycholinguistics, speech perception and production, neurobiological and psychophysical studies, and the philosophical and theoretical foundations of perception, action, and cognition. Emphasis in psycholinguistics is provided in cooperation with the Department of Linguistics.

Industrial/Organizational Psychology.

This area of concentration is concerned with the application of psychological methods and principles to understanding human behavior in work settings. Students can choose to emphasize personnel psychology, organizational psychology, occupational health psychology, or human factors/ergonomics in their research and course work. All students take the same core courses in the first year of study, and all students are required to be actively engaged in research during their entire course of study. An approved one-year field research experience is required.

Neurosciences.

This is an interdisciplinary area of concentration. Neuroscience is concerned with the structural and functional characteristics of the nervous system and

its relation to the adaptive physiology and behavior of the organism. Students in this program may approach the full range of neuroscience studies through courses and research at the cellular, systemic, and organismic levels. A particular strength of the area is the analysis of behavior, its development, and its neurological bases. This area of concentration is offered in the fields of study of biobehavioral science, pharmaceutical science, physiology, and psychology. Application is made to the preferred field of study, but the applicant must be acceptable to the Neurosciences Committee.

Social Psychology.

This division provides excellent training in both laboratory and field research methods and statistics and broad coverage of the major theoretical paradigms of social psychology. Curriculum requires exposure to three levels of analysis: the social person (including identity, social cognition, attitudes, emotions), the person and others (including groups, close relationships, and organizations), and the social context (including intergroup relations, gender, and health). Research areas include dyadic relations (e.g., close relationships, person perception, gender), social inequality (including stigma, stereotyping and discrimination, prejudice), and health psychology (including risk assessment, information, motivation skills, intervention research).

Admission Requirements.

Well qualified candidates are encouraged to apply for the Ph.D. degree.

Requirements for admission include basic courses in statistics, general psychology, and any of several sub-areas within psychology. Applicants must present scores on the three parts of the general Graduate Record Examination.

The application for admission and financial support may be obtained on the Graduate School Web site at: <http://www.grad.uconn.edu/apply.html>. There is only one application form for both admission and financial aid consideration. There is not a separate application form for Psychology, however the Psychology Department requires application materials in addition to the materials required by the Graduate School. The Psychology Department admissions requirements and procedures may be found on the Web at: http://web.uconn.edu/psychology/academics/graduate/graduate_program.html.

The application deadline for Clinical

Psychology is December 1. The application deadline for Social Psychology and Industrial/Organizational Psychology is December 15. The deadline for all other Psychology graduate programs is January 1. For questions regarding graduate programs, please send an email to psychgrad@uconn.edu or call 860-486-2057.

Facilities.

Research facilities including multiple research laboratories for conducting research in the various sub-areas of psychology, five computer-based laboratories for data collection, and programming and on-line research capabilities, and several experimental rooms dedicated to empirical research data collection. In addition, research capabilities exist in multiple laboratories at affiliated research institutions such as Haskins Laboratories (New Haven), the Institute of Living (Hartford), and the University of Connecticut Health Center (Farmington).

Also a wide variety of approved locations are available for clerkship, practicum and intern training in clinical and industrial psychology, and for work experience for advanced students in other sub-disciplines. These resources include several national corporations, VA hospitals, community clinics, and trauma centers. Opportunities for work with developo

Courses

PSYC5100(3 Credits) History of Psychology
Intellectual antecedents to contemporary clinical, developmental, experimental, and social psychology. Components:Lecture Requirement Group:Open to Psychology graduate students, others with permission (RG786).

PSYC5101(3 Credits)Instructor Consent Required Motivation

Theories of motivation considered in relation to their supporting data. Also offered as COMM 340. Components:Lecture Course Equivalents:COMM 5101

PSYC5102(3 Credits) Psychology of Women and Gender

A survey of research and theory on the interpretation of sex differences; gender, status, and power, and women's life span development. Components:Lecture Course Equivalents:WGSS 5344

PSYC5120(3 Credits)Instructor Consent Required Health Psychology

Interaction of biological, psychological, and social factors in health. Topics include disease prevention "and health promotion, psychosocial factors in treatment of illness, and stress and coping processes. " Components:Lecture

PSYC5121(3 Credits)Instructor Consent Required Research Methods in Health Psychology

Research designs, methods, and data analysis strategies used in health promotion and disease prevention research (e.g., case control studies, randomized clinical trials). Components:Lecture Requirement Group:Prerequisites: STAT 3115Q (242) and STAT 5105 (379) or equivalent statistics course (RG 3725)

PSYC5122(3 Credits)Instructor Consent Required Clinical Health Psychology

Examines the interaction of biological, psychological, and social factors in health and the application of psychological interventions for physical illness, psychological problems secondary to physical illness, and health promotion. Components:Seminar

PSYC5123(3 Credits)Instructor Consent Required Occupational Health Psychology

Introduction to research in occupational health and the field of occupational health psychology in a proseminar format. Topics include work stress, worker participation in hazard management, epidemiology of occupational exposures, workplace incivility, and design of safe work environments. Components:Seminar Requirement Group:Prerequisite: STAT 5105 or NURS 5020 or PUBH 5434 (RG3496).

PSYC5130(3 Credits) Causal Modeling in Psychology

The analysis of data to test causal theories, the use of factor analysis to test models of measurement, and the comparison of alternative models is discussed. Components:Lecture Requirement Group:Prerequisite: STAT 5105 (RG516).

PSYC5131(3 Credits)Instructor Consent Required Meta Analysis: Theory and Practice

Methods of research synthesis, including the literature review and the place of quantitative methods in drawing conclusions from existing empirical research. Introduces the statistical techniques of meta-analysis,

which integrates the results of independent studies addressing the same hypothesis. Components:Seminar Requirement Group:Prerequisite: STAT 5105 (379) (RG 3740)

PSYC5140(3 Credits) Foundations in Neuropsychology

An introduction to neuropsychology, including functional neuroanatomy, neurochemistry, neuropharmacology and cognitive/emotional function and dysfunction. Components:Lecture

PSYC5141(3 Credits)Instructor Consent Required Neuropsychological Assessment

An introduction to clinical neuropsychological assessment, including review of neuroanatomy and neuropsychological functions, common syndromes of neuropsychological dysfunction, specific tests to measure neuropsychological functions and professional issues for the neuropsychologist. Components:Lecture Requirement Group:Prerequisite: PSYC 5140 (RG513).

PSYC5170(1 - 6)Instructor Consent Required Current Topics in Psychology

Selected topics in psychology are studied with particular attention to recent developments in the field. Components:Seminar

PSYC5200(2)Instructor Consent Required Behavioral Neuroscience Research Seminar

Seminar on current research, with intra- and extra-mural colloquium speakers. Components:Seminar

PSYC5228(3 Credits)Instructor Consent Required Neuropsychopharmacology

This course will review the anatomy and physiology of the CNS and then discuss the effects of pharmacological agents on it. Topics include general anaesthetics, hypnotics and sedatives, anticonvulsants, alcohol, muscle relaxants, tranquilizers, hallucinogens, and narcotics. Student presentations will treat topics relating the CNS and behavioral pharmacology. Components:Lecture

PSYC5251(3 Credits)Instructor Consent Required Neural Foundations of Learning and Memory

Examination of the processes involved

<p>in habituation, conditioning, learning, and memory through a study of the neural elements and systems involved in their production and maintenance. Components:Lecture</p> <p>PSYC5257(3 Credits)Instructor Consent Required Physiological Psychology Laboratory</p> <p>Techniques used in the study of physiological psychology, including ablation, electrical and chemical stimulation, and electrophysiological recording of the nervous system. Components:Laboratory</p> <p>PSYC5261(3 Credits)Instructor Consent Required Animal Behavior</p> <p>A survey of the scientific study of animal behavior, with an emphasis on evolutionary and developmental mechanisms underlying non-human behavior patterns. Components:Lecture</p> <p>PSYC5270(1 - 6)Instructor Consent Required Current Topics in Behavioral Neuroscience</p> <p>Special problems or areas of research are studied with particular attention to recent developments in the field. Components:Lecture</p> <p>PSYC5284(3 Credits) Human Behavior Genetics</p> <p>Concepts and methods in human behavioral genetic analyses with emphasis on normal variations, psychopathologies, and ethical issues. Components:Lecture</p> <p>PSYC5285(3 Credits)Instructor Consent Required Neurobiology of Aging: Changes in Cognitive Processes</p> <p>Neural basis of age-related changes in learning and memory. Both the normal aging process and age-related pathologies examined. Encompasses both animal models and human data. Components:Lecture</p> <p>PSYC5300(3 Credits) Research Seminar in Clinical Psychology</p> <p>Advanced seminar presentations by faculty, graduate students, and visiting speakers on current theoretical developments and empirical research in clinical psychology. Components:Seminar Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5301(3 Credits) Practicum in</p>	<p>Interviewing and Cognitive Assessment</p> <p>An introduction to psychological assessment with supervised practice in administering and interpreting clinical interviews and psychological tests. Components:Practicum Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5302(3 Credits) Adult Psychopathology</p> <p>Theoretical and descriptive overviews of mental disorder that afflict adults, emphasizing etiology, diagnosis, and conceptualization. Components:Lecture Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5303(3 Credits) Child Psychopathology</p> <p>An examination of diagnosis, etiology, and prognosis in child psychopathology. Components:Lecture Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5304(3 Credits) Practicum in Personality Assessment</p> <p>Supervised practice in administration and interpretation of clinical tests and case history material, report writing and discussion of implications of diagnostic data for therapeutic procedures. Components:Practicum</p> <p>PSYC5305(3 Credits) Psychodynamics</p> <p>Criteria for the evaluation of personality theories. An analysis of the major methods of psychotherapy and of the personality theories on which they are based. Components:Lecture Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5306(3 Credits) Professional Issues in Clinical Psychology</p> <p>An examination of the relations among the law, ethical issues, and professional practices of clinical psychologists and of other providers of mental health services. Components:Lecture Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5307(3 Credits) Empirically Validated Methods of Psychotherapy</p> <p>Instruction and supervised practice of empirically validated, psychotherapeutic techniques and treatments. Components:Lecture Requirement</p>	<p>Group:Open to graduate students in Clinical Psychology and to others with permission (RG 3643)</p> <p>PSYC5311(3 Credits) Group Psychotherapy</p> <p>Theories and methods of group psychotherapy. Components:Lecture</p> <p>PSYC5332(3 Credits) Research Design and Test Construction</p> <p>Theoretical issues and practical problems in developing valid measures of personality variables and in designing experimental and quasiexperimental research. Components:Lecture Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5370(3 Credits)Instructor Consent Required Current Topics in Clinical Psychology</p> <p>Components:Seminar Requirement Group:Open to students in Clinical Psychology (RG2160).</p> <p>PSYC5399(3 Credits)Instructor Consent Required Clinical Psychology Research Group.</p> <p>Discussion of ongoing research of faculty and graduate students Components:Seminar Requirement Group:Open only to graduate students in Clinical Psychology (RG 4358).</p> <p>PSYC5400(3 Credits)Instructor Consent Required Research Seminar in Developmental Psychology</p> <p>Current research in developmental psychology, with intra- and extramural speakers and directed readings. Components:Seminar Requirement Group:Open only to graduate students in Psychology (RG 4359).</p> <p>PSYC5410(3 Credits)Instructor Consent Required Advanced Developmental Psychology</p> <p>This course undertakes, at an advanced level, a developmental treatment of child behavior on the basis of experimental findings and psychological theory. Components:Lecture</p> <p>PSYC5420(3 Credits)Instructor Consent Required Cognitive Development</p> <p>Current theory and research on children's conceptual development. Components:Lecture</p>
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PSYC5430(3 Credits)Instructor Consent
Required Developmental Ethology

Introduction to conceptual, theoretical, and empirical issues based upon an ethological and biopsychological approach to development across species. Topics include nature-nurture, behavioral embryology, early experience, continuity-discontinuity, and performanceism versus epigenesis. Components:Lecture

PSYC5440(3 Credits) Development of
Language and Related Processes

Experimental and descriptive study of the child's language processes, with emphasis on acquisition, structure, meaning, thought, and the influence of verbal processes on nonverbal behavior. Components:Lecture
Requirement Group:Open to Psychology graduate students, others with permission (RG786).

PSYC5450(3 Credits)Instructor Consent
Required Infancy and the Effects of Early
Experience

Data and theory concerning the effects of early experience in infancy on behavioral and physiological development. Cross-species comparisons are emphasized. Components:Lecture

PSYC5460(3 Credits)Instructor Consent
Required Social and Personality Development

Fundamental research and theory on social behavior, social cognition, and interpersonal relations in the preschool period (2-6 years) and in middle childhood (6-12 years). Early childhood precursors and consequences in adolescence. Both normative and atypical development. Components:Seminar

PSYC5470(3 Credits)Instructor Consent
Required Current Topics in Developmental
Psychology

Selected topics in developmental psychology are studied with particular attention to current research and theoretical trends. Components:Seminar

PSYC5499(3 Credits)Instructor Consent
Required Research Team in Developmental
Psychology

Planning and execution of both individual and collaborative research projects in developmental psychology. Components:Seminar Requirement

Group:Only students admitted to a
Psychology Graduate Program. (RG4760)

PSYC5500(3 Credits) Research Seminar in
Language and Cognition

Also offered as LING 305.
Components:Seminar Course
Equivalents:LING 5010

PSYC5512(3 Credits)Instructor Consent
Required Ecology of Language and Cognition

The scope and content of an ecological theory of language are outlined. Conventional theories of language, ecological theories of perceiving and acting and relevant portions of social psychological, anthropological, and linguistic theory are explored. Components:Lecture

PSYC5513(3 Credits)Instructor Consent
Required Memory

Contrasts associationist, cognitive, connectionist, and cognitive neuroscience approaches to issues involving short-term memory, long-term memory, and the representation of knowledge. Components:Lecture

PSYC5514(3 Credits)Instructor Consent
Required The Mental Lexicon

The role of the mental lexicon in the perception and production of words, including the representation and use of knowledge about phonology, morphology, orthography, and semantics. Components:Lecture

PSYC5515(3 Credits)Instructor Consent
Required Connectionist Models

Connectionist models in psychology and computational neuroscience. Topics include learning, memory, and language processes in both intact and damaged networks. Components:Lecture

PSYC5541(3 Credits) Reading Acquisition
and Reading Disorders

Examination of theories and research: Aspects of literacy and stages of acquisition; cognitive prerequisites for reading and writing; individual differences in learning and the problem of dyslexia. Components:Lecture

PSYC5553(3 Credits)Instructor Consent
Required Introduction to Nonlinear Dynamics

Basic concepts and methods of

nonlinear dynamics systems theory applied to behavioral time-series data. Components:Lecture

PSYC5554(3 Credits)Instructor Consent
Required Advanced Nonlinear Dynamics for
the Behavioral Sciences

Advanced concepts and methods of nonlinear dynamics systems theory applied to behavioral time-series data. Components:Lecture Requirement
Group:Prerequisite: PSYC 5553 (RG2945).

PSYC5564(3 Credits) Dynamics of Language
and Cognition

Application of dynamical systems theory to language modeling. Components:Lecture

PSYC5567(3 Credits) Cognition

An introduction to theories of human cognition. Components:Lecture

PSYC5568(3 Credits)Instructor Consent
Required Psychology of Language

Psychological aspects of linguistic structure, with particular attention to phonology. Components:Seminar

PSYC5569(3 Credits)Instructor Consent
Required The Neuropsychology of Language

An examination of language and speech in relation to the biological systems that serve communicative processes in man. Components:Lecture

PSYC5570(3 Credits)Instructor Consent
Required Current Topics in Cognitive Science

Special topics in cognitive systems theory are reviewed with particular emphasis on techniques for the intrinsic measurement of systems behavior including information processing capacities and goal achievements. Students are required to apply the techniques discussed to an ongoing research topic of their own choosing. Components:Lecture

PSYC5571(3 Credits)Instructor Consent
Required Sensation and Perception I

Relations among physical, physiological, and psychological variables in selected sensory and perceptual processes. Attention is given to problems of measurement, empirical findings, and theoretical interpretations. Components:Lecture

PSYC5572(3 Credits) Sensation and

Perception II

A continuation of Psychology 369.

Components:Lecture Requirement Group:Prerequisite: PSYC 5571 (RG518).

PSYC5574(3 Credits)Instructor Consent Required Control and Coordination of Action

Covers the ecological approach; movement as the product of a representational/computational system; intentionality; physical principles of self-organization and cooperativity; task dynamics. Problems in the physiology of activity, prosthetics and robotics are addressed. Components:Lecture

PSYC5575(3 Credits)Instructor Consent Required Introduction to Cognitive Systems

Survey of the fundamental concepts of machine theory, cybernetics, structural stability theory, and natural systems theory with respect to their role in modeling cognitive systems. Components:Lecture

PSYC5583(3 Credits) Sentence and Discourse Processing

How psychological theories of perception and learning provide insight into language processing at the level of sentence structure and discourse structure. Components:Lecture

PSYC5600(3 Credits)Instructor Consent Required Research and Practice of Industrial/Organizational Psychology

Current research and practice in industrial/organizational psychology, with intra- and extramural speakers. This course may be repeated to a maximum of 12 credits. Components:Seminar

PSYC5601(3 Credits)Instructor Consent Required Proseminar in Industrial/Organizational Psychology I

Introduction to research and practice in the field of I/O psychology; personnel psychology, organizational psychology, human factors/ergonomics, and judgment and decision making. Components:Seminar Requirement Group:Open to doctoral students in Industrial/Organizational psychology, others with permission (RG3497).

PSYC5602(3 Credits)Instructor Consent Required Proseminar in Industrial/Organizational Psychology II

Introduction to research and practice in the field of I/O psychology; personnel

psychology, organizational psychology, human factors/ergonomics, and judgment and decision making. Components:Seminar Requirement Group:Open to doctoral students in Industrial/Organizational psychology, others with permission (RG3497).

PSYC5611(3 Credits)Instructor Consent Required Work Motivation

Major theoretical approaches to work motivation, and their implications for the design of work settings and the treatment of workers. Components:Seminar Requirement Group:Prerequisite: PSYC 5613 (RG519).

PSYC5612(3 Credits)Instructor Consent Required Leadership in the Workplace

Theoretical and research issues associated with leadership in the workplace. Classical and current theories of leadership, research in leadership development, and evaluation of various leadership models. Components:Seminar Requirement Group:Prerequisite: PSYC 5613 (RG519).

PSYC5613(3 Credits) Organizational Psychology

Major research lines in organizational behavior (work motivation, leadership, work attitudes, job design, turnover, absenteeism), with attention to emerging areas (e.g., women in management). Emphasis on research methods and analytic strategies. Components:Seminar Requirement Group:Open to doctoral students in Industrial/Organizational Psychology, others with permission (RG797).

PSYC5614(3 Credits) Personnel Psychology

Techniques of personnel psychology: recruitment, selection, placement, evaluation, training, development, and related areas. Components:Lecture Requirement Group:Open to doctoral students in Industrial/Organizational Psychology, others with permission (RG797).

PSYC5615(3 Credits) Human Factors

Theories of design and analysis of man-machine systems in an industrial/organizational context. Special emphasis on the human as an information-processing sub-system operating with other people and machines in complex systems. Application of psychological principles to design of industrial workplaces, military systems, and consumer products; and to the design of simulation systems for

training. Components:Seminar Requirement Group:Open to doctoral students in Industrial/Organizational Psychology, others with permission (RG797).

PSYC5616(3 Credits) Human Judgment and Decision Process

Examination of social judgment methodology, judgmental heuristics and biases, process tracing, bootstrapping, behavioral decision theory, and multi-attribute utility measurement. Components:Lecture Requirement Group:Open to doctoral students in Industrial/Organizational Psychology, others with permission (RG797).

PSYC5617(3 Credits)Instructor Consent Required Occupational Health and Safety

Research methods, theories and findings related to the impact of work duties and environmental conditions on occupational safety and health. Components:Lecture Requirement Group:Prerequisite: PSYC 5615 (RG521).

PSYC5618(3 Credits)Instructor Consent Required Selection and Placement

Theory and research on employee selection and placement. Selection models, employee testing, statistical methods in selection and placement, equal opportunity and EEOC guidelines and related ethical issues. Components:Seminar Requirement Group:Prerequisite: PSYC 5614 (RG522).

PSYC5619(3 Credits) Performance Appraisal

Methods and issues in performance rating in organizations. Classic studies and current models of performance evaluation are used to explore factors which enhance or hinder the accurate gathering, evaluation, and communication of employee performance information. Components:Seminar Requirement Group:Prerequisite: PSYC 5614 (RG522).

PSYC5620(3 Credits)Instructor Consent Required Design and Analysis of Human-Machine Systems

The basis, in theories of perception and learning, for design of complex human-machine systems. Components:Seminar Requirement Group:Prerequisite: PSYC 5615 (RG521).

PSYC5621(3 Credits) Simulation and Training

The theoretical basis for techniques of effective training of human operators in complex human-machine systems. Components:Seminar Requirement Group:Prerequisite: PSYC 5615 (RG521).

PSYC5622(3 Credits)Instructor Consent Required Work Systems and Performance

Research methods, theories and findings related to the impact of work duties, schedules, psycho-social variables and circadian psychophysiology on human performance. Components:Seminar Requirement Group:Prerequisite: PSYC 5615 (RG521).

PSYC5670(3 Credits)Instructor Consent Required Current Topics in Industrial/Organizational Psychology

Selected topics in industrial/organizational psychology are studied with particular attention to current research and theoretical trends. Topics vary by semester. Components:Seminar

PSYC5699(1 - 3)Instructor Consent Required Research Team in Industrial/Organizational Psychology

Planning and execution of both individual and collaborative research projects in industrial/organizational psychology. This course may be repeated to a maximum of 12 credits. Components:Seminar Requirement Group:Prerequisite: Admission to a graduate degree program in Psychology (RG 4425).

PSYC5700(3 Credits)Instructor Consent Required Proseminar in social psychology

Presentations on current research in all areas of social psychology. Components:Seminar Requirement Group:Open to Social Psychology graduate students, others with permission (RG787).

PSYC5701(3 Credits)Instructor Consent Required Experimental Social Psychology

A critical overview of the various laboratory methods and techniques in social psychology. Components:Seminar

PSYC5702(3 Credits) Field Research Methods

An examination of various methods of field research, focusing on design, analysis, theory, and practical issues. Components:Seminar Requirement Group:Prerequisite: PSYC 5701 (RG515).

PSYC5703(3 Credits) Advanced Social Psychology

An overview of the field of social psychology organized around the major underlying theoretical orientations. Several positions are critically examined along with representative empirical work. Components:Lecture Requirement Group:Open to Social Psychology graduate students, others with permission (RG787).

PSYC5770(3 Credits)Instructor Consent Required Current Topics in Social Psychology

Topics vary by semester. Recent topics have included Social Cognition, Small Groups, Health Psychology, Emotion, Problems in Personality, and Ecological Social Psychology. Components:Seminar

PSYC5799(1 - 3)Instructor Consent Required Research Team in Social Psychology

Planning and execution of both individual and collaborative research projects in social psychology. Components:Seminar

PSYC5800(1 - 6)Instructor Consent Required Research in Psychology

Components:Independent Study

PSYC5801(1 - 6)Instructor Consent Required Independent Study in Psychology

Components:Independent Study

PSYC6130(3 Credits)Instructor Consent Required Measurement and Scaling

History and theories of psychological measurement and scaling. Application of unidimensional scaling models (e.g., Thurstone, Guttman, and Likert scaling, hierarchical cluster analysis, multidimensional scaling, and factor analysis) to psychological research problems. Components:Lecture Requirement Group:Prerequisite: STAT 5105 (RG516).

PSYC6136(3 Credits)Instructor Consent Required Seminar in Quantitative Research Methods

Quantitative research culminating in a research methods paper. Intended as the capstone course for the Quantitative Research Methods graduate certificate following completion of other courses in the certificate program. Components:Seminar

PSYC6141(3 Credits)Instructor Consent Required Practicum in Neuropsychological Assessment

Field placements in clinical neuropsychology. Students will be placed in area hospitals, rehabilitation centers, or on campus, where they will perform neuropsychological evaluations under supervision and attend clinical rounds and team meetings. Components:Practicum Requirement Group:Prerequisites: PSYC 5301, PSYC 5140, and PSYC 5141 (RG514).

PSYC6300(1 - 6) Clerkship in Clinical Methodology

Supervised clinical training in a community facility. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Practicum

PSYC6301(1 - 3) Practicum in Adult Psychotherapy

Supervised psychotherapy training with adults including diagnostic procedures. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Practicum Requirement Group:Open to students in Clinical Psychology (RG2160).

PSYC6302(1 - 3) Practicum in Child Psychotherapy

Supervised psychotherapy training with children and parents including diagnostic procedures. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) Components:Practicum Requirement Group:Open to students in Clinical Psychology (RG2160).

PSYC6303(3 Credits) Didactics of Supervision and Consultation

Exposure to theories, models, and empirical data pertinent to providing quality supervision of the psychodiagnostic and psychotherapeutic activities of mental health professionals. Components:Lecture Requirement Group:Open to students in Clinical Psychology. Prerequisites: PSYC 5301, PSYC 5304, PSYC 6301, and PSYC 6302 (RG2159)

PSYC6304(3 Credits) Practicum in Clinical Supervision

Supervised training in supervising psychodiagnostic and psychotherapeutic activities of

less advanced clinical psychology students. Components:Practicum Requirement Group:Open to students in Clinical Psychology. Prerequisites: PSYC 5301, PSYC 5304, PSYC 6301, and PSYC 6302 (RG2159)

PSYC6310(0)Instructor Consent Required Internship in Clinical Psychology

Students assume professional psychological assessment, psychotherapeutic, and consultation responsibilities under the direct supervision of licensed clinical psychologists. Components:Practicum

PSYC6505(3 Credits) Teaching Experimental Psychology

The lecture method applied to teaching undergraduate courses in experimental psychology (introductory, cognition, learning and memory, sensation and perception) and giving conference presentations. Attention is given to presentation style and content. Components:Practicum

PSYC6730(3 Credits)Instructor Consent Required The Self in Social Psychology

Social psychological perspectives on the self. Early psychological/sociological views on the structure of the self, symbolic interactionism, self-concept and self-esteem, social comparisons, self-discrepancies, self-regulation and automaticity, and the self within the culture are some of the topics discussed. Components:Seminar

PSYC6731(3 Credits)Instructor Consent Required Person Perception

An examination of the social psychological literature dealing with person perception and cognition, organized around the historical development and current status of attribution theory and research. Components:Seminar

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Public Health

M.P.H. Program Director:

Associate Professor David Gregorio

MPH Program Coordinator: Assistant Professor Joan Segal

Interdisciplinary MPH Coordinator: Assistant Professor Jane Ungemack

Ph.D Coordinators:

Professor Tom Babor (Social & Behavioral Health Sciences)

Professors Lawrence Silbart

Nicholas Warren (Occupational & Environmental Health Sciences)

Professors

Ascencio, Aseltine, Babor, Beazoglou, Chapman, Cherniak, Duffy, Erickson, Faghri, Ferris, Fifield, Fortinsky, Grady, Gregorio, Harkness, Hesselbrock, Morse, Pescatello, Petry, Pfeiffer, Rajan, Reisine, Rodriguez, Rosenberg, Santeere, Schensul, Schmeiser, Silbart, Singer, Snyder, Stevens and Tennen

Associate Professor

Anderson, Aneskevich, Bahr, Britner, Burlison, Covault, Ford, Grant, Henning, Kurz, Lazzarini, Manautou, Pendrys, Robison, Shelton, Warren, Wetstone and Wright

Assistant Professors

Brown, Coperhaver, Kang, Leger, Peterson, Salazar, Segal, Smith, Swede, Thibodeau, Tikoo, Ungemack, Wolfe and Wu

The Master of Public Health is a professional degree program, accredited by the national Council on Education for Public Health, for individuals seeking training and experience in applied public health practice. The program faculty represents the population-based health sciences. Students must earn a total of 48 credits distributed among core, elective, and capstone activities. The core curriculum (24 credits) consists of the basic public health disciplines: social and behavioral sciences, epidemiology, biostatistics, health administration and environmental health, along with courses on public health law, research methods and the Practicum, a service learning activity. Elective course offerings (15-21 credits) emphasizing applied public health practice provide students with the understanding, knowledge, experience, skills and values necessary to function successfully as a public health practitioner. Within this overall

framework, students are able to select from course content reflecting faculty interest in health systems administration, law and policy, epidemiology, occupational/environmental health, and applied practice methods. The capstone requirement may be met through a research thesis (9 credits) or an applied practice project or essay (3 credits).

The program is tailored to the needs of working professionals who wish to pursue part-time evening study. It also offers the opportunity to complete degree requirements simultaneously within the Schools of Medicine, Dental Medicine, Law, Social Work and Nursing.

For admission, applicants must demonstrate a strong academic record, background and/or experience relevant to public health, well-articulated career goals relevant to public health, and a commitment to the health of the community. A complete application includes official transcripts, a personal letter of application, and three letters of recommendation (preferably at least one academic letter). Submission of GRE (or MCAT, LSAT, DMAT, or GMAT) scores is highly encouraged. Information is available from: MPH Program Director, University of Connecticut Health Center, Farmington, CT 06030-6325, email: mph@nso.uhc.edu, Web address: http://publichealth.uconn.edu/acprgms_mph_overview.php

The Doctor of Philosophy degree program in Public Health is a full-time, interdisciplinary degree program. This cross-campus doctoral program prepares future public health leaders with the skills needed to enhance health in human populations. The Social and Behavioral Health Sciences concentration offers students specialized instruction in the theory and methods that emphasize the social, psychological and behavioral influences on health, illness, and injury. The concentration in Occupational and Environmental Health Sciences focuses on exposures to physical and chemical agents, biological exposures, ergonomic impacts, accident/safety risks and psychosocial factors.

For admission to the doctoral program in public health, students must demonstrate a commitment to public health, and have successfully completed courses in at least three of the five core competencies in public health (Biostatistics, Epidemiology, Occupational/Environmental Health, Behavioral Sciences, and Health Services Administration) before matriculating in the program. Students are required to complete a minimum of 45 credits, including a required seminar series (4 credits). There is a core program in discipline-specific theory,

advanced research methods, and additional elective courses to complete the plan of study. After completion of course work, students take a general examination, prepare and defend a dissertation proposal, then write and defend a doctoral dissertation, which fulfills 15 credits. For more information please visit <http://www.publichealth.uconn.edu>.

Courses

PUBH 5400(3) Introduction to Public Health

Provides an introduction to the discipline, its scientific foundations, and its relationship to other fields including clinical medicine. The basic concepts and skills necessary for a practitioner of public health are explained. Students gain a better appreciation of epidemiology to guide public health interventions and the development of public health policy. Components: Lecture

PUBH 5401(3) Principles of Epidemiology

Introduction to epidemiological concepts and methods as applied to public health research, community diagnosis, prevention, health planning and evaluation studies. Intensive use of exercises in descriptive and analytic epidemiology based on current investigations. Components: Lecture

PUBH 5402(3) Introduction to Biostatistic
An introductory presentation of the fundamentals of biostatistical theory and application, aimed at developing competence in the use of statistics, probability distributions, hypothesis testing, inference and estimation as applied to the most commonly used techniques in parametric and nonparametric statistical methods. Critical appraisal of research reported in journal articles serves as an application of learned techniques. Components: Lecture

PUBH 5403(3) Health Administration

Examination of past, present, and proposed approaches to the organization and management of health care services. Emphasis is on the role and functioning of the manager and the evolution of health care policy and trends as they affect managerial roles. Components: Lecture

PUBH 5404(3) Environmental Health

Explores the policy, political and public health implications of such issues as air pollution, drinking water, exposure to hazardous chemicals, indoor air pollution, food protection, lead poisoning, housing, international issues, etc. Provides the student with some basic technical information and familiarity with terms for a better understanding of policy and political decisions and health effects of environmental exposures. Components: Lecture

PUBH 5405(3) Social and Behavioral Foundations of Public Health

An introductory survey emphasizing basic social science concepts in the analysis of public health including orientations toward health, disease and health care, the origins and distribution of health care resources, and the role of social movements and research in improving public health. Components: Lecture

PUBH 5406(3) Law and Public Health

An introduction to the American legal system as it relates to health care and public health. Sessions present important applications of law to health including the powers of state governments, public health at the federal level, hospital, physician and HMO liability, emergency care and medical research, mental health law, reproductive health and the right to privacy, the right to refuse treatment and end of life issues, privacy and confidentiality in health care, infectious disease law and disability discrimination, and public health policy and advocacy. Components: Lecture

PUBH 5407(1 - 3) Practicum in Public Health

Under faculty guidance, students undertake an organized set of activities that responds to an identified need of a public health agency or health-related organization. The activities may involve the policy development, planning, implementation, administration or evaluation of public health services, or a combination of such activities. Students should be appropriately advanced before initiating the practicum. Components: Practicum

PUBH 5408(3) Introduction to Epidemiology & Biostatistics I

This is the first of a two-course sequence introducing students to concepts and methods of epidemiology, biostatistics and public health research. Topics include nature of variability, common probability distributions, causal reasoning, control of bias and confounding, descriptive and analytic design of observational and experimental studies, principles of disease screening and clinical efficacy. Components: Lecture Requirement Group: Open to students admitted to MPH program, others with consent of instructor (RG 3213).

PUBH 5409(3) Introduction to Epidemiology & Biostatistics II

This continuation of a two-course sequence on basic epidemiology, biostatistics and public health research addresses hypothesis generation, data collection methods, point and confidence interval estimation, inference testing, correlation/regression analysis, multivariable interaction, effect modification, power and meta-analysis. Evaluation of study designs, research methods and statistical procedures in clinical and public health literature will be stressed. Components: Lecture Requirement Group: Open to students admitted to MPH program, others with consent of instructor. Completion of PUBH 408 required (RG 3214).

PUBH 5410(3) Fundamentals of Strategic Planning

Fundamentals of strategic planning for public and non-profit organizations emphasizing the development of mission and vision statements, stakeholder analysis, scanning of internal and external environments; formulation and implementation of goals and objectives, definition of strategic issues, program planning, and evaluation. Introduction to related concepts in long range planning and group decision making. A group strategic planning project caps the course. Components: Lecture

PUBH 5412(3) Health Regulation

Focus is on the relationship between law

and health care. Regulation of practice, practitioners and facilities. Legal aspects of alternative delivery systems including managed care. Legal and ethical dimensions of the health care provider-client relationship also are addressed. Components: Lecture

PUBH 5414(3) Health Economics

An introduction to economic theory and various applications of economics in the analysis of the U.S. health care system. Components: Lecture

PUBH 5416(3) Principles of Quality Improvement

Quality improvement (QI) is the art and science of improving quality of care by continuously making small improvements in key steps or processes. Because systems of care are inherently complex, people need tools and methods to recognize and prioritize what changes are necessary and to know how to implement and evaluate such changes. Several basic principles or concepts underlie QI efforts, such as variation, leadership, systems thinking, and the psychology of motivation. This course will describe critical principles and concepts important to QI and will illustrate their practical application to health care settings. Components: Lecture

PUBH 5419(3) Public Health Agencies

Takes organization and management theory into practice. The focus is on governmental and non-profit agency management and administration. Emphasis is on developing and defending budgets, personnel management, working within the political context, with the community and with multiple agencies. Components: Lecture

PUBH 5430(3) Public Health Informatics

An overview of the basic information skills required to clarify a health-related information need and identify and use appropriate information resources to select materials that answer that need. The course will include discussions of health-related networks and information resources, demonstrations of their appropriate use, class exercises and a semester project. Enrollment limited to 12. Components: Lecture

PUBH 5431(3) Public Health Research Methods

Introduction to conceptualization, methods, and analysis in public health research including: formulation of research questions and hypotheses, development of research and analytic models, use of qualitative (interviewing and observation) and quantitative (secondary and survey data) data collection methods, and qualitative and quantitative data analysis leading to the formulation of research projects. Components: Lecture

PUBH 5432(3) SAS Programming and Data Management

Focuses on SAS programming to introduce the most commonly used features of the language, including data definition, modification and organization; data manipulation and selection; data display and basic data analysis using descriptive statistics. Students also learn to create datasets using data entry or importing from other programs. Components: Seminar

PUBH 5433(3) Health Program Evaluation

Methods of evaluating the implementation and impact of health programs. Topics include: specification of program objectives and components, experimental and quasi-experimental evaluation designs, collection and analysis of program data, and the dissemination and application of evaluation results. Components: Lecture

PUBH 5434(3) Topics in Intermediate Biostatistics

An introduction to the interplay of experimental design and data analysis. Begins with a review of statistical estimation and testing. Topics include analysis of variance, linear regression, and power analysis. Applications are emphasized through the demonstration and use of statistical software. Components: Lecture

PUBH 5435(3) Statistical Methods in Epidemiology

An introduction to the statistical methods most commonly used in analyzing data from epidemiological studies. The course begins with a review of basic epidemiology and statistics. Subsequently, the focus is on contingency table methods and logistic regression with emphasis on dose-response relationships, interaction and confounding. Computer software for data analysis is demonstrated. Components: Lecture

PUBH 5436(3) Intermediate Epidemiology

This course will go into depth on some of the major design and implementation issues in epidemiology and biomedical research. By the conclusion of the course, the student should have a better appreciation of the importance and complexities of epidemiological investigation. Components: Seminar

PUBH 5437(3) Epidemiological Research Appraisal

A research seminar on uses, strengths and limitations of epidemiological methodology. Major studies in infectious disease, chronic disease and health care epidemiology are critically analyzed. The goal is to promote sound judgment of the scientific validity of epidemiological evidence. Components: Lecture

PUBH 5438(3) C Investigation of Disease Outbreaks

Provides students with the basic skills and perspectives necessary to investigate acute disease outbreaks. The emphasis is on the use of epidemiology to investigate outbreaks of infectious diseases, guide public health interventions, and develop public health policy. Students will participate in an outbreak investigation conducted by the state health department. Components: Lecture

PUBH 5439(3) Epidemiology of Cancer

An introductory survey of how basic and epidemiological research inform cancer control and prevention. It is geared towards, but not limited to, matriculated MPH students, public health professionals, health care providers, and epidemiologists. No prior knowledge of cancer pathology is required.

Components: Seminar

PUBH 5440(3) Public Health Issues in Genetics

The Human Genome Project and other research initiatives are providing us with new opportunities to screen, diagnose and provide novel interventions for a range of genetically determined diseases. The goal of this course is to provide sufficient understanding of inheritance patterns and genetics technology to appreciate the associated public health issues. Components: Seminar

PUBH 5450(3) Public Health Practice

Discussion of initiatives to define the practice of public health, including the Institute of Medicine (IOM) Report on the Future of Public Health and the Public Health Service's "essential functions" of public health. Includes review of expenditures studies and estimates of actual public health infrastructure resource needs, as well as discussion of appropriate future roles for public health. Components: Lecture

PUBH 5451(3) Maternal and Child Health Services

Maternal and child health services are examined, highlighting the past successes and future challenges to the health care delivery system. Current topics which include nutritional influences, reproductive technology, injury control, domestic violence, child abuse/neglect, emerging infections, perinatal risk behaviors and mental health provide case studies for evaluation of maternal and child health policy development. Components: Lecture

PUBH 5452(3) Injury and Violence Prevention

Injury and violence are major preventable public health problems with predictable patterns. The purpose of this course is to familiarize the student with the epidemiological literature of intentional and unintentional injuries. The course is designed to focus on the knowledge and skills required to design, implement, and evaluate scientifically sound community injury prevention and control programs.

Components: Lecture

PUBH 5453(3) Chronic Disease Control

Chronic diseases are examined from clinical, epidemiological and program planning perspectives. Diseases examined include: selected neoplastic diseases, cardiovascular diseases, chronic obstructive pulmonary diseases, cerebrovascular disease and diabetes. The role of public health agencies, for profit and non-profit entities in research, education, and risk reduction activities also are covered. Components: Lecture

PUBH 5454(3) Infectious Disease Control

Overview of microbiology. Agent-host environment relationship in causation and control of infectious diseases. Epidemiological patterns of major infectious diseases, with emphasis on sexually transmitted diseases, respiratory conditions and nosocomial infections. Components: Lecture

PUBH 5455(3) Health Education

Methods for planning, presenting, and evaluating health education programs in communities, schools and worksites. Includes use of the Precede Model, setting of goals and objectives, behavior modification theory, group processes, teaching techniques and activities for developing and presenting workshops or courses. Components: Lecture

PUBH 5460(3) Health and Human Rights

Explores the many ways in which human health and well-being are related to human rights. Human rights are a field of international law which includes major treaties, treaty bodies, and adjudicatory mechanisms. This course will review the ways in which human rights instruments and jurisprudence have addressed health and issues related to health. Students will also study a wide range of substantive public health issues that have a human rights dimension, and consider the ways that human rights are used as advocacy tools to improve the structural environment that shapes the public's health. Components: Seminar

PUBH 5461(3) Healthcare Law and Ethics

An analysis and evaluation of the legal rights of patients and providers in the health care process. Specific topics may include: nature of rights, consent to treatment, contraception, abortion, sterilization, involuntary commitment, and allocation of limited medical resources. Components: Lecture

PUBH 5462(3) International Health

Examines primary health care as a model suited to the health needs of developing nations. Provides a broader understanding of the genesis of illness in developing countries and analyzes the kind of care required to have an impact on these illnesses. Components: Lecture

PUBH 5463(3) Comparative Health Systems

An analysis of national health systems in relation to their socio-economic, political, cultural, and epidemiologic contexts. The examination of alternative approaches to organizing scarce health care resources serves as an integrating theme. Components: Lecture

PUBH 5465(3) Course ID:010949 05-FEB-2008 Occupational Health Recognition and prevention of occupational disease and injuries, including social and political aspects and policy issues such as OSHA and Workers' Compensation laws. Overview of some of the major occupational disease issues. Approaches of industrial hygiene, ergonomics, and occupational epidemiology to understanding and preventing occupational health hazards. Components: Lecture

PUBH 5466(3) Industrial Hygiene

The skills required to recognize, evaluate and control occupational hazards. Review of hazards associated with a variety of work processes and jobs. Students learn how to take an occupational history, to research the hazards associated with an industry, and to conduct a plant walk-through. Control methods, such as ventilation and personal protective equipment, are evaluated. Components: Lecture

PUBH 5467(3) Occupational and

Environmental Disease

Clinical introduction to occupational disease, including diagnostic strategies and patient management techniques. Review of the diseases of primary target organs, including the range of syndromes from that organ, appropriate diagnostic techniques, and treatment options. Components: Lecture

PUBH 5468(3) Occupational and Environmental Epidemiology

Topics include the history of occupational epidemiology, causal models, occupational exposure classification systems, environmental epidemiology, cohort mortality studies, cross-sectional surveys, case-control studies, ecologic studies, and statistical and methodological issues in research design and their solutions. Components: Lecture

PUBH 5472(3) Disability and Public Health

Examines both developmental and acquired disabilities from a public health perspective. Public health issues of cognitive and physical disability, including: prevention, diagnostic and definitional considerations, epidemiological and statistical controversies, legal and ethical aspects, treatment considerations and research concerns. Components: Lecture

PUBH 5473(3) Women, Public Health and Reproduction

The history of reproduction and public health issues in the U.S.; underlying ethical issues in modern reproductive health care and key components of opposing views; major financial, social and emotional considerations in policy making and the increasing role that reproductive health plays in public health as a whole. Components: Lecture

PUBH 5474(3) Urban Health

Comprehensive overview of historical forces and social factors related to the health status of African-Americans, Hispanics, and other minority groups in American society. Although much of the course content examines current minority health issues, the use of theory and research to identify

underlying causes and to suggest practical strategies/interventions for addressing these problems is a major focus. Components: Lecture

PUBH 5475(3) Public Health and Policy in an Aging Society

This course examines the demographics of aging; organization, financing and delivery of health services for older adults; formal and informal caregiving; retirement and housing policy; and end of life care. Policy and ethical aspects of these topics will be explored. The course will be research-oriented, integrating empirical evidence to illustrate central concepts. Familiarity with basic principles of research design, including ability to critically read and synthesize scientific literature, is important. Components: Lecture

PUBH 5476(3) Community Mental Health

Overview of mental illness, substance abuse and related conditions, including epidemiological patterns and interventions. Chronic mental patients, the homeless mentally ill and other special groups. The community mental health movement and role of government. Regulations and mental health law. Components: Lecture

PUBH 5477(3) Food, Health and Politics

This course will provide a comprehensive overview of the factors that influence how our food is grown; what foods are available, affordable, and advertised; and the ensuing public health implications. We will examine the history of food production in America, the development of public and private food assistance programs, the fast food movement, and food marketing. Students will explore the political, social, economic and environmental factors that impact food availability and consumption, and discuss the implications of these factors on health outcomes, such as obesity, hunger, chronic diseases, and health disparities. Components: Seminar

PUBH 5495(1 - 9) Independent Study in Public Health

An individual course for those wishing to pursue special topics in the public health sciences under faculty supervision.

Components: Independent Study

PUBH 5497(1 - 6) Graduate Seminar in Public Health

Components: Seminar

PUBH 5498(3 - 9) Instructor Consent Required Field Experience in Public Health Systems

Under direction by field preceptors, students will participate in an intensive service-learning experience wherein they will examine a timely public health issue from the perspective of health indicators/disease surveillance; policy development; planning, implementation, or evaluation of public health services; essential public health functions; and operational issues of a large complex public health agency/organization. Components: Field Studies

PUBH 5499(3 - 6) Program Director Consent Req'd Capstone Project in Public Health

Components: Independent Study

PUBH 6490(1) Public Health Seminar

This student-centered seminar series will meet weekly in both the Fall and Spring semesters of the student's first 2 years and will introduce the students to a broad range of faculty and outside speakers in public health. The seminar will follow a cycle where students read and discuss papers for an upcoming presenter, the next week the speaker will present and participate in discussion and questions and answers, and the following week there will be a student presentation. During their fourth semester, students will present an overview of the literature supporting their proposed research project. This seminar is common to all students in the doctoral program in public health. Components: Seminar

PUBH 6491(1) Instructor Consent Required Advanced Topics in Social and Behavioral Foundations of Public Health

This seminar course will be given in parallel with the MPH survey course, Social and

Behavioral Foundations of Public Health (PUBH 405) with the goal of more in-depth exploration of the topics presented in the survey course. The objective is to gain a more advanced understanding of the concepts and theories in the social and behavioral sciences and their ability to explain patterns of health, illness and health care utilization, practices and policies. In conjunction with the survey course, the biopsychosocial paradigm of health and illness will provide the conceptual framework for integrating the societal, interpersonal, and intrapersonal factors that influence the public's health. To be taken concurrently with PUBH 405. Components: Discussion Requirement Group: Co-requisite: PUBH 5405 (RG 003988).

PUBH 6492(1) Instructor Consent Required Advanced Topics in Health Promotion, Disease and Disability Prevention

An in-depth examination of health promotion and disease and disability prevention policies, programs and strategies. This course will involve continued examination of important national and international issues in health promotion and disease and disability prevention that compliment those raised in GPAH 324. Students will critically analyze the health promotion and disease and disability prevention scientific literature relating to a critical issue of their choice. The format for this critique will be a seminar presentation and a written scientific synthesis. To be taken concurrently with GPAH 324. Components: Discussion Requirement Group: Co-requisite: GPAH 6324 (RG 3987).

PUBH 6493(3) Occupational and Environmental Health: Exposures, Risk and Prevention

Exposure pathways, risk analysis techniques and prevention strategies relevant to both occupational and environmental settings. Lectures reinforced by discussion of case studies presented by students. Components: Lecture

PUBH 6495(1 - 9) Instructor Consent Required Independent Study of Special Topics in Advanced Public Health Sciences

A doctoral-level independent study course for Ph.D. students who wish to pursue special topics in advanced public health sciences

under faculty supervision. Components: Independent Study I

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

Public Policy

Department Head:

Professor Mark Robbins

Program directors: Instructor Jennifer Dineen (GPSR) and Professor Bill Simonsen (MPA)

Professors: Edith Barrett, Amy Donahue, and Barry Feldman

Associate Professor: Thomas Craemer and Ken Dautrich

Assistant Professor: Deneen Hatmaker, Beth Neary, and Erin Melton

The Department of Public Policy offers two master's degree programs: Master of Public Administration and Master of Arts in the field of Survey Research. Also offered are the following Graduate Certificates in: Public Financial management; Public and Nonprofit Management; and Survey Research.

Master of Public Administration

The Master of Public Administration (M.P.A.) program provides students with a dynamic and integrated approach to the study of public policy and management. The M.P.A. Program is committed to preparing students for leadership positions in public policy and management through a personalized education that is both theoretically rich and skills-based. The M.P.A. program is accredited by the National Association of Schools of Public Administration and Public Affairs (NASPAA). The M.P.A. website can be accessed at this address: <http://www.dpp.uconn.edu/academics/mpa/index.html>

Admission.

Admission to the M.P.A. program is selective. Considerations for admission include a bachelor's degree from an accredited college or university; a strong academic record; a personal goal statement; your current resume; and three letters of recommendations. The verbal, quantitative, and analytical scores from the Graduate Record Examinations (GRE) are also required. Acceptable TOEFL exam scores for international students are required.

The Admissions Committee begins the review of applications on February 15th for Fall admission and on November 15th for

Spring admission.

Admissions materials can be found at this website: <http://www.dpp.uconn.edu>

Plan of Study.

A focused approach is the program's framework for teaching public management, analytical techniques, and public policy.

The curriculum is organized into a set of core courses, a field internship, and area of specialization, and a capstone project.

Problem-oriented courses prepare students for decision-making in public management. The program develops the skills managers need to diagnose problems, collect and analyze information, plan, choose among policy alternatives, communicate findings, implement programs, and manage change.

Master of Arts in Survey Research

The Master of Survey Research (MSR) Program at the University of Connecticut offers the Master of Arts degree in the field of study of Survey Research. The program provides students with a dynamic and integrated approach to the field of survey methodology. The quality of our academic program is the product of an outstanding faculty and the resources of a research university. The use of practical experiences as a learning tool, combined with theory, analysis, and case studies in the classroom, make our program job-relevant and intellectually challenging.

The program is designed to serve students with a diverse range of backgrounds that places them in a wide variety of occupations. Our program views survey research as a tool that can be utilized in multiple fields.

Admission.

Admission to the M.A. program in Survey Research is selective. Considerations for admission include a bachelor's degree from an accredited college or university; a strong academic record; and verbal, quantitative, and analytical scores from the Graduate Record Examinations (GRE). Acceptable TOEFL exam scores for international students are required. A personal letter, current resume, and three letters of recommendations are also required.

Interested applicants should contact the director at 860-570-9223 or jennifer.dineen@uconn.edu

Admissions materials can be found at this website: <http://www.dpp.uconn.edu/academics/gpsr/index.html>

Courses

PP5300(1 - 6) Independent Study
Components:Independent Study

PP5301(1 - 6) Special Readings in Public Policy

Components:Special Readings

PP5315(3 Credits) Capstone in Public Administration I

Development of project management skills and the research question, bibliography, and methodology for the capstone project. Open only to students in the Master of Public Administration Program. Components:Seminar Requirement Group:PP 5370 and PP 5340 open to MPA students only. (RG4751)

PP5316(3 Credits) Capstone in Public Administration II

Research and writing of the capstone project. Components:Seminar Requirement Group:Prerequisite: PP 5315 (RG 4700).

PP5317(3 Credits) Capital Financing and Budgeting

Examination of the municipal bond market, capital budgeting techniques, and related public policy issues. Components:Seminar

PP5318(3 Credits) Financial Management for Public and Nonprofit Organizations

Management of financial resources in public service organizations. Topics include variance analysis, public sector and nonprofit accounting, financial statement analysis, and forecasting. Components:Seminar

PP5319(3 Credits) Program Development and Evaluation

Techniques for evaluating and improving organizational performance and the ability to deal with the challenges posed by changing environments. Topics include strategic planning, program development, program implementation, evaluating effectiveness, and performance measurement and improvement. Components:Seminar

PP5320(3 Credits) Ethics in Policy and Management

Ethics in public policy and management, including contemporary ethical dilemmas and decision-making tools and techniques.

<p>PP5321(3 Credits) State and Local Fiscal Problems</p> <p>Analytical tools and concepts to evaluate policies related to government revenues, the delivery of public services, and intergovernmental relations. Components:Seminar</p> <p>PP5322(3 Credits) Evaluating Public Programs</p> <p>The tools and concepts important to evaluation research. Components:Seminar Requirement Group:PP 5376 (RG 4752)</p> <p>PP5323(3 Credits) Leadership and Management of Nonprofit Organizations</p> <p>The theory and practice of effective leadership and management of nonprofit organizations. Components:Seminar</p> <p>PP5324(3 Credits) Resource Development for Nonprofit Organizations</p> <p>Important concepts in the fundraising process unique to local, national and international nonprofit organizations. Components:Seminar</p> <p>PP5325(3 Credits) Labor Relations and Public Financial Management</p> <p>Overview of the interrelation of two key fields of public administration: finance and labor relations. Components:Seminar</p> <p>PP5326(3 Credits) Public Investment Management</p> <p>Key dimensions of investment decision making in government, including portfolio analysis and understanding of appropriate investment instruments Components:Lecture</p> <p>PP5327(3 Credits) Analysis for Management Decision Making</p> <p>Analytic approaches to decision making in a public management environment. Components:Lecture</p> <p>PP5330(6) The Practice of Survey Research</p> <p>The practice and use of survey research in the United States and throughout the world. The structure, culture and professional norms of the survey community. The role of public opinion polling in government and public policy-making. Components:Seminar</p> <p>PP5332(3 Credits) Advanced Quantitative Methods</p>	<p>Advanced statistics for survey research analysis. Components:Seminar</p> <p>PP5333(3 Credits) Principles and Methods of Survey Research II</p> <p>Advanced theory and statistics for survey research. Components:Seminar</p> <p>PP5334(3 Credits) Focus Groups</p> <p>Introduction to focus group research. Components:Seminar</p> <p>PP5340(3 Credits)Program Director Consent Req'd Introduction to Public Policy</p> <p>Introduction to the fundamentals of public policy making in the United States with a focus on developing the communication skills required in a professional workplace. Components:Seminar Requirement Group:Prerequisite: Open only to M.P.A. students (RG 4699).</p> <p>PP5341(3 Credits) Public Opinion and Democratic Processes</p> <p>American public opinion in the context of democratic theory. Components:Seminar</p> <p>PP5342(3 Credits) Policy Analysis</p> <p>Approaches and techniques used to evaluate public programs and public policy. Components:Seminar</p> <p>PP5344(3 Credits) Social Policy</p> <p>Examination of the concepts and principles of public policy analysis, with applications to important social issues. Components:Seminar</p> <p>PP5358(3 Credits) Administrative Law</p> <p>The basis legal framework of administrative organization and the rules governing administrative powers and their exercise; also the legal procedures for the enforcement of bureaucratic responsibility in the democratic state. Components:Seminar</p> <p>PP5360(3 Credits) Information Technology Management for Public Policy</p> <p>Overview of practices and issues in managing the use of information technology in public service organizations. Components:Lecture</p> <p>PP5361(3 Credits) Theory of Public Organization</p>	<p>Components:Seminar</p> <p>PP5321(3 Credits) State and Local Fiscal Problems</p> <p>Analytical tools and concepts to evaluate policies related to government revenues, the delivery of public services, and intergovernmental relations. Components:Seminar</p> <p>PP5322(3 Credits) Evaluating Public Programs</p> <p>The tools and concepts important to evaluation research. Components:Seminar Requirement Group:PP 5376 (RG 4752)</p> <p>PP5323(3 Credits) Leadership and Management of Nonprofit Organizations</p> <p>The theory and practice of effective leadership and management of nonprofit organizations. Components:Seminar</p> <p>PP5324(3 Credits) Resource Development for Nonprofit Organizations</p> <p>Important concepts in the fundraising process unique to local, national and international nonprofit organizations. Components:Seminar</p> <p>PP5325(3 Credits) Labor Relations and Public Financial Management</p> <p>Overview of the interrelation of two key fields of public administration: finance and labor relations. Components:Seminar</p> <p>PP5326(3 Credits) Public Investment Management</p> <p>Key dimensions of investment decision making in government, including portfolio analysis and understanding of appropriate investment instruments Components:Lecture</p> <p>PP5327(3 Credits) Analysis for Management Decision Making</p> <p>Analytic approaches to decision making in a public management environment. Components:Lecture</p> <p>PP5330(6) The Practice of Survey Research</p> <p>The practice and use of survey research in the United States and throughout the world. The structure, culture and professional norms of the survey community. The role of public opinion polling in government and public policy-making. Components:Seminar</p>
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PP5332(3 Credits) Advanced Quantitative Methods

Advanced statistics for survey research analysis. Components:Seminar

PP5333(3 Credits) Principles and Methods of Survey Research II

Advanced theory and statistics for survey research. Components:Seminar

PP5334(3 Credits) Focus Groups

Introduction to focus group research. Components:Seminar

PP5340(3 Credits)Program Director Consent Reqd Introduction to Public Policy

Introduction to the fundamentals of public policy making in the United States with a focus on developing the communication skills required in a professional workplace. Components:Seminar Requirement Group:Prerequisite: Open only to M.P.A. students (RG 4699).

PP5341(3 Credits) Public Opinion and Democratic Processes

American public opinion in the context of democratic theory. Components:Seminar

PP5342(3 Credits) Policy Analysis

Approaches and techniques used to evaluate public programs and public policy. Components:Seminar

PP5344(3 Credits) Social Policy

Examination of the concepts and principles of public policy analysis, with applications to important social issues. Components:Seminar

PP5358(3 Credits) Administrative Law

The basis legal framework of administrative organization and the rules governing administrative powers and their exercise; also the legal procedures for the enforcement of bureaucratic responsibility in the democratic state. Components:Seminar

PP5360(3 Credits) Information Technology Management for Public Policy

Overview of practices and issues in managing the use of information technology in public service organizations. Components:Lecture

PP5361(3 Credits) Theory of Public

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

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†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Social Work

Dean

Professor Salome Raheim Associate Dean for Academic Affairs

Assistant Professor Catherine M. Havens

Professor

Fisher, Gitterman, Healy, Humphreys, Johnson, and Klein

Research Professors

Frisman

Associate Professors

Bullock, Comer, Cordero, Dicks, Drachman, Heller, Kurz, Lyon, Malcolm, Negroni, Parks, Simmons, and Wayne

Assistant Professors

Harding, Havens, Letendre, Libal, Medina, Papallo, Smith, Spath, Thomas, and Werkmeister-Rozas

The University of Connecticut School of Social Work promotes social and economic justice by providing high quality graduate education in social work. The School shares with other units of the University the pursuit of excellence in teaching, research and scholarship, the vision of an expanded international role, and a commitment to public service that bring the knowledge of the University to the people of the State. The School of Social Work offers courses of study leading to the degrees of Master of Social Work and Doctor of Philosophy.

The Ph.D. Program.

The goal of the doctoral program in Social Work is to equip future social work leaders with the expert scholarly and research skills needed to provide intellectual leadership and direction to the profession. The program provides a rigorous curriculum designed to prepare social workers for careers as faculty in colleges and universities and as researchers. The curriculum reflects the particular attention given to the unique role of theory and research in the traditions of professional social work in relation to applied practice and to knowledge building.

The course of study consists of 54 graduate credits. Ten core courses (30 credits) provide the students with competency in advanced research methods and statistics, social science theories and practice theories,

while the balance consists of two elective courses (6 credits) in related disciplines, dissertation preparation seminar (3 credits) and dissertation research (15 credits). It is expected that program completion will require three to five years for full-time students.

The Ph.D. Admission Procedure.

Applicants to the Ph.D. program in Social Work must have an M.S.W. degree and a minimum of two years post - M.S.W. experience in social work.

In addition to the admission standards of the Graduate School, all applicants are required to submit scores from the General Test of the Graduate Record Examinations, three letters of professional reference, a personal statement, curriculum vitae, and a writing sample. All items should be sent in one packet directly to the Graduate Admissions Office, University of Connecticut, 438 Whitney Road Extension, Unit 1006, Storrs, CT 06269-1006. All applicants are advised to visit the UConn School of Social Work website <<http://www.ssw.uconn.edu>> for more detailed information about the Ph.D. Program and application materials.

The M.S.W. Program.

The primary goal of the M.S.W. program is to prepare competent professional practitioners to help people to enrich their lives, improve their communities, and contribute to social justice. To prepare MSW graduates for advanced practice in a variety of settings, the curriculum emphasizes knowledge and method skills for social work in micro-level practice (i.e. helping individuals, families, and groups to mobilize their personal and environmental resources to reach their goals) and macro-level practice (i.e. administration, policy formulations, organizational and environmental changes through group and community advocacy and social actions).

The course of study requires that each student earn 18 of the program's 60 credits in field education through supervised placements in agencies where they learn to integrate theory and practice. All students are required to complete courses in Human Oppression (BASC 5300), Research I (BASC 5330), Research Methods in Social Work Practice (RSCH 5332), Analysis of Social Welfare

Policy (BASC 5350), Human Behavior in the Social Environment: Macro Theories (BASC 5360), Human Behavior in the Social Environment: Micro Theories (BASC 5361), Macro Foundation Practice (BASC 5390) and Micro Foundation Practice (BASC 5391). In addition to the required foundation courses and advanced research course, students specialize in one of the following advanced major concentrations: casework, group work community organization, administration or policy practice. Electives and independent study enable students to meet their interests in focused areas of the profession. B.S.W.s from a social work program accredited by the Council on Social Work Education may be eligible for course exemptions or for the Advanced Standing Option. The School does not grant social work course credit for life experience or previous work experience. The M.S.W. Program at the School of Social Work is accredited by the Council on Social Work Education.

The M.S.W. Admission Procedure.

Applications for admission to the M.S.W. program should be sent directly to the School of Social Work. A more detailed description of the M.S.W. program, admission procedures, and financial aid information are available at the School of Social Work website <<http://www.ssw.uconn.edu>> and in the current view book of the School of Social Work which can be obtained from the Admissions Office, University of Connecticut School of Social Work, 1798 Asylum Avenue, West Hartford, Connecticut 06117. Phone: (860) 570-9118.

Dual Degree Programs.

Reflecting the School's commitment to interdisciplinary teaching and practice, dual degree programs are offered with the University of Connecticut Schools of Law (J.D.), Business (M.B.A.) and Medicine (M.P.H.). A joint degree program is also offered with the Yale Divinity School. There are separate admission applications for these programs.

The STEP Program.

The School of Social Work also has a non-degree program, STEP (Staff Training and Education for the Profession), that is available to students who hold a bachelor's

degree. Students are encouraged to test their interest in the social work degree by taking courses in STEP. Students who then matriculate may be able to apply up to 14 credits earned through STEP toward the M.S.W. degree. Non-credit courses also are held on a variety of specialized social work topics.

Courses

BASC5300(3 Credits) Human Oppression: The African-American and Puerto Rican Perspective Examines economic, political, social and cultural forces operating at global, national and local levels, which generate and maintain oppression based on race and ethnicity in the United States. The course will focus on the oppression of the Black and Latino populations in the United States, highlighting the African-American and Puerto Rican experiences and perspectives. It will provide a framework for analyzing and understanding oppression. A historical perspective will be utilized to explore past and current oppression related to race and color, culture and ethnicity, social class, gender, sexual/emotional orientation and religion. Intercultural, intracultural, psychosocial, social and political responses to oppression will be addressed throughout the course.

Required course for students in the M.S.W. program. Must be taken prior to or concurrent with first year of field education. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program (RG 844)

BASC5301(3 Credits) Special Populations

The goal of the course is to provide an opportunity for students to understand and to critically analyze human oppression and issues that are relevant to social work practice methods. The course will examine demographic, economic, political, social and cultural forces operating at national and local levels highlighting the African-American and Puerto Rican experiences and perspectives. The focus of the class is the application of the knowledge of special populations to the social work practice methods. The course will combine lectures by the instructor and invited speakers, and class discussions. At times, small groups will be used to encourage students to examine their personal and professional interactions with oppression, and to discuss their implications for social work practice.

Required course for students in the

Advanced Standing Option and must be taken in the summer prior to the beginning of full time study for the M.S.W. degree. Components:Lecture Requirement Group:Open to students in the MSW Advanced Standing Option. Corequisite: CSWK 5340 or GRWK 5340 or POPR 5340 and CSWK 5301 or GRWK 5301 or POPR 5310 (RG3467)

BASC5330(2) Research I: Principles and Methods of Social Work Research

Prepares M.S.W. students to understand research methodology including basic statistics and computer application; critically review research studies; learn how to utilize research to solve social problems and enhance social work practice, and to understand the role of the practitioner/researcher in social work. Must be taken prior to or concurrent with first year of field education. Meets one of the prerequisites for RSCH 332 Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program (RG843).

BASC5333(3 Credits) Research Methods for Social Work Practice

Provides an understanding of the basic foundation of social work research. Students will learn to: 1) develop critical thinking and knowledge of the principles and methods of research as tools for evaluating their practice; 2) become acquainted with the process and function of research in the advancement of social work theory, knowledge, and practice; 3) value ethical practices in conducting research with diverse individuals and vulnerable populations; 4) judge the adequacy and value of research findings in social work by the use of generally accepted criteria; 5) incorporate computer-based technology in accessing information; and 6) understand the researcher/evaluator role in social work practice. Components:Lecture

BASC5350(3 Credits) Analysis of Social Welfare Policy and Social Service Delivery Systems

This course will provide a critical analysis of the historical roots of American social welfare policy, the formulation of policy, and the economic and political determinants of contemporary policy development. Examination and analysis of the inter-relationship between social welfare policy, the service delivery systems, and practice implications for private and public agencies and programs. The course also includes the examination of international issues in social

welfare policy and social service delivery. Students will analyze and apply the results of policy research relevant to social service delivery; understand and demonstrate policy practice skills in regard to economic, political and organizational systems; use them to influence, formulate, and advocate for policy consistent with social work values, and identify financial, "organizational, administrative, and planning processes required to deliver social services.

Required" course for students in the M.S.W. program. Must be taken prior to or concurrent with first year of field Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program (RG846).

BASC5360(2) Human Behavior in the Social Environment: Macro Theories

The required courses in human behavior in the social environment emphasize social work's "person-and-environment" frame of reference. Although the focus of analysis differs, this course emphasizes the social and physical environment. Major themes stressed throughout the course include theories and research about the interdependence of persons and their environments (physical and social), political, economic, and cultural contexts, including values and ethical issues, in which our social welfare institutions function. Cultural and ethnic diversity, institutional prejudice, especially racism and sexism, issues of social, economic, and political justice and the process of social change will be stressed. Values and ethical issues relevant to macro social work will also be considered.

This course is one of two required courses for students in the M.S.W. program on human behavior in the social environment. Both courses must be taken prior to or concurrent with the first semester of the first year of field placement. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program (RG848).

BASC5361(2) Human Behavior in the Social Environment: Micro Theories

Focuses on the individual and the family in transaction with social, economic, political, and cultural contexts and forces. Content areas emphasize current theories, empirical evidence to support these theories, ethical implications, and critical analysis. The course is organized around a systems perspective through a biopsychosocial lens. Variations arising from culture, ethnicity, social class, gender, sexual orientation are

considered in this course.

This course is one of two required courses for students in the M.S.W. program on human behavior in the social environment. Both courses must be taken prior to or concurrent with the first semester of the first year of field placement. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program (RG848).

BASC5390(3 Credits) Macro Foundation Practice

The focus of this course is on macro practice foundation knowledge and skills associated with generalist practice in administration, community organizing and policy practice. It explores the history and place of macro methods in the evolution of the social work profession. Students are introduced to the unique language and perspective of macro practice as a capacity building and strength based intervention. The course includes definitions of and ways to analyze communities, organizations and policies. Emphasis is given to strategies and tactics for achieving change in communities, organizations and policies, to improving services for populations at risk, and promoting diversity and distributive justice, including an international context. Particular ethical and value mandates and dilemmas associated with macro practice are identified throughout the course.

Required course for students in the M.S.W. program. This course is one of the two foundation practice courses taken with the first semester of the first year of field placement. Components:Lecture Requirement Group:Open to students in the MSW program. Prerequisites: BASC 5360 and BASC 5361 or must be taken concurrently with this course. Corequisites: BASC 5391, FED 5351 and FED 5301 (RG3164).

BASC5391(3 Credits) Micro Foundation Practice

This course is designed to provide a history of and a foundation for micro social work theory and practice emphasizing ecological, strengths and capacity building perspectives. It provides knowledge, values and skills associated with generalist practice with individuals, families and groups within the context of organizations and communities. The course examines the mission of the social work profession and its value and ethical base, including its commitment to diversity, populations-at-risk and social and economic justice. Strategies for helping client-

systems will include: preparing for practice; developing mutual working agreements; engaging, assessing and formulating goals; implementing interventions; monitoring and evaluating progress; and terminating services. The course emphasizes integration of course content with field experience. This course is one of the two foundation practice courses taken with the first semester of the first year of field placement.

Required course for students in the M.S.W. program. This course is one of Components:Lecture Requirement Group:Open to students in the MSW program. Prerequisites: BASC 5360 and BASC 5361 or must be taken concurrently with this course. Corequisites: BASC 5390, FED 5351 and FED 5301 (RG3165).

FED5301(0) Field Education Seminar I
This seminar helps students prepare for and make optimum use of their field education experience. Topics include the roles and responsibilities of the student within the agency setting, exploration and development of learning contracts, and the educational assessment of self as a learner in the profession. The seminar is used to identify issues that arise in the field and ways to deal with them.

Required course for students in the M.S.W. program. Components:Seminar Requirement Group:Open to students in the MSW program. Corequisite: FED 5351 (RG 3170).

FED5302(3 Credits) Field Seminar II

This seminar helps students prepare for and make optimum use of their field education experience. Areas of seminar content include such topics as the roles and responsibilities of the student within the agency setting, exploration and development of learning contracts, and the educational assessment of self as a learner in the profession. The seminar identifies issues that arise in the field and ways to deal with them.

Required course for students in the M.S.W. program. Components:Seminar Requirement Group:Open to students in the MSW program. Prerequisite: FED 5351 and FED 5301. Corequisites: FED 5352 and ADMN 5301 or CSWK 5301 or GRWK 5301 or CORG 5301 or POPR 5301 (RG 3227).

FED5310(0) Field Education Seminar III

This seminar helps students prepare for and make optimum use of their field education experience. Topics include the roles and responsibilities of the student within the

agency setting, exploration and development of learning contracts, and the educational assessment of self as a learner in the profession. The seminar is used to identify issues that arise in the field and ways to deal with them.

Required course for students in the M.S.W. Program. Components:Seminar Requirement Group:Open to students in the MSW program. Prerequisite: FED 5352 and FED 5302. Co-requisite: CSWK 5353 or GRWK 5353 or ADMN 5353 or CORG 5353 or POPR 5353 (RG3426).

FED5311(3 Credits) Field Education Seminar IV

This seminar helps students prepare for and make optimum use of their field education experience. Areas of seminar content include such topics as the roles and responsibilities of the student, field instructor and faculty advisor, exploration and development of the learning contract, and the educational assessment of self as a learner in the profession.

Required course for students in the M.S.W. program. Components:Seminar Requirement Group:Open to students in the MSW program. Prerequisites: CSWK 5353 or GRWK 5353 or ADMN 5353 or CORG 5353 or POPR 5353 and FED 5310. Corequisites: CSWK 5354 or GRWK 5354 or CORG 5354 or ADMN 5354 or POPR 5354 (RG3427)

FED5350(3 Credits)Program Director Consent Req'd Field Education Seminar V

This seminar helps students prepare for and make optimum use of their field education experience. Topics include the roles and responsibilities of the student within the agency setting, exploration and development "of learning contracts, and the educational assessment of self as a learner in the profession. The seminar" is used to identify issues that arise in the field and ways to deal with them. Required course for students in the M.S.W. program completing a Block Field Placement. Components:Seminar Requirement Group:Open only to students in the MSW Program. Corequisites: CSWK 5355 or GRWK 5355 or ADMN 5355 or CORG 5355 or POPR 5355. Prerequisites: FED 5352 and FED 5302 (RG3705)

FED5351(4) Field Education Foundation I.

Teaches students basic skills in social work practice with systems of all sizes including individuals, groups, organizations, and

communities. This field experience course provides the foundation for the development of advanced skills in specific social work methods in advanced field experiences.

Required course for students in the M.S.W. program. Components:Practicum Requirement Group:Open to students in the MSW program. Co-requisites: BASC 5390, BASC 5391 and FED 5301 (RG52).

FED5352(4) Field Education Foundation II.

Continues to develop basic skills in social work practice with systems of all sizes, while adding increased emphasis on the students' development of skills in the students' major method.

Required course for students in the M.S.W. program. Components:Practicum Requirement Group:Open to students in the MSW program. Prerequisites: FED 5351 and FED 5301. Co-requisites: ADMN 5301 or CSWK 5301 or GRWK 5301 or CORG 5301 or POPR 5301 and FED 5302. (RG55).

RSCH5326(3 Credits) Special Topics in Research

Introduces new and innovative material on a variety of special topics in research. These topics will rotate content to include survey methods, ethnography, single system design or focus on a specific problem or population. Components:Lecture Requirement Group:Open to students in the M.S.W. Program. Prerequisite: BASC 5332 (RG3710)

RSCH5332(3 Credits) Research Methods in Social Work Practice

This course builds on students' prior research knowledge acquired through undergraduate training, previous elective graduate coursework or self study. This course will provide students with: 1) an understanding of various ""families"" of research methods to equip them to evaluate social work practice with systems of all sizes and to be able to understand and interpret basic published social work research; 2) the knowledge to identify data collection methods that are appropriate to the research design being employed; and 3) an understanding of true experimental designs as a means for addressing strong causal inference with oppressed groups.

Required course for students in the M.S.W. program. Policy Practice students must take

this course prior to or concurrent with POPR 301: Policy Practice: Process, Use of Data and Information Technology.

The prerequisites for this course may be met in one of the following ways: 1) successful completion of (minimum grade of B) a basic undergraduate or graduate research course during the previous six Components:Lecture Requirement Group:Open to students in both the MSW program and STEP program. Prerequisite: BASC 5330 / RSCH 5330 (RG 3163).

RSCH5340(2) Social Work Research Evaluation With Macro and Micro Systems

This course focuses on the development of knowledge, attitudes and skills appropriate to the ongoing critical evaluation of social work practice with small and large systems from diverse populations. This course will prepare students to integrate evaluation methods into assessment, planning, intervention and evaluation of their professional social work practice. This course provides students with the knowledge to develop skills for evaluating practice through the use of evaluation designs appropriate for use in micro and macro level practice. Components:Lecture Requirement Group:Open to MSW and STEP students. Prerequisite: BASC 5333 or SW Research Exemption or SW Advanced Standing.

ADMN5301(3 Credits) Managing People: Communication Skills in Supervision, Personnel Management and Leadership

This course covers leadership theory and analysis, supervision, personnel/human resource management, with emphasis on interactional skills. The course prepares students to function effectively in supervisory and administrative roles and to use themselves in creative professional ways in exercising leadership in human service settings.

Required course for students in the Administration concentration. Components:Lecture Requirement Group:Open to MSW students in the Administration concentration. Prerequisites: BASC 5390, BASC 5391, FED 5351 and FED 5301. Corequisites: FED 5352 and FED 5302 (RG3228).

ADMN5302(3 Credits) Managing Money: Financial Management Strategies & Fiscal Responsibilities for Social Administrators

This course instructs on the fundamental principles and processes in financial

management processes, budgeting systems, preparation and execution of budgets, basics of accounting, use of computer spread sheets, managerial accounting, financial statements, cost analysis, inventory and fixed asset accounting, funding sources, financial performance measures, internal control and external audits, fiduciary relationships and "responsibilities, liabilities in 501(c) 3, ethics in finance, collaborating and leveraging of resources. "

Required course for students in the Administration concentration. Components:Lecture Requirement Group:Open to MSW students in the Administration concentration. Prerequisites: ADMN 5301, FED 5352 and FED 5302. Corequisites: ADMN 5353 and FED 5310 (RG3425).

ADMN5303(3 Credits) Creating and Managing Opportunities in the Organization's Internal and External Environment

The course focuses on selected internal and external challenges and opportunities for the social work administrator. These include staff relations and organizational climate, the use and organization of the organization's physical environment, the voluntary board, public relations, and strategic alliances. The course gives students opportunities to develop a range of knowledge and skills in work with staff, volunteers, the media, and partners in the community to maximize opportunities to enhance the organization and its services to clients and the community.

Required course for students in the Administration concentration. Components:Lecture Requirement Group:Open to MSW students in the Administration concentration. Prerequisites: ADMN 5302, ADMN 5353 and FED 5310. Corequisites: ADMN 5354 and FED 5311 (RG3433)

ADMN5316(2) Women in Social Welfare Administration

Emphasizes issues for women in social welfare administration. Covers barriers faced by women in seeking administrative positions and promotions; advancement opportunities for women; research findings on gender and management; career planning; and development of practice strategies for solving administrative dilemmas. Addresses concerns of special groups of women, including issues of race, age, and sexual orientation. Components:Lecture Requirement Group:Open to students in both the MSW

program and the STEP program

ADMN5319(3 Credits) Computer Applications in Human Service Agencies.

Emphasizes concepts and techniques of computer use, application areas of the electronic technologies for the full range of social work agency needs, principles of computer system design and development, and in particular, methods of managing the computer process. All students enrolling in this course are expected to have basic computing skills such as operating a computer and word processing. For those who do not have these requisite skills, help is available at the UConn Hartford Campus Computer Center. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

ADMN5327(1 - 3) Current Topics in Administrative Skills.

Intensive skill-oriented workshop on various topics in administration. Varied topics each semester include budgeting, marketing, staff development, conflict management, working with boards, and grant writing. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

ADMN5335(3 Credits) Staff Development and Training.

Offered in a workshop format, focuses on skill building in planning, developing, and implementing training in human service organizations. In addition, examines selected organizational and management issues related to staff development. Facilitates learning through discussion, small group exercise, and a training project to be carried out in the student's agency (either field placement or place of employment). Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

ADMN5353(4) Field Education in Administration III.

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Administration concentration.

Components:Practicum Requirement Group:Open to MSW students in the Administration concentration. Prerequisites: FED 5352 and FED 5302. Corequisites: ADMN 5302 or POPR 5310 and FED 5310

(RG568).

ADMN5354(4) Field Education in Administration IV.

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Administration concentration.

Components:Practicum Requirement Group:Open to MSW students in the Administration concentration. Prerequisites: ADMN 5353 and FED 5310. Corequisites: ADMN 5303 and FED 5311 (RG569)

ADMN5355(8)Instructor Consent Required Block Placement in Administration.

Field Education in Administration for well-prepared students who have completed all course requirements except the second year of field education and the appropriate method course. Required course for students in the M.S.W. program completing a Block Field Placement. Components:Practicum Requirement Group:Open to MSW students in the Administration concentration. Prerequisites: FED 5352 and FED 5302. Co-requisites: POPR 5310 and FED 5350 (RG804).

CSWK5301(3 Credits) Casework Helping Process: The Work and Ending Phases

Builds upon foundation theory of ecological strengths and capacity building perspectives and the method base of social work practice. Course content focuses on the interventive facet and transactional nature of the casework process in helping people with a wide range of life transition stressors and environmental obstacles. Substantial attention is paid to working with people of special populations. Students focus upon the development of critical thinking and decision-making skills and the ability to be self-observant.

Required course for students in the Casework concentration. Components:Lecture Requirement Group:Open to MSW students in the Casework concentration. Prerequisites: BASC 5390, BASC 5391, FED 5351 and FED 5301. Corequisites: FED 5352 and FED 5302 (RG3229).

CSWK5302(3 Credits) Casework Practice Approaches: Differential Applications

This course builds upon knowledge, skills, and values developed previously and deepens

the understanding of theoretical, method, and empirical bases of casework practice, while maintaining simultaneous concern for people and environments. The course examines the ways that assessment and interventive strategies are informed by different theoretical orientations and research findings. Students continue to develop skills related to work with special populations and to develop professional self awareness.

Required course for students in the Casework concentration. Components:Lecture Requirement Group:Open to MSW students in the Casework concentration. Prerequisites: CSWK 5301, FED 5352 and FED 5302. Corequisites: CSWK 5353 and FED 5310 (RG3429)

CSWK5303(3 Credits) Casework with Vulnerable and Resilient Populations

This course consolidates casework theory and methods established in the prior casework courses. The unifying concept in this course is the application of differential casework interventions with vulnerable and resilient populations over the life course. The course will also focus on contemporary issues and ethical dilemmas affecting professional function, roles and identity. Students are challenged to locate and critically examine empirical and practice theory literature necessary for working with different populations. Required course for students in the Casework concentration. Components:Lecture Requirement Group:Open to MSW students in the Casework concentration. Prerequisites: CSWK 5302, CSWK 5353 and FED 5310. Corequisites: CSWK 5354 and FED 5311 (RG3434)

CSWK5340(3 Credits) Skills Laboratory in Casework Practice

This course builds upon casework interviewing, assessment, and intervention skills developed in the student's BSW coursework and fieldwork. Students will have the opportunity to identify, practice, and critique a range of assessment, intervention skills. Students will use materials and cases from the concurrent CSWK 301 course to further develop their casework skills.

Required course for students in the Advanced Standing Option in the Casework Concentration and must be taken in the summer prior to the beginning of full time study for the M.S.W. degree.. Components:Lecture Requirement Group:Open to students in the MSW

Advanced Standing option in the Casework concentration. Co-requisites: CSWK 5301 and BASC 5301 (RG3470)

CSWK5345(3 Credits) Clinical Conditions with Children and Adolescents

Addresses values, knowledge, and skills required for social work practice with children and adolescents who experience varied biopsychosocial problems related to mental disorders, as well as practice with their families. It helps students to think about practice situations in a spirit of inquiry, maintaining awareness of the complexity of psychiatric conditions and the limitations of our knowledge about them. Students become familiar with current psychiatric classification systems and learn a range of assessment and intervention skills. Students demonstrate the ability to access the most recent empirical and practice knowledge, and to develop skills related to work in a variety of social work practice settings where mental challenges are encountered. Mental disorders are addressed in the context of larger biopsychosocial systems. Attention is paid to differences arising from such variables as age, gender, ethnicity, race, religion, sexual "orientation, and physical ability.

Students in the Casework concentration are required to take this" Components:Lecture Requirement Group:Open to students in the MSW program. Prerequisites: BASC 5390, BASC 5391, FED 5351 and FED 5301 (RG3310)

CSWK5346(3 Credits) Clinical Conditions with Adults and Older Adults

This is a practice course which pays equal attention to the values, skills, and knowledge required for social work practice with adults and older adults who have a range of bio psychosocial problems related to mental disorders. Students will learn a range of assessment and intervention skills and become familiarized with current psychiatric classification systems. Students will demonstrate the ability to access the most recent empirical and practice knowledge and to develop skills related to work in a variety of mental health settings. Mental disorders will be learned within the context of the larger bio psychosocial system and attention is paid to differences based upon such variables as age, gender, ethnicity, religion, sexual "orientation, and physical ability.

Students in the Casework concentration are required to take this course" or CSWK

345. Casework majors may take both courses using one of them toward elective credit. Students from other concentrations who meet the prerequisites may take this course as an elective. Elective course for Components:Lecture Requirement Group:Open to students in the MSW program. Prerequisites: BASC 5390, BASC 5391, FED 5351 and FED 5301.

CSWK5353(4) Field Education in Social Casework III

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Casework concentration. Components:Practicum Requirement Group:Open to MSW students in the Casework concentration. Prerequisites: FED 5352 and FED 5302. Corequisites: CSWK 5302 and FED 5310 (RG542)

CSWK5354(4) Field Education in Social Casework IV.

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Casework concentration. Components:Practicum Requirement Group:Open to MSW students in the Casework concentration. Prerequisites: CSWK 5353 and FED 5310. Corerequisites: CSWK 5303 and FED 5311 (RG543).

CSWK5355(8)Instructor Consent Required Block Placement in Casework.

Field Education in Casework for well-prepared students who have completed all course requirements except the second year of field education and the appropriate method/s course. Required course for students in the M.S.W. program completing a Block Field Placement. Components:Practicum Requirement Group:Open to MSW students in the Casework concentration. Prerequisites: FED 5352 and FED 5302. Co-requisites: CSWK 5302, CSWK 5303 and FED 5350 (RG806).

CSWK5365(3 Credits) Family Therapy: Theory and Practice

Provides a knowledge of significant theories, theorists, practice skills and techniques for family therapy, as well as the growing professional self-awareness of the therapist. Provides: a) opportunities for study of the use of family therapy with particular problem

situations; b) critical study of changes in current theories, emerging theories and integration of theories; c) analysis of research in family therapy; and, d) an ongoing seminar for discussion of cases. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

CORG5301(3 Credits) Essential Theory & Intervention Practice in Community Organization

This course builds on content covered in micro and macro foundations of social work practice and reviews in greater depth community organization history, values and assumptions, Rothman models of organizing, roles of the community social worker, and strategies used by community organizers to bring about change. The course promotes in-depth understanding of the various types of communities and enhances skills for community analysis. Essential information for grassroots organizing and community and coalition building is covered. It incorporates content on providing community based services to oppressed population groups, including leadership development and advocacy. Furthermore, it highlights the importance of power theory and dynamics in selecting models and strategies for intervention. The importance of relationship building and attention to process tasks and goal achievement are covered.

Required course for students in the Community Organization concentration. Components:Lecture Requirement Group:Open to M.S.W. students in the Community Organization concentration. Prerequisites: BASC 5390, BASC 5391, FED 5351, and FED 5301. Co-requisites: FED 5352. (RG3231).

CORG5302(3 Credits) Theory and Practice of Social Movements For Community Organizers

This course will integrate Community Organization foundation and advanced method practice knowledge, values and skills. Students will be asked to select an agency-based Community Organization assignment that they have been working on during the academic year as the basis for a capstone assignment. An outline for this assignment will be distributed and discussed in class. Appropriate literature that will help students in conceptualizing and writing their capstone assignments will also be distributed and discussed. The course will concentrate on addressing social movement

theory and implications for social change and community social work. A minimum of two social movements will be analyzed and one or more social movement related projects will be selected as an in-class project(s).

Required course for students in the Community Organization concentration. Components:Lecture Requirement Group:Open to MSW students in the Community Organization concentration. Prerequisites: CORG 5301 and CORG 5354. (RG3428)

CORG5312(3 Credits) Political Advocacy

This course builds on the concepts and interventions introduced in the Macro Foundation Practice course. The content covers political decision-making groups, including executive, legislative, judicial and private agency decision-making. The ways macro practitioners use power and political analysis is discussed. Emphasis is on the design, implementation and evaluation of a political advocacy strategy to improve the life situations of populations at risk, such as lobbying, preparing and delivering testimony to a public policy making group and forming and maintaining coalitions. Ethical requirements and dilemmas in doing political advocacy are integrated throughout the course.

Required course for students in both the Community Organization and the Policy Practice concentrations. The co-requisites for this course differ for each of these concentrations. Components:Lecture Requirement Group:Open to MSW students in Community Organization and Policy Practice concentrations. Pre or Corequisites: FED 5352 and FED 5302 (RG3334).

CORG5353(4) Field Education in Community Organization III.

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Community Organization concentration. Components:Practicum Requirement Group:Open to MSW students in the Community Organization concentration. Prerequisites: FED 5352 and FED 5302. Corequisites: POPR 5310 and FED 5310 (RG561)

CORG5354(4) Field Education in Community Organization IV.

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Community Organization concentration. Components:Practicum Requirement Group:Open to MSW students in the Community Organization concentration. Prerequisites: CORG 5353 and FED 5310 . Corequisites: CORG 5302 and FED 5311 (RG562).

CORG5355(8)Instructor Consent Required Block Placement in Community Organization.

Field Education in Community Organization for well-prepared students who have completed all course requirements except the second year of field education and the appropriate method course. . Required course for students in the M.S.W. program completing a Block Field Placement. Components:Practicum Requirement Group:Open to MSW students in the Community Organization concentration. Prerequisites: FED 5352 and FED 5302. Co-requisites: POPR 5310 and FED 5350 (RG805).

CORG5370(3 Credits) Grassroots Neighborhood Organizing.

Provides intensive instruction for students who wish to become practitioners or trainers in grassroots neighborhood model of organizing. Examines Alinsky's model of organizing and the refinement of that model.

Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work . Components:Lecture

GRWK5301(3 Credits) Essentials of Social Group Work Practice Provides knowledge, theories, and practice principles common to social group work. Focuses on knowledge and practice methods that are used to identify and understand procedures and processes essential to planning, developing and working with small groups in various agency-based settings, dealing with a range of issues and diverse peoples. Social and behavioral sciences and group work literature, empirical data and practice wisdom serve as the foundation for organizing course content and activities.

Required course for students in the Group Work concentration. Components:Lecture Requirement Group:Open to MSW students in the Group Work concentration. Prerequisites: BASC 5390, BASC 5391, FED

5351 and FED 5301. Corequisites: FED 5352 and FED 5302 (RG3230).

GRWK5302(3 Credits) Differential Group Work: Populations and Settings

Designed to increase the depth of understanding of the content of GRWK 301: Essentials of Social Group Work Practice. This course focuses on the application of group work processes, properties and group work skills to group work practice with groups that are established for different purposes and with populations that differ according to age, culture and need for group work services. This course will also examine the impact of different settings as the context for group work practice.

Required course for students in the Group Work concentration. Components:Lecture Requirement Group:Open to MSW students in the Group Work concentration. Prerequisites: GRWK 5301, FED 5352 and FED 5302. Corequisites: GRWK 5353 and FED 5310 (RG3430)

GRWK5303(3 Credits) Advanced Group Work Practice Methods and Techniques

The overall emphasis of this course will be on a critical analysis and sound examination of the social group work method B - its underlying theories, knowledge, research supported practices, ideological commitments, and basic tenets and principles. The primary focus is on the development of advanced practice methods and techniques.

Required course for students in the Group Work concentration. Components:Lecture Requirement Group:Open to MSW students in the Group Work concentration. Prerequisites: GRWK 5302, GRWK 5353 and FED 5310. Corequisites: GRWK 5354 and FED 5311 (RG3432)

GRWK5311(3 Credits) Group Processes

The purpose of this course is to help students develop a conceptual frame of reference for understanding small group processes. The focus of study is mainly on establishing a theoretical and conceptual appreciation of how small groups function. Students will develop an increasingly wide range of conceptual tools to identify and assess group processes. Students will gain a better understanding of small group interaction as it impacts individuals, interpersonal relationships and interactions with others beyond the group. Experiential as well as didactic study methods will be used.

Required course for students in the Group Work concentration. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

GRWK5340(3 Credits) Skills Laboratory in Social Group Work Practice

Primary focus is to offer students an opportunity to demonstrate how to apply (i.e., simulate practice experiences) some of the knowledge and theory presented in GRWK 301 - Essentials of Social Group Work Practice in practice situations. Students will participate in exercises and use procedures to enhance and assess current practice skill levels. Exercises and other instructional aids will center on particular elements pertinent to basic competencies in social group work practice including group formation, entering an established group, work within the group's process and achieving group goals. As well, attention is focused on group work within the context of the agency setting and its philosophical stance toward this method of practice.

Required course for students in the Advanced Standing Option in the Group Work Concentration and must be taken in the summer prior to the beginning of full time study for the M.S.W. degree. Components:Lecture Requirement Group:Open to students in the MSW Advanced Standing Option in the Group Work concentration. Co-requisites: GRWK 5301 and BASC 5301 (RG3469)

GRWK5342(3 Credits) Group Work Practice in Therapeutic Settings.

Seminar on use of groups for therapeutic purposes in settings such as mental health clinics, residential treatment centers, counseling services, etc. Students share responsibility for the examination of material from their own clinical practice with groups. Components:Lecture Requirement Group:Open to students in the MSW program. Prerequisite: CSWK 5301 or GRWK 5301 (RG550).

GRWK5353(4) Field Education in Group Work III

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Group Work concentration. Components:Practicum

Requirement Group:Open to MSW students in the Group Work concentration. Prerequisites: FED 5352 and FED 5302 . Corequisites: GRWK 5302 and FED 5310 (RG554).

GRWK5354(4) Field Education in Group Work IV

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Group Work concentration. Components:Practicum Requirement Group:Open to MSW students in the Group Work concentration. Prerequisites: GRWK 5353 and FED 5310. Corequisites: GRWK 5303 and FED 5311 (RG555).

GRWK5355(8)Instructor Consent Required Block Placement in Group Work.

Field Education in Group Work for well-prepared students who have completed all course requirements except the second year of field education and the appropriate method course. Required course for students in the M.S.W. program completing a Block Field Placement. Components:Practicum Requirement Group:Open to MSW students in the Group Work concentration. Prerequisites: FED 5352 and FED 5302. Co-requisites: GRWK 5302, GRWK 5303, and FED 5350. (RG807)

POPR5301(3 Credits) Policy Practice: Process and Finances Course content includes the definition of policy practice, the phases of policy practice and the skills needed for policy practice especially advanced analytical and interactional skills, including the conscious use of self in practice, as well as persistence, creativity, and pragmatism and taking appropriate risks in the pursuit of policy practice goals. Other content includes the use of large data sets, data management systems, quantitative analysis, qualitative methods, especially focus groups. Emphasis is given to the use of policy practice to achieve distributive justice and implement and evaluate effective social service policies for populations at risk. Ethical requirements and dilemmas in policy practice are integrated throughout the course.

Required course for students in the Policy Practice concentration. Components:Lecture Requirement Group:Open to MSW students in the Policy Practice concentration. Prerequisites: BASC 5390, BASC 5391, FED 5351 and FED 5301. BASC 5350 must be taken as a pre or co requisite. Corequisites:

FED 5352 and FED 5302 (RG3309).

POPR5302(3 Credits) Policy Practice: Careers, Contexts, and Quantitative Analysis

The course will begin with content on career planning. Students will be helped to understand the complexity of social service funding, including the sources of funds and the mechanisms for transferring funds to social service programs, including federal and state tax policies and implication for social service programs. Critical current issues such as the growth of faith-based and profit-making social service strategies will be debated. Other topics will include the use of the media and public relations expertise, cutting edge social theories, micro and macro economic theories, and global economic policies and how they impact social service policies. Students will be expected to demonstrate an ability to integrate and critically evaluate their practice skills as they prepare to leave the program. Emphasis will be given to the use of policy practice intervention strategies to achieve distributive justice and effective service policies for populations at risk. Ethical requirements and dilemmas in policy practice will be integrated throughout the course.

Components:Lecture Requirement Group:Open to MSW students in the Policy Practice concentration. Prerequisites: POPR 5301, POPR 5353, FED 5310, and RSCH 5332. Corequisites: POPR 5354 and FED 5311(RG3431)

POPR5310(3 Credits) Program Planning, Development, and Evaluation

This course covers a broad range of knowledge and skills needed to develop sound program proposals and to plan, manage, and evaluate social programs. These include assessing social and community needs; setting goals within the context of strategic plans; writing measurable objectives; designing program implementation and evaluation strategies, developing a program budget, and identifying funding sources. The course will address value and ethical issues in program development, as well as constraints and opportunities that support or "constrain program planning.

Required course for students in the Community Organization, Administration" and Policy Practice concentrations. The pre and co-requisites for this course differ for each of these concentrations. Refer to the Student Handbook for pre and co-requisite

details. Components:Lecture Requirement Group:Required for students in the ADMN, CORG and POPR concentrations and must be taken concurrently with field placement. Pre- and co-requisites differ for each of these major concentrations. Refer to the Social Work Student Handbook for details.

POPR5340(3 Credits) Program Planning, Development and Evaluation Skills Laboratory

Focuses on gaining knowledge and skills in the elements of program planning and proposal writing, and includes application of these through development of a program proposal for funding. The skills laboratory will provide an additional opportunity for students to apply knowledge and skills through a proposal review and evaluation exercise. The exercise will be conducted on the last day of the course after the students' final projects have been submitted. The instructor will choose one final project for the purposes of the review exercise with the student's name removed. (Note: more than one proposal can be selected offering an opportunity for ranking them in the exercise.)

Required course for students in the Advanced Standing Option in the Administration, Community Organization, and Policy Practice Concentrations and must be taken in the summer prior to the beginning of full time study for the M.S.W. degree.. Components:Lecture Requirement Group:Open to students in the MSW Advanced Standing Option in the Administration, Community Organization and Policy Practice concentrations. Corequisites: POPR 5310 and BASC 5301 (RG3468)

POPR5353(4) Field Education in Policy Practice III

Focuses primarily on the student's major method, emphasizing preparation for competent, advanced specialized practice.

Required course for students in the Policy Practice concentration. Components:Practicum Requirement Group:Required course for MSW students in the Policy Practice concentration. Prerequisites: FED 5352 and FED 5302. Corequisites: POPR 5310 or CORG 5312 and FED 5310 (RG573).

POPR5354(4) Field Education in Policy Practice IV

Focuses primarily on the student's major method, emphasizing preparation for

competent, advanced specialized practice.

Required course for students in the Policy Practice concentration. Components:Practicum Requirement Group:Required course for MSW students in the Policy Practice concentration. Prerequisites: POPR 5353 and FED 5310. Corequisites: POPR 5302 and FED 5311 (RG575).

POPR5355(8)Instructor Consent Required Block Placement in Policy Practice

Field Education in Policy Practice for well-prepared students who have completed all course requirements except the second year of field education and the appropriate method course. Required course for students in the M.S.W. program completing a Block Field Placement. Components:Practicum Requirement Group:Open to MSW students in the Policy Practice concentration. Prerequisites: FED 5352 and FED 5302. Co-requisites: POPR 5310 and FED 5350 (RG809).

DSEL5310(3 Credits) Current Trends in Family Intervention: Evid-Based and Promising Practice Models of In-Home Treatment

This course exposes students to several nationally acclaimed Evidence-Based Practice (EBP) treatment programs for families that are widely practiced. Students are introduced to competencies associated with EBP and an overview of several empirically supported therapy programs that are designed to address psychiatric, behavioral and/or substance abuse concerns in children and adolescents including Multisystem Therapy (MST), Multidimensional Family Therapy (MDFT), Intensive Home Child and Adolescent Psychiatric Services (IICAPS), Functional Family Therapy (FFT)and Brief Strategic Family Therapy (BSFT). Case presentations from local providers of these models and testimonials from families. Components:Lecture Requirement Group:Open to M.S.W. and STEP students.

DSEL5320(3 Credits) Direct Practice in School for Children with Educational Disabilities and Their Families.

Meets state requirements for school work certification, approved by the Bureau of Certification and Professional Development. The practice of social work in schools requires that the social worker possess knowledge and skills to provide social

work services for students with educational impairments and their families. To provide such service, the social worker must be able to engage in effective partnerships with parents and other multi-disciplinary team members and possess a repertoire of interventions appropriate for this population. Presents and discusses controversies and issues relative to labeling and testing procedures, such as the impact of racial and ethnic differences. Covers six areas of impairment as designated by law (Emotionally Impaired, Mentally Impaired, Learning Disabled, Autistic Impaired, Physically and Otherwise Health Impaired, and Speech and Language Impaired). Stimulates further study in impairment areas and lays a basic knowledge and skill foundation of social work services appropriate for these populations. HBEL 348, Components:Lecture Requirement Group:Open to students in the MSW program (RG599).

DSEL5325(3 Credits) Direct Practice in Health

Examines practice concepts and principles in working with patients, families, and patient and caretaker's groups, in a variety of health care settings: acute care, chronic care, inpatient and ambulatory care, nursing homes, hospice, and community-based services. Studies issues and trends in practice including prevention (AIDS as a prime example); team work and other forms of interdisciplinary collaboration; organizational innovation; new practice roles; new ethical and moral dilemmas in health care practice. Views content from an ecological perspective on practice. Components:Lecture Requirement Group:Open to students in the MSW Program. Co- or Prerequisite: CSWK 5301 (RG3706)

DSEL5328(3 Credits) Social Work Practice with Children

This course is designed to help students develop knowledge and skills in preventive work as well as clinical work with children. It briefly examines major theoretical orientations and research findings in working with children. Aspects of ecological theory, psychosocial theory, cognitive-behavioral theory as well as theories of group development are presented. Key issues of child development are summarized. Major social work settings that provide services to school age children are described and their impact on services addressed. The major emphasis of this course is on: 1) students' understanding of the importance of

program media either as tools or as an end in themselves (program media include, but are not limited to drawing, simple arts and crafts, cooking, drama, games, music, nature walks, puppet-shows, role plays, sand trays, doll houses, story-telling and writing, sports etc.); 2) students' development of skills in selecting these program media to achieve certain practice goals, and 3) students' development of ease and leadership skills in utilizing a Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5300(3 Credits) Substance Abuse: I: Intro to Alcohol and Other Drugs

Examines the special issues and problems in dealing with alcohol and drug abuse. Focuses on: developing a conceptual framework of drug abuse and addiction; major classifications of drugs; examining high risk populations with an emphasis on their unique problems and needs; integrating knowledge with practice by giving careful consideration to treatment issues such as identification, assessment, referral, therapeutic strategies, treatment modalities and settings; providing information on the role of federal, state, and "voluntary organizations which impact on prevention, education and treatment programs.

Elective course for" Substantive Area: Focused Area of Study on Mental Health and Substance Abuse in Social Work Practice. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5301(3 Credits) Substance Abuse II: Prevention and Treatment of Alcohol and Other Drug Abuse.

Builds upon HBEL 372, an overview of the various classes of drugs and the acute and chronic effects of drugs on human behavior and the body. Focuses on traditional and new intervention techniques that could be applied to social work practice. Provides knowledge of clinical applications and the empirical validation of effectiveness of major intervention strategies used in treatment of addictions.

Elective course for Substantive Area: Focused Area of Study on Mental Health and Substance Abuse in Social Work Practice. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program. Prerequisite: HBEL 5300 (RG808).

HBEL5325(3 Credits) Social Work Perspectives on the Status of Women in Society.

Examines cultural assumptions about women; the theories which support these assumptions and the socializing agents that maintain them; new ways of thinking about woman's role, about alternative social arrangements, and about implications for social work intervention.

Elective course for Substantive Area: Focused Area of Study on Social Work with Women and Children in Families. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5327(3 Credits) Ethnic Minorities and the Social Work Profession: Black Experience.

Considers the Black Experience from historical, social, political, and economic perspectives. Addresses the evolution of male/female roles and relationships, the genesis of Black family patterns, and the consequences for social work practice. Examines the impact of poverty and discrimination in a context of international and national cultural factors.

Required course for Substantive Area: Focused Area of Study on Black Studies for Social Work Practice; Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work . Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5328(3 Credits) Ethnic Minorities and the Social Work Profession: The Puerto

Rican/Latino/a Experience Considers the Puerto Rican experience in the United States from the historical, social, political, economic, and cultural perspectives. Examines the impact of poverty, migration, and discrimination on individuals, families and communities.

Required course for Substantive Area: Focused Area of Study on Puerto Rican/Latino/a Studies Social Work; Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work; Elective course for Substantive Area: Focused Area of Study on International Issues in Social Work. Components:Lecture Requirement Group:Open to students in both the MSW

program and the STEP program

HBEL5344(3 Credits) Aging and Mental Health.

Uses ecological theory as a framework for understanding the psychological processes of adaptation and the mental health needs of the elderly. Analyzes various service arrangements in terms of their usefulness in rehabilitation and prevention.

Elective course for Substantive Area: Focused Area of Study on Social Work Practice with Older Adults. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5347(3 Credits) Black Family Life.

Examines the Black family from an historical and current perspective, focusing on the individual and collective social, cultural, and psychological contents within which behavior is expressed and by which it is significantly influenced; the adaptive, resilient behavior utilized by Black family units for survival and success; the Black family as a varied and complex system interacting with other systems within the wider society; myths related to the behavior and functioning of Black families.

Elective course for Substantive Area: Focused Area of Study on Black Studies for Social Work Practice; Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work . Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5352(3 Credits) Death and Dying.

Focuses on dying as experienced by persons of all ages (not only the elderly) and on its psychological concomitants, such as rage and grief, bereavement and mourning; suicide and suicide prevention; dying as a "career with identifiable states, as well as the concept of death as a social phenomenon.

Elective course" for Substantive Area: Focused Area of Study on Mental Health and Substance Abuse in Social Work Practice. Elective course for Substantive Area: Focused Area of Study on Social Work Practice with Older Adults. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

HBEL5357(3 Credits) Social Gerontology.

Considers the societal aspects of aging, including the social psychological concomitants of adjustments, changing roles, and systems of social relationships. Includes an overview of the economic aspects of aging and the service delivery system.

Required course for Substantive Area:
Focused Area of Study on Social Work Practice with Older Adults.
Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5367(3 Credits) Culture and Health/
Mental Health Disparities: Micro and Macro Perspectives

This course will examine health/mental health disparities as it relates to contemporary micro and macro practice with diverse populations. The objective of the course is the examination and analysis of the inter-relations among differential diagnosis, culture, and varying treatment strategies. The content will cover important aspects of health such as factors influencing wellness and disease, contemporary socio-political factors, and agendas that shape how health care services are delivered and accessed. We will explore current domestic and international health epidemics, discuss their implications for populations that are at risk, and the professional communities' responses to them. Components:Lecture Requirement
Group:Prerequisite is FED 5301

HBEL5370(3 Credits) New Perspectives on Lesbians and Gay Men.

Examines the problems of America's homosexual minority. Presents homophobia (fear of homosexuals or homosexuality) as a prejudice held by all people, gay and straight, in a society which holds that heterosexuality is the "normal" and "acceptable" behavior and attitude. Intended to expand the students' awareness of how homophobic attitudes affect them and their relationships with other people in both professional and non-professional settings. Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5373(3 Credits) Violence Against Women: A Cultural Heritage.

Examines the connections between violence against women and the power distributions within society. Special focus on sexual assault, battering, sexual harassment, prostitution and pornography. Analysis

considers social, political, and economic dynamics that affect the individual. Discusses the connection between "violence and other social problems: sexism, racism, and classism.

Elective course for Substantive Area:"
Focused Area of Study on Social Work with Women and Children in Families.
Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5376(3 Credits) Puerto Rican and Latina Women and Their Reality.

Emphasizes the double oppression that the Puerto Rican woman faces. Analyzes the double burden that she confronts when seeking to maintain her identity as a Puerto Rican and as a woman in a society which discriminates against both groups. Equal emphasis is placed on issues of racism, classism, and heterosexuality since these issues create an even stronger burden on Puerto Rican women. Special consideration is given to Puerto Rican cultural aspects of the socialization process of males and females "with a focus on rigid adherence to sex roles (e.g., machismo - marianismo).

Elective course for" Substantive Area:
Focused Area of Study on Puerto Rican/
Latino/a Studies Social Work; Elective course for Substantive Area: Focused Area of Study on Social Work with Women and Children in Families; Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work .
Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5381(3 Credits) Child Maltreatment: History, Theory, Prevention and Intervention.

Primarily for students with some practice experience in family and children's services, examines the phenomena of child abuse and neglect and societal and professional responses aimed at their prevention and treatment. As with other courses in the Substantive Area in Family and Children's Services, it is presented "in the context of ecologically-oriented, family-centered child welfare policy and practice.

Elective" course for Substantive Area:
Focused Area of Study on Social Work with Women and Children in Families.
Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5386(3 Credits) Studies in the Holocaust: Implications for Social Work

Focuses on the Holocaust and its many implications for social work students. The course traces the rise of the Nazi totalitarian state resulting from defeat after World War I, the world wide depression of the 1930's and Hitler's targeting of Jews in Germany and eventually Europe-wide. The lessons for social workers will be drawn from these experiences. The integration of this material by students into other courses is encouraged. Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5391(3 Credits) Parenting and Parent Education.

Explores the methods that parents use to impart cultural values, control behavior, and assure healthy development of children. Students review findings of basic research about parenting and participate in a parent education workshop. Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5393(3 Credits) Emerging Issues in Mental Health and Substance Abuse

This course is designed to introduce students to current issues confronting providers of mental health and addiction services and consumers of these services as we enter the 21st Century. Philosophies about people with mental health, addiction and co-occurring disorders are changing in response to the developing knowledge base and the rise of consumer movements. Specific emphasis on the growing need for broad based multi cultural service systems for consumers will be fostered. Issues of poverty and the "severely and predominantly mentally ill" will be discussed.

Required course for Substantive Area:
Focused Area of Study on Mental Health and Substance Abuse in Social Work Practice. Components:Lecture Requirement
Group:Open to students in both the MSW program and the STEP program

HBEL5395(3 Credits) Scientific Foundations of Child/Adolescent Development, Mental Disorders, and Substance Abuse

This Web-based Human Behavior elective is an advanced 3-credit course on knowledge for practice in children's services, mental health (all ages), and addictions. It can be

used to meet an elective requirement in some substantive areas, by permission of the area chair. No class attendance required, one optional session. Students become familiar with current and emerging knowledge in these areas. They become proficient at accessing cutting-edge practice-relevant information to address issues and challenges that arise day-to-day. Class members discuss issues and questions with each other and the instructor via the World-wide Web. Class members can collaborate with each other on assignments if they wish. An optional class session at the beginning of the semester is offered to help students become comfortable with Web technology, and to get to know each other and the instructor in person. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program. Prerequisite or Co-requisite: BASC 5361 (RG 3162). SWEL5310(3 Credits) Services to Immigrants and Refugees and Cross-Culture Helping.

Examines and connects concepts from migration studies with social work practice knowledge. Highlights the influence of immigration policy and procedures on the lives of immigrants and on service delivery and social work practice. Examines the interrelationship between sending and receiving countries and examines the experiences of individuals in the home country with their experiences in the new country. Emphasizes cultural and cross-cultural issues in each of the migration stages. Highlights different cultural views on health, "mental health, help-seeking behavior, family and child-rearing practices and gender role behavior. "

Elective course for Substantive Area: Focused Area of Study on International Issues in Social Work. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

SWEL5317(3 Credits) Women, Children, and Families: Social Policies and Programs

Focuses on the policies and programs that affect women and children, in particular income supports, maternal and child health, housing, domestic violence, foster care and adoption, and parenting and child maltreatment. Special attention will be paid to the legal rights of women and children, especially those who are "immigrants, have disabilities, or are members of minority groups.

Required course for Substantive Area:"

Focused Area of Study on Social Work with Women and Children in Families. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

SWEL5321(3 Credits) Social Work Perspectives on Adoption.

Focuses on new developments in adoption and the knowledge, values and skills needed by social workers to effectively plan and deliver adoption services to a diverse group of children and families.

Elective course for Substantive Area: Focused Area of Study on Social Work with Women and Children in Families. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

SWEL5325(3 Credits) Service Mapping: Geographic Information Systems for Social Workers

Geographic Information Systems (GIS) are a system of computer hardware and software as well as data and personnel used for the purposes of analyzing, displaying and presenting information that is tied to a spatial location. These systems provide a new tool social workers can use for the purposes of service planning, development, implementation and analysis. For example, information about current and potential client populations can be tied to specific locations to display service needs or outcomes. This course is designed to introduce social work students to the basics of using a desktop GIS and map analysis concepts for social work researchers, administrators, educators and policy planners. Students will become familiar with the sources, contents and uses of some of the freely available data sources available in Connecticut and on the Internet. Components:Lecture Requirement Group:Open to students in the MSW program and the STEP program (RG 4044)

SWEL5333(1 - 3)Instructor Consent Required Travel Study for Social Work.

Combines academic study with travel to examine social work and social welfare in other systems. Addresses the impact of social, economic and political systems on social welfare and social work; a cross-national examination of the profession; and cross-cultural understanding.

Elective course for Substantive Area: Focused Area of Study on Puerto Rican/

Latino/a Studies Social Work; Elective course for Substantive Area: Focused Area of Study on International Issues in Social Work. Components:Field Studies, Lecture Requirement Group:Open to students in both the MSW program and the STEP program

SWEL5345(3 Credits) International Development: Theory and Practice

This course addresses international relief, reconstruction and development -- theories and practice strategies to attack poverty and improve human well-being. Among the topics covered will be: building local capacity, developing local partnerships, use of appropriate technology to create sustainability, multi-sectoral work, cultural relevance, ensuring gender sensitive programming, understanding and working with local and national structures, funding streams, and international partnerships. Elective course for Substantive Area: Focused Area of Study on International Social Work. Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

SWEL5348(3 Credits) International Social Work Global Issues

Cross-national, comparative approach to selected topics in international social problems and social welfare. Consideration of the problem of developing nations and modernization and urbanization as worldwide processes; the role of international organizations; the role of social work in international issues; and the implications of cross-national study for practice.

Required course for Substantive Area: Focused Area of Study on International Issues in Social Work; Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work . Components:Lecture Requirement Group:Open to students in both the MSW program and the STEP program

SWEL5350(3 Credits) Comparative Social Welfare Policy between the U.S. and the 2nd World

This course will explore the evolution and current state of development of social welfare in the "Second World", a designation that applies to those countries that were part of the Soviet Union or Warsaw Pact. Course content will include a discussion of a framework for policy analysis and comparative international social welfare policy analysis using selected health, welfare and employment policies as

illustrations of current social welfare policy in Armenia and other "Second World" countries. Course will be jointly taught by Dr. Nancy A. Humphreys and Dr. Ludmilla Haroutunian involving a group of UConn MSW students and Armenian graduate students using WebCT technology.

Elective course for Substantive Area: Focused Area of Study in International Social Work. Components: Discussion Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5351(3 Credits) Policy Issues in Aging.

History, development, and ramifications of social, economic and political policy issues relevant to the elderly; the elderly as voters and political actors. Major attention to framework for policy analysis.

Elective course for Substantive Area: Focused Area of Study on Social Work Practice with Older Adults. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5359(3 Credits) Seminar on Long-Term Care for the Elderly.

Examines nursing homes and other long-term care facilities. Explores services offered by these institutions and the role of social work. Special attention given to the politics and government regulations of long-term care. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5360(3 Credits) Economic Justice: Labor and Social Work

This course examines the relationship of social work and the labor movement with particular attention to the labor movement under new leadership and with new direction. The class is organized around four themes: 1) Common roots of labor and social work, 2) Social workers as union members, 3) Social workers as union organizers and 4) The labor movement as a social movement. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5370(3 Credits) Social Work in Health Care: Introduction to Knowledge, Policy and Practice.

Bio-psycho-social-cultural aspects of

health, illness, and disability in the context of individual, family, and community life. Attention is given to health care systems, social work roles and tasks in health care, the impact of health policy, and the concerns of planning, administration, supervision, and consultation in health care and in social work services in health care. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5371(3 Credits) Permanent Families for Children.

Focuses on permanency planning as a framework for social work practice in child welfare. Examines the philosophy, theory, and methodology of permanency planning for children and youth placed, or at risk of placement, out of their homes. Emphasizes programs, skills, and strategies for preventing placement, reuniting placed children with their biological families, or developing other permanent families, particularly through adoption.

Elective course for Substantive Area: Focused Area of Study on Social Work with Women and Children in Families. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5374(3 Credits) Social Work and Children's Rights.

Reviews the historical development of the children's rights movement and its relationship to current services. Examines and evaluates legal decisions affecting due process, equal protection, right to permanency, etc. Also examines legal problems as they affect foster care, adoption, child custody, and child support.

Elective course for Substantive Area: Focused Area of Study on Social Work with Women and Children and Families. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5375(3 Credits) War, Militarism and Social Work

This course provides theoretical and empirical content on several linked global phenomenon -- imperialism, militarism, and war -- to understand their impact on U.S. and global society. The course will also analyze "globalization," its relationship to war and militarism, and why this process is relevant to social work practice. The course

examines political forces in the United States that support and benefit from militarism to illustrate their effects on social policy and the social work profession. Arguments for and against a dominant and aggressive U.S. role in global affairs will be examined. The course will also illustrate the adverse impact upon the welfare state and oppressed populations. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5377(3 Credits) Urban Policy Issues.

Focuses on urban problems and policy issues as well as social work practice issues in urban settings. Connecticut cities are used to explore the effectiveness of current policies and consider the need for policy change. Current social and economic needs of urban populations and the political environment are also considered.

Required course for Substantive Area: Focused Area of Study on Urban Issues in Social Work ; Elective course for Substantive Area: Focused Area of Study on International Issues in Social Work. Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5380(3 Credits) Political Social Work

This course will offer students an opportunity to explore the world of elected politics as a legitimate field of social work practice. Social workers are currently playing many roles in this area including, serving as volunteer and paid staff in political campaigns at the local, state and federal level; as paid staff of elected politicians; in politically appointed positions; and as elected politicians. Course content will focus attention on practical realities of each of these positions. As part of this course, students will be required to attend the annual Campaign School sponsored by the Institute for the Advancement of Political Social Work Practice.

Elective course for Substantive Area: Focused Area of Study on Urban Issues in Social Work . Components: Lecture Requirement Group: Open to students in both the MSW program and the STEP program

SWEL5385(3 Credits) Human Rights and Social Work

This course will provide the theoretical, conceptual, and practical foundation for social workers to engage in a human rights-based approach to social work. Students will gain an understanding of the

international human rights system, social work's contribution to achieving human rights, and how international human rights principles can be applied to social work practice. We will use a number of cases from varied countries, including the United States, to examine how social workers can both advocate for and respect human rights in their work. Components:Lecture Requirement Group:Open to students in the MSW program (RG599).

SSW6400(3 Credits)Program Director Consent Req'd Social Work Doctoral Program Independent Study

Special Social Work topics not included in the Social Work Doctoral Program curriculum may be the subject of an Independent Study. A proposal must be presented and approved by the Director. Components:Independent Study Requirement Group:Open only to Social Work Doctoral Program students (RG 3743).

SSW6410(3 Credits) Research Design and Knowledge Generation

This course focuses on logic methods and methods of scientific inquiry in the social sciences. Students explore the logic of knowledge building with reference to rational, empirical and cultural processes. Rational processes examined include logic, model building, hypothesis testing, induction, and deduction, and appraisal of knowledge claims. Empirical processes examined include observation, symbolic representation of data, and data structures. Cultural processes examined include the effect of culture on conceptualization, priorities, ethical considerations and resource distribution. Students are expected to develop methodological rigor as well as critical assessment of contemporary research issues that affect social work practice. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6411(3 Credits) Research II: Survey Research Methods

The course builds upon the beginning research design course by looking at the ways that survey design and data collection support the development of quasi-experimental research designs. Based on social exchange theory, the course provides students with the skills required to conduct reliable and valid data through self administered surveys with high response rates. Such data may be

used to assess social needs, monitor program activities, measure outcomes or assess attitudes. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6412(3 Credits) Research III: Multivariate Statistics I

This course builds on an introductory level of statistical knowledge and assumes that students have completed an introductory statistics course, including experiences with data analyses that involve computer-based interactions (SPSS, SAS, etc.). This course develops an understanding of the general linear model (GLM). Once students gain a solid understanding of GLM, they can extend their knowledge to a variety of more complex statistical tests. The course focuses on the selection and application of appropriate statistical procedures to answer research questions or test hypotheses in social work research and involves the extensive use of available statistical packages. While the course emphasizes understanding of statistical testing, interpretation, and written presentation of statistical results, knowledge of the mathematical formulae and assumptions underlying each statistical procedure will be required and discussed. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6413(3 Credits) Research IV: Multivariate Statistics II

This course builds upon SSW 412 and also focuses on the selection and application of appropriate statistical procedures to answer research questions or test hypotheses in social work research. It focuses on data reduction methods and analyses of discrete or categorical data and makes extensive use of commercial statistical packages. While the course emphasizes understanding of statistical testing, interpretation, and written presentation of statistical results, knowledge of the mathematical formulae and assumptions underlying each statistical procedure is required and discussed. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6414(3 Credits) Research V: Qualitative Research Methods

This course explores the philosophical underpinnings, history, techniques and relevance to social work research of qualitative inquiry traditions such as

biography, phenomenology, grounded theory, ethnography and case study methods. This course will emphasize techniques, standards of quality, verification, and other indicators of rigor as well as value on ethical issues. After completing this course students will be able to describe various approaches, set up research protocols, describe data analysis and quality control techniques and specify standards for report writing. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6420(3 Credits) Critical Analysis of Historical and Philosophical Themes of the Profession

This course helps students to develop critical and historical understanding of social work knowledge, values and interventions. It reviews the social, economic, political and intellectual forces that influence the development of social welfare and professional social work. It examines the role that conflicting ideologies and commitments play in alleviating stress and suffering. The course focuses on knowledge of the development and history of social work in the context of changing social, economic, political and intellectual environments. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6435(3 Credits) Social and Behavioral Science: Smaller Target Systems

This course helps students to understand the theoretical and empirical frameworks on which contemporary best practices are built. The theories and frameworks examined include cognitive, behavioral/social learning, psychodynamic, family systems, and other related concepts. Other theories may be added that have been demonstrated to be valid underpinnings of effective or promising social work practice. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6436(3 Credits) Comparative Social Work Practice Models (Micro Practice)

This course explores the major social casework and group practice models from historical, theoretical, and empirical perspectives. Current practice approaches and models from related fields empirically shown to be most effective or promising are examined. Selected social work models are examined within the social, political, and

ideological contexts of their times, as well as with respect to their contributions to the profession's knowledge base. Each model's contribution to the knowledge base and to direct practice methods are investigated and related to the student's conceptual and practice experiences. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6445(3 Credits) Social and Behavioral Science: Knowledge Base for Practice with Large Target Systems

This course conveys substantive knowledge from social science disciplines that inform macro practice with large systems (community organization, administration, and policy practice). Relevant disciplines include economics, political science, sociology (including organizational theory), anthropology, and epidemiology. Students use fundamental knowledge in each of these social sciences to demonstrate competence in the application of major social science theoretical models relevant to macro practice and the empirical evidence that supports these theories. Connections between macro and micro practice (social work with small systems) is covered. Ethical implications of knowledge developed by disciplines with different value bases when applied to social work is also covered. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6446(3 Credits) Comparative Social Work Practice Models (Macro Practice)

This course explores the evolution and current development of macro practice methods, including community organization, administration, and policy practice in social work. After a brief review of the conceptual history of macro practice social work, the course examines the unique roles of macro practice methods in carrying out the mission of the profession. Value issues and ethical dilemmas associated with social advocacy and policy change are examined throughout. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

SSW6451(3 Credits) Dissertation Preparation Seminar

This course is designed to assist students in identifying suitable dissertation topics and developing appropriate methodological approaches. It provides opportunities to

assist students in building a firm foundation, upon which to engage in independent research and scholarship and to advance existing knowledge. Students prepare papers related to their dissertation topics for presentation and discussion with the group "and for external conferences, in the process strengthening their scientific communication skills. " Students taking this course receive a grade of Satisfactory/Unsatisfactory. Components:Lecture Requirement Group:Open to doctoral students in Social Work, others with permission (RG2696).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Sociology

Dean

Professor Salome Raheim

Associate Dean for Academic Affairs
Assistant Professor Catherine M. Havens

Professor

Fisher, Gitterman, Healy, Humphreys,
Johnson, and Klein

Research Professors
Frisman

Asspcoate Professors

Bullock, Comer, Cordero, Dicks, Drachman,
Heller, Kurz, Lyon, Malcolm, Negroni, Parks,
Simmons, and Wayne

Assistant Professors

Harding, Havens, Letendre, Libal, Medina,
Papallo, Smith, Spath, Thomas, and
Werkmeister-Rozas

The Department of Sociology offers study leading to the M.A. and Ph.D. degrees in Sociology. Available areas of study include political sociology and social movements, gender and sexualities, racism and ethnic group relations, stratification and inequality, deviance, social structure and personality, and theory. Members of the Department also are associated with Women's Studies, Judaic Studies, African Studies, African-American Studies, Asian American Studies, and Human Rights programs.

The Department regards a basic understanding of research methods and statistics to be an essential part of graduate training in sociology. Accordingly, students are required to pass a basic statistics course as a prerequisite to the quantitative methods course.

Requirements for the M.A.

The purpose of all courses, residence, exams, and dissertation requirements is training and education for scholarly work and research in either an academic or applied setting.

Students should complete the M.A. degree in two years or less. Students may (1) write a Master's thesis (required for admission to the Ph.D. program) or (2) submit a portfolio of their scholarly work in four areas: social structure and personality, social theory, social organization, and methods (for a terminal M.A. degree). Portfolios may be submitted at any time.

The Master's degree in Sociology requires a minimum of 37 credits, including Sociology 5001 (Proseminar, 1 credit), Sociology 5251

(Core Theorists, 3 credits), Sociology 5201 (The Logic of Social Research, 3 credits), Sociology 5203 (Quantitative Research I, 3 credits), and Sociology 5231 (Qualitative Research I, 3 credits).

Students with Master's Degrees in fields other than Sociology. Students with Master's degrees in fields other than sociology may be admitted into the regular Master's program even if their goal is the Ph.D. Applicants will remain in the Master's program until they have satisfied the equivalency requirements as determined by the advisory committee and the graduate admissions committee.

Requirements for the Ph.D.

The Ph.D. in Sociology requires a minimum 30 credits beyond the Master's degree, including Sociology 6251 (Contemporary Social Theory, 3 credits), Sociology 6203 (Quantitative Research II, 3 credits), and Sociology 6231 (Qualitative Research II, 3 credits).

Candidates for the Ph.D. are required to have a Master's degree in Sociology or its equivalent as determined by the admissions committee. Students who have been admitted to the Ph.D. Program by the departmental admissions committee are eligible to take the General Examination for the Ph.D. degree after fulfilling residence and course requirements, including the foreign language requirement (or six to nine credits in a related area).

The General Examination consists of one or more areas in Sociology (as defined by American Sociological Association sections), chosen by the student with the advice and consent of the advisory committee. The exam assesses substantive and theoretical knowledge of the area, critical thinking and assessment skills, an understanding of the implications of this knowledge for general sociology and the methodological skills appropriate to the area.

Courses

SOCI5001(3 Credits)Instructor Consent Required Proseminar Required of all M.A. candidates in the first year of study. Covers issues of successful graduate education and professionalization, including transitioning from the role of student to scholar; mentoring; networking; choosing thesis topics; presenting papers at conferences; getting papers published; getting grants; and developing vitae. Components:Lecture

SOCI5003(1 - 3) Teaching Sociology

A survey and discussion of the content, viewpoints and methods that can be employed in teaching sociology. Emphasis is on course preparation for new teachers. Components:Seminar Requirement Group:Open only to graduate students in Sociology (RG523).

SOCI5201(3 Credits) The Logic of Social Research

Required of all M.A. candidates in the first year of study. Covers the logic of how to frame and design social research. Topics include the link between theory and method, selection of a research topic, inductive versus deductive reasoning, causality (including research designs for identifying causal relations) and causal errors, conceptualization, operationalization, levels of analysis, measurement, reliability and validity, sampling, using mixed methods, research ethics, and the politics of social research. Components:Seminar

SOCI5203(3 Credits)Instructor Consent Required Quantitative Research I

Required of all M.A. candidates in the first year of study. Introduction to quantitative methods of social research. Topics include linear regression, including ANOVA and ANCOVA; hypothesis testing and model selection; regression diagnostics; non-linearity and functional form; path analysis; and factor analysis. Components:Seminar Requirement Group:Prerequisites: SOCI 5201 (RG3498)

SOCI5205(3 Credits)Instructor Consent Required Topics in Quantitative Methods

Special topics in quantitative methods in sociological research. Topics will vary by semester. Components:Seminar

SOCI5210(3 Credits)Instructor Consent Required Applied Survey Design and Analysis

The design, administration, and analysis of sample surveys. Components:Lecture

SOCI5231(3 Credits)Instructor Consent Required Qualitative Research I

Introduction to qualitative methods of social research. Topics include epistemologies of qualitative methodologies; ethical issues in qualitative research; the Chicago School; symbolic interactionism and grounded theory; introduction to fieldwork; basic fieldwork

techniques; interviewing; narrative analysis; textual analysis; data analysis; content analysis using computers; and writing analyses of data. Components:Seminar Requirement Group:Open to master's and doctoral students in Sociology, others with permission (RG841).

SOCI5235(3 Credits)Instructor Consent Required Topics in Qualitative Methods

Special topics in qualitative methods in sociological research. Topics will vary by semester. Components:Seminar

SOCI5251(3 Credits)Instructor Consent Required Core Theorists

An examination of the original writings of the major figures in sociological theory: Durkheim, Marx, Weber, and Simmel. The course focuses upon the theories of these major figures, their relations with contemporaries, their interconnections, and their influence upon subsequent theory and theory groupings. Components:Seminar

SOCI5255(3 Credits)Instructor Consent Required Topics in Sociological Theory

Special topics in sociological theory. Topics will vary by semester. Components:Seminar

SOCI5275(3 Credits)Instructor Consent Required Topics in Culture

Special topics in sociological theory and research in culture. Topics will vary by semester. Components:Seminar

SOCI5301(3 Credits)Instructor Consent Required Seminar on Crime and Justice

Broad survey of topics and issues relating to crime and the criminal justice system in the United States. Emphasis on policy issues. Components:Seminar

SOCI5311(3 Credits)Instructor Consent Required Deviant Behavior

Review of theory and research, with emphasis on their implications for a general theory of deviant behavior. Components:Lecture

SOCI5315(3 Credits)Instructor Consent Required Topics in Deviance and Crime

Special topics in sociological theory and research in deviance and crime. Topics will vary by semester. Components:Seminar

SOCI5351(3 Credits)Instructor Consent

<p>Required Seminar on Society and the Individual</p> <p>A comparative analysis of the major theoretical approaches to individual-society relations, with an emphasis upon interdisciplinary contributions and trends of development. Contemporary issues and the prospects for theoretical integration are examined in the perspective of the long-term development of the field. Components:Seminar</p> <p>SOCI5355(3 Credits)Instructor Consent Required Topics in Individuals and Society</p> <p>Special topics in sociological theory and research concerning the relationship between individuals and society. Topics will vary by semester. Components:Seminar</p> <p>SOCI5401(3 Credits)Instructor Consent Required Analysis of Social Organization</p> <p>An examination of patterns of social organization found in bureaucracies and voluntary associations. Components:Seminar</p> <p>SOCI5406(3 Credits) Health Organizations and Their Environments</p> <p>An in-depth analysis of the interaction between organizations and their sociological environments. An emphasis is placed on health service organizational obstacles to health planning. Components:Lecture</p> <p>SOCI5411(3 Credits)Instructor Consent Required Sociology of Work</p> <p>Analysis of work behavior with particular attention to formal and informal organization of labor, white collar, executive and professional roles. Components:Seminar</p> <p>SOCI5421(3 Credits)Instructor Consent Required Seminar in Social Stratification</p> <p>Social class theories, and problems of distribution of power and privileges. Some attention will be given to a comparative analysis of class systems. Components:Seminar</p> <p>SOCI5425(3 Credits)Instructor Consent Required Topics in Stratification and Inequality</p> <p>Special topics in sociological theory and research in social stratification and inequality. Topics will vary by semester. Components:Seminar</p>	<p>SOCI5453(3 Credits)Instructor Consent Required Medical Sociology</p> <p>An examination of the institutional pattern of health care, including the social aspects of health and sickness, types of practitioners, and the social organization of therapeutic settings. Components:Lecture</p> <p>SOCI5461(3 Credits)Instructor Consent Required Social Gerontology</p> <p>A basic consideration of the societal aspects of aging including the social psychological concomitants of adjustments, changing roles, and systems of social relationships. Components:Lecture</p> <p>SOCI5471(3 Credits) Energy, Environment, and Society</p> <p>Sociological perspectives on energy production, distribution and consumption; environmental impacts and constraints; alternative energy and environment futures; and cross-national studies of policy formation and implementation. Components:Seminar</p> <p>SOCI5501(3 Credits)Instructor Consent Required Racism</p> <p>Variable topics in the study of racism, such as racism and U.S. social policy, white racism, and the social construction of whiteness. Topic may vary by semester. Components:Seminar</p> <p>SOCI5505(3 Credits)Instructor Consent Required Topics in Racism and Ethnic Group Relations</p> <p>Special topics in sociological analyses of racism and ethnic group relations. Topics will vary by semester. Components:Seminar</p> <p>SOCI5511(3 Credits) Seminar on American Jewry</p> <p>Applications of sociological theory and methods to the analysis of American Jewry. Components:Seminar</p> <p>SOCI5515(3 Credits)Instructor Consent Required Sociology of Immigration</p> <p>Theoretical and empirical work on immigration and ethnicity including forms of assimilation, ethnicity and transnationalism; challenges and opportunities for incorporation, and struggles over political, social, economic human rights. The course focuses on the US with selected cases from Europe and Asia. Components:Seminar</p>	<p>SOCI5601(3 Credits) Gender and Society</p> <p>Critical appraisal of social scientific perspectives on women and men. Feminist theory and current social science research on gender. Emphasis on interdisciplinary approaches. Components:Seminar</p> <p>SOCI5605(3 Credits)Instructor Consent Required Topics in Gender and Sexualities</p> <p>Special topics in sociological theory and research in gender and sexualities. Topics will vary by semester. Components:Seminar</p> <p>SOCI5612(3 Credits)Instructor Consent Required Feminist Theory and Social Science</p> <p>Examines intellectual background and contemporary context for feminist theoretical debates in the social sciences. Explores these debates with reference to feminist perspectives on political theory, science, economics, postmodernism, postcolonialism, globalization, socialization, and sexuality. Components:Seminar</p> <p>SOCI5651(3 Credits)Instructor Consent Required Seminar in the Family</p> <p>An analytical study of the family as a social group in terms of structure, member roles, and function with an examination of ethnic, religious, and class differences. The interrelationship between the family and its cultural context is analyzed with particular reference to the impact of modern culture. Components:Seminar</p> <p>SOCI5703(3 Credits)Instructor Consent Required The Metropolitan Community</p> <p>Topics in urban sociology. Components:Lecture</p> <p>SOCI5705(3 Credits)Instructor Consent Required The Community</p> <p>A critical analysis of current theories of the nature of the community, its types, functions, processes, agencies, and values. Emphasis is given to community surveys and community organization. Components:Lecture</p> <p>SOCI5706(3 Credits)Instructor Consent Required Seminar in Comparative Urbanization</p> <p>Urbanization as a factor in social and cultural change, particularly in developed areas: Asia, Africa and Latin America. Components:Seminar</p>
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<p>SOCI5751(3 Credits)Instructor Consent Required Demography</p> <p>Survey and analysis of theories and present problem areas in demography. This includes such topics as: population growth and distribution, population composition, mortality, fertility, migration, and population policy. Components:Seminar</p> <p>SOCI5753(3 Credits)Instructor Consent Required Methods of Population Analysis</p> <p>The sources and characteristics of demographic data and vital statistics and the methods and problems of population data analysis. Components:Seminar</p> <p>SOCI5757(3 Credits)Instructor Consent Required Seminar in Human Fertility, Mortality, and Migration</p> <p>A review and critique of the literature on fertility, mortality and migration, and the dynamic interaction of these variables in population change. Components:Seminar</p> <p>SOCI5801(3 Credits)Instructor Consent Required Political Sociology</p> <p>Sociological aspects of political institutions and behavior; social and economic bases of political power, ideology, and mobilization of support; community and national power systems, political parties, and elites. Components:Seminar</p> <p>SOCI5805(3 Credits)Instructor Consent Required Topics in Political Sociology</p> <p>Special topics in sociological theory and research in political sociology. Topics will vary by semester. Components:Seminar</p> <p>SOCI5806(3 Credits) Seminar in Theories of the State</p> <p>A sociological examination of theoretical analysis of the role of the state in modern society, and the relationship between the state and the applications of these theories to empirical analyses of specific research questions. Components:Lecture</p> <p>SOCI5809(3 Credits)Instructor Consent Required Inequality and the Welfare State</p> <p>Analysis of the relationship between systems of racial, class, and gender inequality, and the formation and implementation of social policy by the contemporary U.S. welfare state. Components:Seminar</p>	<p>SOCI5821(3 Credits)Instructor Consent Required Social Movements</p> <p>Analysis of the conditions and processes underlying movement formation and participation and influencing their careers and outcomes. Components:Seminar</p> <p>SOCI5829(3 Credits)Instructor Consent Required Social Change</p> <p>A study of the forces prompting and impeding societal change with particular attention to those operative in contemporary society. Major theories of social change are examined. Components:Lecture</p> <p>SOCI5831(3 Credits)Instructor Consent Required Law and Society</p> <p>An overview of theoretical perspectives in the sociology of law, with emphasis on classical social theory. Components:Lecture</p> <p>SOCI5833(3 Credits)Instructor Consent Required Gender, Politics and the State</p> <p>Explores gendered construction of state and politics with attention to changes over time, across cultures and political institutions. Examines key debates within feminist political and legal theories and third world feminist and post colonialist theories of the state. Discusses links between local resistance, immigration, cultural citizenship, international politics, neoliberal discourse, and global economic restructuring. Components:Seminar</p> <p>SOCI5895(1 - 3)Instructor Consent Required Investigation of Special Topics</p> <p>A seminar course. Topics vary by semester. Components:Seminar</p> <p>SOCI5899(1 - 6)Instructor Consent Required Independent Study for Graduate Students</p> <p>Special topic readings or investigations. Components:Independent Study</p> <p>SOCI6005(3 Credits)Instructor Consent Required Advanced Topics in Sociology</p> <p>Advanced topics in sociological analysis. Topics will vary by semester. Components:Seminar</p> <p>SOCI6203(3 Credits)Instructor Consent Required Quantitative Research II</p> <p>Advanced quantitative methods of social</p>	<p>research. Topics include generalized linear models, including binary logit and probit, multinomial logit, ordered logit and probit, and count data; censoring, truncation, and sample selection; panel data; and correlated errors Components:Seminar</p> <p>SOCI6205(3 Credits)Instructor Consent Required Advanced Topics in Quantitative Methods</p> <p>Advanced topics in quantitative methods in sociological research. Topics will vary by semester. Components:Seminar</p> <p>SOCI6231(3 Credits)Instructor Consent Required Qualitative Research II</p> <p>Advanced topics in qualitative methods of social research. Topics include contemporary debates in qualitative methodology; critical perspectives on qualitative methodology; feminist research; institutional ethnography; the case method; extended case method; Third World and postcolonial approaches to social research; analyzing and reanalyzing field data; applied and evaluation research; participatory and activist research. Components:Seminar</p> <p>SOCI6251(3 Credits)Instructor Consent Required Current Theory and Research</p> <p>An examination of current theories. Topics include: consideration of their continuities with classical theories, conceptual and measurement problems in testing and constructing current theories, and the interplay between theory and research. Components:Seminar Requirement Group:Prerequisite: SOCI 5251 (RG524).</p> <p>SOCI6255(3 Credits)Instructor Consent Required Advanced Topics in Qualitative Methods</p> <p>Advanced topics in qualitative methods in sociological research. Topics will vary by semester. Components:Seminar</p> <p>SOCI6265(3 Credits)Instructor Consent Required Advanced Topics in Sociological Theory</p> <p>Advanced topics in sociological theory. Topics will vary by semester. Components:Seminar</p> <p>SOCI6275(3 Credits)Instructor Consent Required Advanced Topics in Culture</p> <p>Advanced topics in sociological theory and research in culture. Topics will vary by</p>
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semester. Components:Seminar

SOCI6315(3 Credits)Instructor Consent
Required Advanced Topics in Deviance and
Crime

Advanced topics in sociological theory and
research in deviance and crime. Topics will
vary by semester. Components:Seminar

SOCI6355(3 Credits)Instructor Consent
Required Advanced Topics in Individuals and
Society

Advanced topics in sociological theory
and research in the relationship between
individuals and society. Topics will vary by
semester. Components:Seminar

SOCI6425(3 Credits)Instructor Consent
Required Advanced Topics in Stratification
and Inequality

Advanced topics in sociological theory
and research in social stratification and
inequality. Topics will vary by semester.
Components:Seminar

SOCI6505(3 Credits)Instructor Consent
Required Advanced Topics in Racism and
Ethnic Group Relations

Advanced topics in sociological theory
and research in racism and ethnic group
relations. Topics will vary by semester.
Components:Seminar

SOCI6605(3 Credits)Instructor Consent
Required Advanced Topics in Gender and
Sexualities

Advanced topics in sociological theory and
research in gender and sexualities. Topics
will vary by semester. Components:Seminar

SOCI6805(3 Credits)Instructor Consent
Required Advanced Topics in Political
Sociology Advanced topics in sociological
theory and research in political
sociology. Topics will vary by semester.
Components:Seminar

†GRAD 5930. Full-Time Directed Studies
(Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research
(GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research
(GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's)
(GRAD 398) Non-credit.

†GRAD 6930. Full-Time Directed Studies
(Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation
Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research
(GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral)
(GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation
(GRAD 499) Non-credit.

Statistics

Department Head
Distinguished Professor Joseph Glaz

Professors
Bass, Chen, Gine, Glaz, Holsinger, Kenny,
Kuo, Mukhopadhyay, Ravishanker, and Vitale

Associate Professor
Chi, Harel, Majumdar, Pozdnyakov, Trpathi,
Yan

Assistant Professors
Kang, M'lan, and Villagran

Adjunct Associate Professor
Cappelleri

The Department of Statistics offers work leading to the M.S. and Ph.D. degrees, as well as courses in applied statistics in support of graduate programs in other fields. The M.S. program combines training in both statistical application and theory. To broaden their view of the use of statistics, candidates for the master's degree are required to enroll in at least one course involving the application of statistics offered by any other department on campus except Computer Science and Mathematics. In addition, students are encouraged to become involved in the statistical consultation work done by members of the Department. The doctoral program also provides a balance between statistical methods and theory. It emphasizes the development of the ability to create new results in statistical methods, statistical theory, or probability. After completing the necessary course work and a sequence of comprehensive written and oral examinations, the Ph.D. student must write a dissertation representing an original contribution to the field of statistics or probability. It is possible for the dissertation to be predominantly a development of statistical methodology in new areas of application. Both the M.S. and Ph.D. programs allow students sufficient flexibility to pursue their interests and to provide the time to take courses offered by other departments.

There are no official course requirements for admission to graduate study in the Department, but a degree of mathematical facility is necessary for acceptable progress through the program.

The Department of Statistics is housed in the College of Liberal Arts and Sciences Building. Extensive computational facilities are available through three operating systems: Linux, Unix, and PC-Based NT. The Homer Babbage Library provides excellent coverage

of current and past issues of statistics journals as well as books in this field. There is also a separate departmental library.

Courses

STAT5005(3 Credits) Introduction to Applied Statistics One-, two- and k-sample problems, regression, elementary factorial and repeated measures designs, covariance. Use of computer packages, e.g., SAS and MINITAB. Components:Lecture Requirement Group:Not open to students who have passed STAT 201 or STAT 2215Q (RG613).

STAT5015(3 Credits) Distribution Theory for Statistics

Components:Lecture Requirement Group:Open to graduate students in Statistics, others with permission (RG814).

STAT5099(1 - 6)Instructor Consent Required Investigation of Special Topics

Components:Independent Study

STAT5105(3 Credits) Quantitative Methods in the Behavioral Sciences

A course designed to acquaint the student with the application of statistical methods in the behavioral sciences. Correlational methods include multiple regression and related multivariate techniques. Components:Lecture

STAT5192(1 - 6) Supervised Research in Statistics

Components:Practicum

STAT5315(3 Credits) Analysis of Experiments

Straight-line regression, multiple regression, regression diagnostics, transformations, dummy variables, one-way and two-way analysis of variance, analysis of covariance, stepwise regression. Components:Lecture Requirement Group:Prerequisite: STAT 5005. Not open to students who have passed STAT 242 or STAT 3115Q (RG614).

STAT5361(3 Credits) Statistical Computing

Use of computing for statistical problems; obtaining features of distributions, fitting models and implementing inference. Basic numerical methods, nonlinear statistical methods, numerical integration, modern simulation methods. Components:Lecture Requirement Group:Open to graduate

students in Statistics, others with permission (RG814).

STAT5415(3 Credits)Instructor Consent Required Advanced Statistical Methods

Discrete and continuous random variables, exponential family, joint and conditional distributions, order "statistics, statistical inference: point estimation, confidence interval estimation, and hypothesis testing."

FM- 5/14/02 Components:Lecture

STAT5505(3 Credits) Applied Statistics I

Exploratory data analysis: stem-and leaf plots, Box-plots, symmetry plots, quantile plots, transformations, discrete and continuous distributions, goodness of fit tests, parametric and non-parametric inference for one sample and two sample problems, robust estimation, Monte Carlo inference, bootstrapping. Components:Lecture Requirement Group:Open to graduate students in Statistics, others with permission (RG814).

STAT5515(3 Credits) Design of Experiments

One way analysis of variance, multiple comparison of means, randomized block designs, Latin and Graeco-Latin square designs, factorial designs, two-level factorial and fractional factorial designs, nested and hierarchical designs, split-plot designs. Components:Lecture Requirement Group:Prerequisite: STAT 5005 or statistics MA or PHD field of study. Not open to students who have passed STAT 243 or STAT 3515Q (RG615).

STAT5525(3 Credits) Sampling Theory

Sampling and nonsampling error, bias, sampling design, simple random sampling, sampling with unequal probabilities, stratified sampling, optimum allocation, proportional allocation, ratio estimators, regression estimators, super population approaches, inference in finite populations. Components:Lecture Requirement Group:Open to graduate students in Statistics, others with permission (RG814).

STAT5535(3 Credits) Introduction to Operations Research

Components:Lecture Requirement Group:Open to graduate students in Statistics, others with permission (RG814).

STAT5585(3 Credits) Mathematical Statistics I

Introduction to probability theory, transformations and expectations, moment generating function, discrete and continuous distributions, joint and marginal distributions of random vectors, conditional distributions and independence, sums of random variables, order statistics, convergence of a sequence of random variables, the central limit theorem. Components:Lecture

STAT5605(3 Credits) Applied Statistics II

Analysis of variance, regression and correlation, analysis of covariance, general liner models, robust regression procedures, and regression diagnostics. Components:Lecture Requirement Group:Prerequisite: STAT 5505 (RG815).

STAT5625(3 Credits)Instructor Consent Required Introduction to Biostatistics

Rates and proportions, sensitivity, specificity, two-way tables, odds ratios, relative risk, ordered and non-ordered classifications, redds, case-control studies, elements of regression including logistic and Poisson, additivity and interaction, combination of studies and meta-analysis. Components:Lecture

STAT5635(3 Credits)Instructor Consent Required Clinical Trials

Basic concepts of clinical trial analysis; controls, randomization, blinding, surrogate endpoints, sample size calculations, sequential monitoring, side-effect evaluation and intention-to-treat analyses. Also, experimental designs including dose response study, multicenter trials, clinical trials for drug development, stratification, and cross-over trials. Components:Lecture

STAT5645(3 Credits)Instructor Consent Required Concepts and Analysis of Survival Data

Survival models, censoring and truncation, nonparametric estimation of survival functions, comparison of treatment groups, mathematical and graphical methods for assessing goodness of fit, parametric and nonparametric regression models. Components:Lecture

STAT5665(3 Credits) Applied Multivariate Analysis

Multivariate normal distributions, inference about a mean vector, comparison of several multivariate means, principal components, factor analysis, canonical correlation analysis, discrimination and classification, cluster analysis. Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT5685(3 Credits) Mathematical Statistics II

The sufficiency principle, the likelihood principle, the invariance principle, point estimation, methods of evaluating point estimators, hypotheses testing, methods of evaluating tests, interval estimation, methods of evaluating interval estimators. Components:Lecture Requirement
Group:Prerequisite: STAT 5585 (RG816).

STAT5725(3 Credits) Linear Statistical Models

Linear and matrix algebra concepts, generalized inverses of matrices, multivariate normal distribution, distributions of quadratic forms in normal random vectors, least squares estimation for full rank and less than full rank linear models, estimation under linear restrictions, testing linear hypotheses. Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT5825(3 Credits) Applied Time Series

Introduction to prediction using time-series regression methods with non-seasonal and seasonal data. Smoothing methods for forecasting. Modeling and forecasting using univariate autoregressive moving average models. Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6315(3 Credits) Statistical Inference I

Exponential families, sufficient statistics, loss function, decision rules, convexity, prior information, unbiasedness, Bayesian analysis, minimaxity, admissibility, simultaneous and shrinkage estimation, invariance, equivariant estimation. Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6325(3 Credits) Advanced Probability

Fundamentals of measure and integration theory: fields, σ -fields, and measures; extension of measures; Lebesgue-Stieltjes measures and distribution functions;

measurable functions and integration theorems; the Radon-Nikodym Theorem, product measures, and Fubini's Theorem. Introduction to measure-theoretic probability: probability spaces and random variables; expectation and moments; independence, conditioning, the Borel-Cantelli Lemmas, and other topics as time allows. Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6425(1 - 6) Seminar in Applied Probability

Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6494(1 - 6) Seminar in Applied Statistics

Components:Seminar Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6515(3 Credits) Statistical Inference II

Statistics and subfields, conditional expectations and probability distributions, uniformly most powerful tests, uniformly most powerful unbiased tests, confidence sets, conditional inference, robustness, change point problems, order restricted inference, asymptotics of likelihood ratio tests. Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission. Prerequisite: STAT 6315 (RG527).

STAT6594(1 - 6) Seminar in Nonparametric Statistics

Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6625(1 - 6) Seminar in Biostatistics

Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6694(1 - 6) Seminar in Multivariate Statistics

Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6794(1 - 6) Seminar in the Theory of Statistical Inference

Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

STAT6894(1 - 6) Seminar in the Theory of Probability and Stochastic Processes
Components:Lecture Requirement
Group:Open to graduate students in Statistics, others with permission (RG814).

†GRAD 5930. Full-Time Directed Studies (Master's Level) (GRAD 397) 3 credits.

†GRAD 5950. Master's Thesis Research (GRAD 395) 1 - 9 credits.

†GRAD 5960. Full-Time Master's Research (GRAD 396) 3 credits.

GRAD 5998. Special Readings (Master's) (GRAD 398) Non-credit.

GRAD 5999. Thesis Preparation (GRAD 399) Non-credit.

†GRAD 6930. Full-Time Directed Studies (Doctoral Level) (GRAD 497) 3 credits.

†GRAD 6950. Doctoral Dissertation Research (GRAD 495) 1 - 9 credits.

†GRAD 6960. Full-Time Doctoral Research (GRAD 496) 3 credits.

GRAD 6998. Special Readings (Doctoral) (GRAD 498) Non-credit.

GRAD 6999. Dissertation Preparation (GRAD 499) Non-credit.

Womens Gender & Sexuality Studies

Department Head

Professor Nancy A. Naples

Core Faculty:

Breen, Boylan, D'Alleva, Desai, Dussart, Gill, Gurr, Makowsky, McComiskey, Naples, and Turcotte

Core Affiliate Faculty

Asencio, Dayton, Garey and Pratto

In virtually every field of university study, scholarship on women, gender, and sexuality has become increasingly influential because of its path-breaking theoretical perspectives and its empirical findings. The programs of virtually every professional association testify to the vitality and presence of feminist research

The Women's Studies Graduate Certificate at the University of Connecticut can be earned by students enrolled in a graduate degree program, or as a stand-alone certificate for those who have completed their undergraduate degree.

Although feminist scholarship may be available in other disciplines, Women's Studies offers a concentrated perspective and in-depth analysis. The graduate certificate enables students to pursue interdisciplinary study in this flourishing field while enhancing their educational background by encouraging the integration of personal, academic and political experiences and ideals.

Because the program is interdisciplinary and students will approach the certificate from a range of home fields and with widely varying preparation, all certificate plans of study will be individualized. Each certificate candidate combines the study of Women's Studies theory and methodology, either through current study or prior preparation. The core faculty of the Women's Studies Program will act as advisors to certificate students; careful advising will ensure that each student's program has the appropriate interdisciplinary breadth and fits appropriately with her/his other course work and professional needs.

All Women's Studies certificate plans of study must include work in more than one department and must be approved by the Program Director or her designee, who will

coordinate the certificate program.

The requirements for the Graduate Certificate in Women's Studies follow:

1. For students enrolled in existing graduate programs

Open to students enrolled in any UConn graduate program.

Requires 12 hours of course work, of which at least nine hours must be at the 5000 level or above.

Not more than one Women's Studies 5390 may be applied to the certificate.

2. For non-degree students:

Open to students with a bachelor's degree upon approval of the Women's

Studies Graduate Study Committee

Requires 12 hours of course work, of which at least nine hours must be at

the 300 level or above, including:

Philosophy 5352 – Feminist Theory

Women's Studies 5365 – Women's Studies Research Methodology

Not more than one Women's Studies 5390 may be applied to the certificate.

Application/forms for both options may be obtained from the Women's Studies Program office or on the Women's Studies website, www.womens.studies.uconn.edu.

Courses applicable to the Graduate Certificate in Women's Studies include many advanced 4000-level Women's Studies courses and the following graduate-level Women's Studies courses as well as a variety of courses in Anthropology, English, French, History, Human Development and Family Studies, Philosophy, Political Science, Psychology, and Sociology. Each semester the Women's Studies Program publishes a list of the applicable courses to be offered in the following semester.

Courses

WGSS5315(3 Credits) Gender and Culture Anthropological perspectives on the analysis of gender with special focus on dynamics of gender, culture, and power. Components:Lecture Course Equivalents:ANTH 5315

WGSS5333(3 Credits)Instructor Consent Required Topics in the History of American Women

Components:Lecture Course Equivalents:HIST 5555

WGSS5341(3 Credits) Analysis of Rituals

Examines various theoretical contributions to the anthropological study of ritual. Controversies and ambiguities surrounding the social and symbolic significance of the ritual act for both men's and women's experiences and participation are addressed. Components:Lecture Course Equivalents:ANTH 5341 Requirement Group:Prerequisite: Anthropology 5311 (RG170).

WGSS5344(3 Credits)Instructor Consent Required Psychology of Women and Gender

A survey of research and theory on the interpretation of sex differences; gender, status, and power, and women's life span development. Components:Lecture Course Equivalents:PSYC 5102

WGSS5365(3 Credits) Women's Studies Research Methodology for Graduate Students

Discussion of feminist and gender-oriented research methods and their relation to traditional disciplines. Analysis of gender bias in research design and practice. Major independent research project required. Components:Lecture

WGSS5371(3 Credits) Genders, Sexualities, and Theories

Genders and sexualities with special attention given to lesbian, gay, bisexual, and transgender issues. Components:Lecture

WGSS5390(1 - 6)Instructor Consent Required Independent Study for Graduate Students

Components:Independent Study

WGSS5395(3 Credits) Special Topics Seminar in Women's Studies

Topics of current interest from a feminist perspective. Components:Seminar

Graduate Faculty

The Graduate Faculty includes only those individuals appointed by the dean of the Graduate School by authorization of the President. Members of the University Faculties who hold the rank of assistant professor or above at the University of Connecticut may become members of the Graduate Faculty upon recommendation of the department head (or dean of a school or college which is not departmentalized) and approval by the dean of the Graduate School if the professor's department, alone or in conjunction with another department, offers a program leading to a degree awarded through The Graduate School. A professor whose department does not offer a graduate degree program may be appointed to the Graduate Faculty by the dean of the Graduate School on the recommendation of the head of a department, (or dean of a school or college which is not departmentalized) whose graduate degree program(s) the professor would serve.

The following list is current as of May 30 2012.

Abbound, Nelly, Associate Professor of Civil Engineering, Ph.D., University of Delaware

Abikoff, William, Professor of Mathematics, Ph.D., Polytechnic Institute of Brooklyn

Accorsi, Michael, Professor of Civil Engineering, Ph.D., Northwestern University

Adams, Douglas, Assistant Professor of Orthopaedic Surgery, Ph.D., University of Iowa

Adams, Eldridge, Professor of Ecology and Evolutionary Biology, Ph.D., University of California, Berkeley

Adams, Jr., Roger, Professor of Plant Science in Residence, Ph.D., University of Massachusetts

Adamson, Douglas, Associate Professor of Chemistry, Ph.D., University of Southern California

Adamsons, Kari, Assistant Professor of Human Development and Family Studies, Ph.D., University of North Carolina, Greensboro

Adler, Adam, Associate Professor of Medicine, Ph.D., Columbia University

Adler, Daniel, Assistant Professor of Anthropology, Ph.D., Harvard University

Agar, John, Professor of Prosthodontics,

D.D.S., Medical College of Virginia

Aggison, Lee, Associate Professor of Molecular and Cell Biology in Residence, Ph.D., Wayne State University

Agocha, V. Bede, Assistant Professor of Psychology, Ph.D., University of Missouri

Agrios, Alexander, Assistant Professor of Civil and Environmental Engineering, Ph.D., Northwestern University

Aguila, Hector, Assistant Professor of Immunology, Ph.D., Albert Einstein College of Medicine

Ahking, Francis, Associate Professor of Economics, Ph.D., Virginia Polytechnic Institute and State University

Aikins, Julie, Assistant Professor of Psychology, Ph.D., Pennsylvania State University

Aindow, Mark, Professor of Chemical, Materials and Biomolecular Engineering, Ph.D., University of Liverpool, England

Albert, Arlene, Professor of Molecular and Cell Biology, Ph.D., University of Virginia

Alder, Nathan, Assistant Professor of Molecular and Cell Biology, Ph.D., University of California, Davis

Alexandrescu, Andrei, Associate Professor of Molecular and Cell Biology, Ph.D., University of Wisconsin

Alfano, Michael, Associate Professor of Education in Residence, Ph.D., University of Connecticut

Allen, Rodney, Assistant Extension Professor, Ph.D., Southern Illinois University

Almas, Khalid, Professor of Periodontology, M.Sc., University of London, United Kingdom

Alpay, Pamir, Associate Professor of Chemical, Materials and Biomolecular Engineering, Ph.D., University of Maryland

Alpert, William, Associate Professor of Economics, Ph.D., Columbia University

Altobello, Marilyn, Associate Professor of Agricultural and Resource Economics, Ph.D., University of Massachusetts

Ammar, Reda, Professor of Computer Science and Engineering, Ph.D., University of Connecticut

Anagnostou, Emmanouil, Associate Professor of Civil Engineering, Ph.D., University of Iowa

Anania, Michael, Associate Professor of Dramatic Arts in Residence, B.F.A., Boston University

Anderson, Amy, Associate Professor of Medicinal Chemistry, Ph.D., Harvard University

Anderson, Elizabeth, Associate Professor of Nursing, Ph.D., University of Rochester

Anderson, Shayne, Assistant Professor of Human Development and Family Studies, Ph.D., University of Georgia

Anderson, Stephen, Professor of Family Studies, Ph.D., Kansas State University

Andrew, Sheila, Associate Professor of Animal Science, Ph.D., University of Maryland

Aneskievich, Brian, Associate Professor of Pharmacology, Ph.D., State University of New York, Stony Brook

Antic, Srdjan, Assistant Professor of Neuroscience, M.D., M.S., Belgrade University, Yugoslavia

Anwar, A. F. Mehdi, Professor of Electrical Engineering, Ph.D., Clarkson University

Anyah, Richard, Assistant Professor of Natural Resources and the Environment, Ph.D., North Carolina State University

Armstrong, Lawrence, Professor of Education, Ph.D., Ball State University

Arnold, Andrew, Professor of Medicine, M.D., Harvard University

Arteaga, Sarita, Assistant Professor of Prosthodontics, D.M.D., University of Connecticut

Asandei, Alexandru, Associate Professor of Materials Science, Ph.D., Case Western Reserve University

Aschkenasy, Nehama, Professor of Judaic and Middle Eastern Studies in Residence, Ph.D., New York University

Aseltine, Robert, Associate Professor of Behavioral Sciences and Community Health, Ph.D., University of Michigan

Asencio, Marysol, Associate Professor of Family Studies, Dr.P.H., Columbia University

Atkin, David, Professor of Communication Sciences, Ph.D., Michigan State University

Atkinson-Palombo, Carol, Assistant Professor of Geography, Ph.D., Arizona State University

Auer, Carol, Associate Professor of Plant Science, Ph.D., University of Maryland

Ayers, John, Associate Professor of Electrical Engineering, Ph.D., Rensselaer Polytechnic Institute

Azimi, Fakhreddin, Professor of History, Ph.D., Oxford University, England

Ba, Sulin, Associate Professor of Operations and Information Management, Ph.D., University of Texas

Babor, Thomas, Professor of Community Medicine and Health Care, Ph.D., University of Arizona

Bagtzoglou, Amvrossios, Professor of Civil and Environmental Engineering, Ph.D., University of California, Irvine

Bai, Xue, Assistant Professor of Operations and Information Management, Ph.D., Carnegie Mellon University

Bailey, Amanda, Assistant Professor of English, Ph.D., University of Michigan

Bailey, William, Professor of Chemistry, Ph.D., University of Notre Dame

Baker, Frank, Professor of Social Work, Ph.D., Northwestern University

Baker, Jr., William, Assistant Professor of Pharmacy Practice, Pharm.D., University of Connecticut

Baldwin, Peter, Associate Professor of History, Ph.D., Brown University

Balma, Philip, Assistant Professor of Modern and Classical Languages, Ph.D., Indiana University

Balunas, Marcy, Assistant Professor of Pharmaceutical Sciences, Ph.D., University of Illinois, Chicago

Bamis, Athanasios, Assistant Professor of Computer Science and Engineering, Ph.D., Yale University

Bansal, Rajeev, Professor of Electrical Engineering, Ph.D., Harvard University

Bansal, Rashmi, Associate Professor of Neuroscience, Ph.D., Central Drug Research Institute (India)

Barbarese, Elisa, Professor of Neuroscience, Ph.D., McGill University, Canada

Barber, Thomas, Professor of Mechanical Engineering in Residence, Ph.D., New York University

Barker, Keith, Professor of Computer Science and Engineering, Ph.D., Sheffield University, England

Barnes-Farrell, Janet, Professor of Psychology, Ph.D., Pennsylvania State University

Barreca, Regina, Professor of English, Ph.D., City University of New York

Bar-Shalom, Yaakov, Professor of Electrical Engineering, Ph.D., Princeton University

Barton, Marianne, Associate Clinical

Professor of Psychology, Ph.D., University of Connecticut

Bass, Jr., Richard, Professor of Music, Ph.D., University of Texas

Bass, Richard, Professor of Mathematics, Ph.D., University of California, Berkeley

Bassi, Sherry, Assistant Professor of Nursing, Ed.D., University of Sarasota

Basu, Ashis, Professor of Chemistry, Ph.D., Wayne State University

Bavier, Anne, Professor of Nursing, Ph.D., Duquesne University

Baxter, Donald, Professor of Philosophy, Ph.D., University of Pittsburgh

Bayarsaihan, Dashzeveg, Assistant Professor of Biostructure and Function, Ph.D., Wesleyan University

Bayer, Arend, Assistant Professor of Mathematics, Ph.D., University of Bonn, Germany

Bayulgen, Oksan, Assistant Professor of Political Science, Ph.D., University of Texas

Beall, J, Professor of Philosophy, Ph.D., University of Massachusetts

Beasley, Maya, Assistant Professor of Sociology, Ph.D., Stanford University

Beazoglou, Tryfon, Professor of Behavioral Sciences and Community Health and Economics, Ph.D., Northwestern University

Beck, Cheryl, Professor of Nursing, D.N.Sc., Boston University

Bedore, Pamela, Assistant Professor of English, Ph.D., University of Rochester

Bell, Alexandra, Assistant Professor of Education, Ph.D., University of Connecticut

Bellini, Sandra, Assistant Professor of Nursing in Residence, D.N.P., Case Western Reserve University

Bellizzi, Keith, Assistant Professor of Human Development and Family Studies, Ph.D., University of Connecticut

Ben-Ari, Iddo, Assistant Professor of Mathematics, Ph.D., Technion-Israel Institute of Technology

Benn, Peter, Assistant Professor of Pediatrics, Ph.D., University of Birmingham, England

Bennett, John, Associate Professor of Mechanical Engineering, Ph.D., Johns Hopkins University

Benson, David, Professor of Molecular and Cell Biology, Ph.D., Rutgers University

Benzecry, Claudil, Assistant Professor of

Sociology, Ph.D., New York University

Bercaw-Edwards, Mary Katherine, Associate Professor of English in Residence, Ph.D., Northwestern University

Berentsen, William, Professor of Geography, Ph.D., Ohio State University

Bergman, Theodore, Professor of Mechanical Engineering, Ph.D., Purdue University

Berkowitz, Gerald, Professor of Plant Science, Ph.D., Brandeis University

Berning, Joshua, Assistant Professor of Agricultural and Resource Economics, Ph.D., Washington State University

Bernstein, Leslie, Professor of Neuroscience, Ph.D., University of Illinois

Bernstein, Mary, Associate Professor of Sociology, Ph.D., New York University

Berthelot, Anne, Professor of French, Doctorates Lettres, University of Paris-Sorbonne, France

Berthold, S. Megan, Assistant Professor of Social Work, Ph.D., University of California, Los Angeles

Best, Samuel, Associate Professor of Public Policy, Ph.D., State University of New York, Stony Brook

Bezsonova, Irina, Assistant Professor of Molecular, Microbial and Structural Biology, Ph.D., University of Toronto

Bhat, Anjana, Assistant Professor of Physical Therapy, Ph.D., University of Delaware

Bhattacharjee, Sudip, Associate Professor of Operations and Information Management, Ph.D., State University of New York, Buffalo

Bi, Jinbo, Associate Professor of Computer Science and Engineering, Ph.D., Rensselaer Polytechnic Institute

Bidra, Avinash, Assistant Professor of Prosthodontics, M.Dent.Sc., University of Connecticut

Bigazzi, Pierluigi, Professor of Pathology, M.D., University of Florence, Italy

Biggs, Frederick, Professor of English, Ph.D., Cornell University

Biggs, Stanley, Professor of Accounting, Ph.D., University of Minnesota

Bird, Robert, Assistant Professor of Marketing, J.D., Boston University

Birge, Robert, Professor of Chemistry, Ph.D., Wesleyan University

Blank, Thomas, Professor of Family

Studies, Ph.D., Columbia University	Boyer, Mark, Professor of Political Science, Ph.D., University of Maryland	of Chemistry, Ph.D., University of British Columbia, Canada
Blanton, Hart, Associate Professor of Psychology, Ph.D., Princeton University	Boylan, Alexis, Assistant Professor of Art History in Residence, Ph.D., Rutgers University	Bruder, Mary, Professor of Pediatrics, Ph.D., University of Oregon
Blatt, Joel, Associate Professor of History, Ph.D., University of Rochester	Boylu, Fidan, Assistant Professor of Operations and Information Management, Ph.D., University of Florida, Gainesville	Bruening, Jennifer, Associate Professor Education, Ph.D., Ohio State University
Blechner, Barbara, Associate Professor of Public Health, J.D., University of Connecticut	Brammer, Anthony, Professor of Medicine, Ph.D., University of Exeter, England	Bruno, Richard, Assistant Professor of Nutritional Sciences, Ph.D., Ohio State University
Blinov, Mikhail, Assistant Professor of Genetics and Developmental Biology, , Weizmann Institute of Science, Israel	Brand, Mark, Professor of Horticulture, Ph.D., Ohio State University	Bubela, Deborah, Assistant Professor of Physical Therapy in Residence, Ph.D., University of Connecticut
Bloom, Lynn, Professor of English, Ph.D., University of Michigan	Bravo-Ureta, Boris, Professor of Agricultural and Resource Economics, Ph.D., University of Nebraska	Buck, Ross, Professor of Communication Sciences, Ph.D., University of Pittsburgh
Bloomfield, Paul, Associate Professor of Philosophy, Ph.D., Syracuse University	Bray, Melissa, Professor of Education, Ph.D., University of Connecticut	Buckley, Roger, Professor of History, Ph.D., McGill University, Canada
Blum, Thomas, Associate Professor of Physics, Ph.D., University of Arizona	Breen, Margaret, Associate Professor of English, Ph.D., Rutgers University	Bucklin, Ann, Professor of Marine Sciences, Ph.D., University of California, Berkeley
Bobaljik, Jonathan, Professor of Linguistics, Ph.D., Massachusetts Institute of Technology	Brenick, Alaina, Assistant Professor of Human Development and Family Studies, Ph.D., University of Maryland	Burger, Susan, Associate Clinical Professor of Nursing, Ph.D., University of North Carolina
Bock, Monica, Associate Professor of Art, M.F.A., M.A., School of the Art Institute of Chicago	Brewer, Molly, Associate Professor of Obstetrics and Gynecology, M.D., State University of New York, Upstate Medical Center	Burgess, Diane, Associate Professor of Pharmaceutics, Ph.D., University of London, England
Boelsterli, Urs, Professor of Pharmaceutical Science, Ph.D., University of Zurich, Switzerland	Bridgeman, James, Associate Professor of Mathematics, M.A., Yale University	Burke, Mary, Associate Professor of English, Queen's University, Ireland
Boggs, Steven, Professor of Materials Science, Ph.D., University of Toronto, Canada	Britner, Preston, Associate Professor of Family Studies, Ph.D., University of Virginia	Burkey, Daniel, Assistant Professor of Chemical, Materials and Biomolecular Engineering in Residence, Ph.D., Massachusetts Institute of Technology
Bogner, Robin, Associate Professor of Pharmaceutics, Ph.D., Rutgers University	Brocke, Stefan, Assistant Professor of Pharmacology, M.D., Free University, Germany	Burkhard, Peter, Associate Professor of Molecular and Cell Biology, Ph.D., University of Basel, Switzerland
Bohannon, Richard, Professor of Physical Therapy, D.Ed., North Carolina State University	Brody, Harold, Distinguished Professor of Chemical, Materials and Biomolecular Engineering, Sc.D., Massachusetts Institute of Technology	Burleson, Joseph, Associate Professor of Behavioral Science and Community Health, Ph.D., University of Texas
Bollas, Georgios, Assistant Professor of Chemical Engineering, Ph.D., Aristotle University of Thessaloniki, Greece	Brown, Edna, Assistant Professor of Human Development and Family Studies, Ph.D., University of Michigan	Burton, Laura, Associate Professor of Education, Ph.D., University of Connecticut
Bolling, Bradley, Assistant Professor of Nutritional Sciences, Ph.D., University of Wisconsin-Madison	Brown, Judith, Assistant Professor of Allied Health in Residence, Ph.D., University of Connecticut	Burton, Leslie, Professor of Psychology, Ph.D., University of Chicago
Bontly, Thomas, Associate Professor of Philosophy, Ph.D., University of Wisconsin	Brown, Pamela, Associate Professor of English, Ph.D., Columbia University	Bush, Andrew, Assistant Professor of Ecology and Evolutionary Biology, Ph.D., Harvard University
Bortfeld, Heather, Associate Professor of Psychology, Ph.D., State University of New York, Stony Brook	Brown, Scott, Professor of Education, Ph.D., Syracuse University	Bushey, Joseph, Assistant Professor of Civil and Environmental Engineering, Ph.D., Carnegie-Mellon University
Bosker, Thijs, Assistant Professor of Natural Resources, Ph.D., University of New Brunswick, Canada	Brown, Stacey, Assistant Professor of Community Medicine and Health Care, Ph.D., Kent State University	Bushmich, Sandra, Professor of Pathobiology, D.V.M., New York College of Veterinary Medicine
Boskovic, Zeljko, Professor of Linguistics, Ph.D., University of Connecticut	Bruchac, Margaret, Assistant Professor of Anthropology, University of Massachusetts, Amherst	Byrne, Tim, Associate Professor of Geology and Geophysics, Ph.D., University of California, Santa Cruz
Boster, James, Professor of Anthropology, Ph.D., University of California, Berkeley	Brückner, Christian, Associate Professor	Bystrom, Kerry, Assistant Professor of
Bouchard, Norma, Associate Professor of Modern and Classical Languages, Ph.D., Indiana University		

- English, Ph.D., Princeton University
- Bzymek, Zbigniew, Associate Professor of Mechanical Engineering, Ph.D., Technical University of Warsaw, Poland
- Caira, Janine, Professor of Ecology and Evolutionary Biology, Ph.D., University of Nebraska
- Calabrese, Andrea, Professor of Linguistics, Dottore in Lettere, University of Padova, Italy
- Campbell, Scott, Assistant Professor of English, Ph.D., Rutgers University
- Campbell, Winston, Professor of Obstetrics and Gynecology, M.D., University of Connecticut
- Campellone, Kenneth, Assistant Professor of Molecular and Cell Biology, Ph.D., University of Massachusetts Medical School
- Caner, Daniel, Associate Professor of History and Classics, Ph.D., University of California, Berkeley
- Cantino, Marie, Associate Professor of Physiology and Neurobiology, Ph.D., University of Washington
- Cao, Chengyu, Assistant Professor of Mechanical Engineering, Ph.D., Massachusetts Institute of Technology
- Cao, Qing, Assistant Professor of Management, Ph.D., University of Maryland
- Cardetti, Fabiana, Assistant Professor of Mathematics, Ph.D., Louisiana State University
- Carello, Claudia, Professor of Psychology, Ph.D., University of Connecticut
- Carillo, Ellen, Assistant Professor of English, Ph.D., University of Pittsburgh
- Carlson, Morgan, Assistant Professor of Biomedical Science, Ph.D., University of California, Berkeley and San Francisco
- Carmichael, Gordon, Professor of Microbiology, Ph.D., Harvard University
- Caron, Joan, Assistant Professor of Physiology, Ph.D., University of Connecticut
- Carrafiello, Vincent, Professor of Business Law, J.D., University of Connecticut
- Carson, John, Professor of Biochemistry, Ph.D., Massachusetts Institute of Technology
- Carstensen, Fred, Professor of Economics, Ph.D., Yale University
- Carter, C. Barry, Professor of Chemical, Materials and Biomolecular Engineering, Ph.D., Oxford University, England
- Carter, Mark, Assistant Research Professor of Animal Science, Ph.D., Johns Hopkins University
- Casa, Douglas, Associate Professor of Education, Ph.D., University of Connecticut
- Casa, Tutita, Assistant Professor of Education in Residence, Ph.D., University of Connecticut
- Casamayor, Odette, Assistant Professor of Modern and Classical Languages, , Ecole des Hautes Etdudes en Sciences Sociales, France
- Cassenti, Brice, Professor of Mechanical Engineering in Residence, Ph.D., Polytechnic Institute of Brooklyn
- Cazenave, Noel, Associate Professor of Sociology, Ph.D., Tulane University
- Celestin, Roger, Professor of French, Ph.D., City University of New York
- Cetegen, Baki, Professor of Mechanical Engineering, Ph.D., California Institute of Technology
- Chaffin, Roger, Professor of Psychology, Ph.D., University of Illinois
- Chafouleas, Sandra, Associate Professor of Education, Ph.D., Syracuse University
- Chamberlain, Stormy, Assistant Professor of Biomedical Science, Ph.D., University of Florida
- Chandy, John, Associate Professor of Electrical and Computer Engineering, Ph.D., University of Illinois
- Chang, Jason, Assistant Professor of History, Ph.D., University of California, Berkeley
- Chapman, Audrey, Professor of Community Medicine and Health Care, Ph.D., Columbia University
- Chapple, William, Professor of Physiology and Neurobiology, Ph.D., Stanford University
- Chaudhuri, Bodhisattwa, Assistant Professor of Pharmaceutical Science, Ph.D., New Jersey Institute of Technology
- Chazdon, Robin, Professor of Ecology and Evolutionary Biology, Ph.D., Cornell University
- Chen, Ming-Hui, Professor of Statistics, Ph.D., Purdue University
- Chen, Thomas, Professor of Molecular and Cell Biology, Ph.D., University of Alberta (Canada)
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Robert L. Phillips, Professor, Hartford Campus	Jack L. Roach, Professor, Sociology	Gerald W. Sazama, Associate Professor, Economics
Anthony R. Philpotts, Professor, Geology and Geophysics	Arthur D. Roberts, Professor, Curriculum and Instruction	Beldon H. Schaffer, Professor and Director, Institute of Public Service
Raymond J. Pichey, Professor, Social Work	Howard M. Roberts, Associate Professor, Mathematics	James H. Schmerl, Professor, Mathematics
Louis J. Pierro, Professor, Animal Genetics	Pamela L. Roberts, Associate Professor, Allied Health	Paul A. Scholl, Associate Professor, Educational Psychology
Guillermo Pilar, Professor, Physiology and Neurobiology	Thomas J. Roberts, Professor, English	Robert Schor, Professor, Physics
Barbara A. Pine, Professor, Social Work	James S. Rock, Extension Agent, Cooperative Extension Service	David B. Schroeder, Professor, Natural Resources Management and Engineering
Elizabeth L. Pinner, Professor, Social Work	William H. Roe, Professor, Education	R. Jack Schultz, Professor, Ecology and Evolutionary Biology
Edward T. Pitkin, Professor, Mechanical Engineering	Dorothy T. Rogers, Professor, Allied Health Professions	Tobias L. Schwartz, Associate Professor, Molecular and Cell Biology
John E. Post, Professor, Pathobiology	Vincent R. Rogers, Professor, Curriculum and Instruction	Ilse Schwinck, Associate Professor, Molecular and Cell Biology
Donald I. Potter, Professor, Metallurgy and Materials Engineering	Ronald P. Rohner, Professor, Family Studies	Charles F. Scott, Assistant Professor, Family Studies
Anthony Pratt, Associate Professor, Art	Jerry N. Rojo, Professor, Dramatic Arts	George M. Scott, Professor, Operations and Information Management
Ralph P. Prince, Professor, Agricultural Engineering	Antonio H. Romano, Dean, Liberal Arts and Sciences	H. Constance Scott, Assistant Professor, Nursing
Matthew W. Proser, Professor, English	Gabriel Rosado, Associate Professor, Modern and Classical Languages	James J. Scully, Professor, English
Donald W. Protheroe, Professor, Curriculum and Instruction	Barbara Rosen, Associate Professor, English	Edgar E. (Gene) Sellers, Assistant Dean, Graduate School
Virginia T. Pyle, Professor, Music	Philip Rosenberg, Professor, Pharmacology	William M. Servedio, Associate Professor, Kinesiology
Judith M. Quinn, Assistant Professor, Nursing	MaryLou Rosencranz, Professor, Family Studies	Anita M. Shaffer, Senior Extension Educator
John E. Rabenstein, Associate Professor, Educational Psychology	Mark Ross, Professor, Communication Sciences	Jerome A. Shaffer, Professor, Philosophy
Kenneth J. Randolph, Associate Professor, Communication Sciences	Marvin Rothstein, Professor, Information Management	Donald P. Shankweiler, Professor, Psychology
George N. Raney, Professor, Mathematics	Doffie Rotter, Associate Professor, Psychology	W. Wayne Shannon, Professor, Political Science
Victoria S. Read, Associate Professor, English	Julian B. Rotter, Professor, Psychology	Robert A. Shaw, Professor, Curriculum and Instruction
Howard A. Reed, Professor, History	John A. Roulier, Professor, Computer Science and Engineering	Robert E. Shaw, Professor, Psychology
Compton Rees, Jr., Associate Professor, English	John T. Rourke, Professor, Political Science	Stan Shaw, Professor, Educational Psychology
Charles D. Reese, Extension Professor, Labor Education	Paul F. Rovetti, Director, William Benton Museum of Art	Herbert H. Sheathelm, Professor, Educational Leadership
Melvyn L. Reich, Professor, Educational Psychology	Donald E. Rowe, Specialist IV A, Athletics	Mark R. Shibles, Professor, Educational Leadership
Joseph S. Renzulli, Distinguished Professor, Educational Psychology	Chauncy N. Rucker, Professor, Education	Jay S. Shivers, Professor, Kinesiology
David E. RePass, Professor, Political Science	Arnold Russek, Professor, Physics	
Richard R. Reynolds, Associate Professor, English		

Tomm B. Shockey, Assistant Professor, Modern and Classical Languages	James H. Stewart, Extension Professor, Labor Education Center	Theodore A. Toedt, Associate Professor, Industrial Administration
Howard A. Sholl, Professor, Computer Science	Donald G. Stitts, Professor, Agricultural and Resource Economics	Rudolf L. Tokes, Professor, Political Science
Harvey H. Shore, Associate Professor, Management and Organization	Frank A. Stone, Professor, Educational Leadership	Edmond C. Tomastik, Associate Professor, Mathematics
Esther W. Shoup, Extension Agent, Cooperative Extension Service	Gary, Storhoff, Professor, English	Terry J. Tondro, Professor, Law School
Eileen Silverstein, Professor, Law	Frederick A. Streams, Professor, Ecology and Evolutionary Biology	John L. Toner, Director, Athletics
Anthony P. Simonelli, Professor, Pharmacy	Ardelle Striker, Professor, Dramatic Arts	Mark E. Tourtellotte, Professor, Pathobiology
Giovanni Sinicropi, Professor, Modern and Classical Languages	Peter R. Strutt, Professor, Metallurgy	Francis R. Trainor, Professor, Ecology and Evolutionary Biology
Philip J. Sleeman, Professor and Director, Instructional Media and Technology	Archibald Stuart, Professor, Social Work	Edwin W. Tucker, Professor, Marketing
Erling A. Smith, Professor, Civil and Environmental Engineering	James D. Stuart, Professor, Chemistry	Frederick C. Turner, Professor, Political Science
Jerome Smith, Professor, Psychology	Michael Studdert-Kennedy, Professor, Psychology	Michael Turvey, Distinguished Professor, Psychology
Robbins B. Smith, Extension Professor	Linda R. Suess, Professor, Nursing	Ernest B. Uthegennant, Associate Professor
Robert J. Smith, Associate Professor, Mathematics	Thomas A. Suits, Professor, Modern and Classical Languages	Carmen L. Vance, Associate Vice President, Student Affairs
William P. Snavely, Professor, Economics	Donald W. Sundstrom, Professor, Chemical Engineering	Sjef van den Berg, Assistant Professor, Communication Sciences
Lester B. Snyder, Professor, Law	Vincent Suprynowicz, Professor, Electrical and Systems Engineering	Louis L. van der Heide, Professor, Pathobiology
Roman Solecki, Professor, Mechanical Engineering	Richard Swibold, Professor, Art	Thomas Vasil, Associate Professor, Music
Avo Somer, Professor, Music	Colin C. Tait, Professor, Law	Frank D. Vasington, Professor and Dean, Liberal Arts and Sciences
Ralph G. Somes, Adjunct Lecturer, Nutritional Sciences	Daniel W. Talmadge, Associate Professor, Poultry Science	John Veiga, Distinguished Professor, Management
Harold E. Spencer, Professor, Art	John Tanaka, Professor, Chemistry	Richard Vengroff, Professor, Political Science
Kenneth A. Speranza, Associate Professor, Pharmacy	Barbara E. Teasdale, Associate Professor, Allied Health Professions	Wayne J. Villemez, Professor, Sociology
Eugene Spiegel, Professor, Mathematics	Nechama Tec, Professor, Sociology	Robert T. Vinopal, Professor, Molecular and Cell Biology
Herbert F. Spirer, Professor, Information Management	Morton J. Tenzer, Associate Professor, Political Science	Charles I. Vinsonhaler, Professor, Mathematics
Donald F. Squires, Professor, Marine Sciences	Donald Tepas, Professor, Psychology	John W. Vlandis, Director, Admissions
Emily B. Stanley, Associate Professor, English	Thomas M. Terry, Associate Professor, Molecular and Cell Biology	George S. Vlasto, Assistant Professor, Physiology and Neurobiology
Bruce M. Stave, Distinguished Professor, History	Roger K. Thalacker, Director, Alumni Affairs	Murray Wachman, Professor, Mathematics
Edward Staveski, University Systems	Janice A. Thibodeau, Professor, Nursing	Anita M. Walker, Professor, History
Richard J. Stec, Director of Administrative Services, Computer Center	Evelyn B. Thoman, Professor, Psychology	Crayton C. Walker, Professor, Information Management
Frederick E. Steigert, Associate Professor, Physics	John C. Thompson, Associate Professor, Business Administration	David B. Walker, Professor, Public and Urban Affairs
Randolph P. Steinen, Associate Professor, Geological Sciences	Richard Thornton, Professor, Art and Art History	Altina L. Waller, Professor, History
Milton R. Stern, Distinguished Alumni Professor, English	David Tiberio, Associate Professor, Physical Therapy	Allen M. Ward, Professor, History
Norman D. Stevens, Director, University Libraries	Solomon Tilles, Associate Professor, Modern and Classical Languages	Seymour Warkov, Professor, Sociology
	Tuz Chin Ting, Professor, Computer Science and Engineering	Philmore B. Wass, Professor, Foundations and Curriculum
	Gerald Tirozzi, Professor, Education	Frederick W. Wassmundt, Associate Professor, Chemistry

James H. Watt, Professor, Communication Sciences

Steighton A. Watts, Jr., Assistant Professor, Political Science

Cora H. Webb, Extension Agent, Cooperative Extension Service

Terry R. Webster, Professor, Ecology and Evolutionary Biology

Edmund S. Wehrle, Professor, History

Patricia A. Weibust, Associate Professor, Curriculum and Instruction

Myron E. Weiner, Professor, Social Work

Thomas P. Weinland, Professor, Curriculum and Instruction

Barbara L. Welsh, Professor, Marine Sciences

Richard F. Wendel, Professor, Marketing

Donald F. Wetherell, Professor, Molecular and Cell Biology

Imanuel Wexler, Professor, Economics

Gene C. Whaples, Professor, Cooperative Extension System

Richard W. Whinfield, Professor, Educational Leadership

James H. Whitaker, Professor, Agricultural Engineering

Marguerite B. White, Professor and Associate Dean, Nursing

Elizabeth N. Whittlesey, Assistant Professor, Mathematics

Edward A. Wicas, Professor, Educational Psychology

William J. Wickless, Professor, Mathematics

Carol A. Wiggins, Vice President, Student Affairs and Services

Lloyd B. Wilhelm, Senior Extension Agent, Cooperative Extension Service

Jane R. Wilkie, Associate Professor, Sociology

Clara A. Williams, Assistant Professor, Nursing

Rollin C. Williams, Professor, Social Work

Martha Wilson, Professor, Psychology

William A. Wilson, Professor, Psychology

Sam L. Witryol, Professor, Psychology

Nicholas Wolfson, Professor, Law

Elliot Wolk, Professor, Mathematics

Arthur Lewis Wood, Professor, Sociology

Charles O. Woody, Professor, Animal Science

Arthur W. Wright, Professor, Economics

Barbara D. Wright, Associate Professor, Modern and Classical Languages

Yuen-Chi Wu, Professor, Social Work

D. Stuart Wyand, Professor, Pathobiology

Tsu-Ju J Yang, Professor, Pathobiology

John N. Yanouzas, Professor, Management

Philip L. Yeagle, Professor, Molecular and Cell Biology

Andrew Yiannakis, Professor, Kinesiology

David A. Yphantis, Professor, Molecular and Cell Biology

David A. Yutzey, Associate Professor, Psychology

Suleiman D. Zalatimo, Professor, Educational Psychology

Paul J. Zelanski, Professor, Art

M. Walter Zielyk, Associate Professor, Ecology and Evolutionary Biology

Florence Ziner, Professor, English

Appendix

ACADEMIC INTEGRITY IN GRADUATE EDUCATION AND RESEARCH

The assurance of integrity in graduate education and research is of paramount concern. Academic and scholarly activity at the graduate level takes many forms at the University of Connecticut, including, but not limited to, classroom activity, laboratory or field experience, and artistic expression. The Graduate School of the University of Connecticut upholds the highest ethical standards in its teaching, research, and service missions.

The Code of Conduct and the statement of Hearing and Appeal Procedures that follow pertain to matters involving graduate academic and scholarly misconduct. Responsibility for such misconduct requires intent but is not excused by ignorance. Thus, it is important for students to be conversant with the tenets of this Code. Matters of a disciplinary nature in which graduate students may become involved are to be addressed by Section III of the University's "Student Conduct Code," enforcement of which is within the purview of the Dean of Students.

The Dean of the Graduate School is charged with responsibility for coordinating the process by which an allegation of academic misconduct on the part of a graduate student is reported, investigated, and adjudicated. The Graduate Faculty Council, in accordance with the provisions of its By-Laws, is responsible for the formulation of policies and procedures pertaining to any and all matters of academic integrity in graduate education and research and to proper handling of allegations of violations. Members of the Graduate Faculty have primary responsibility to promote and to sustain throughout the University an environment in which the highest ethical standards of teaching, scholarship, research, and publication prevail. All members of the University community have a responsibility to uphold the highest standards of teaching, scholarship, research, and publication and to report any violation of academic integrity of which they have knowledge.

A. FORMS OF ACADEMIC AND SCHOLARLY MISCONDUCT

There are many forms of academic and scholarly misconduct. Categories of academic

and scholarly misconduct are identified below, and where appropriate, illustrations are given. These categories and illustrations are not intended to be exhaustive.

CHEATING could occur during a course (e.g., on a final examination), on an examination required for a particular degree (e.g., the doctoral General Examination, the Final Examination for the master's or the doctoral degree, or a foreign language translation test), or at other times during graduate study.

PLAGIARISM involves taking the thoughts, words, or ideas of others and passing them off as one's own.

MISREPRESENTATION could involve, for example, taking an examination for another student; submitting for evaluation work done by another individual; submitting the same work for evaluation in two or more courses without prior approval; unauthorized use of previously completed scholarly work or research for a thesis, dissertation, or publication; or making false, inaccurate, or misleading claims or statements when applying for admission to the Graduate School or in any scholarly or research activity, including publication.

UNAUTHORIZED POSSESSION, USE, OR DESTRUCTION OF ACADEMIC OR RESEARCH MATERIALS, which include, for example, examinations, library materials, laboratory or research supplies or equipment, research data, notebooks, or computer files.

COMPUTER VIOLATIONS include but may not be limited to unauthorized use, tampering, sabotage, or piracy of computer files or data and the like.

FABRICATION OR FALSIFICATION IN RESEARCH could involve, for example, deliberate falsification of experimental results or tampering in any way with actual experimental results or research data.

RESEARCH VIOLATIONS involving, for example, human subject violations (including ethical and social violations), animal care violations, inappropriate breaches of confidentiality, deliberate obstruction of the research progress of another individual, or deliberate disregard for applicable University,

local, State, or federal regulations.

CONFLICTS OF INTEREST such as, for example, unauthorized use of University or faculty academic or research facilities, materials, or resources for unapproved purposes; or allowing or attempting to use personal relationships (academic or otherwise) between a graduate student and any member of the University community to influence improperly academic judgments, scholarly evaluations, or decision making.

TAMPERING with any document or computer file pertaining to academics or research, including, for example, student academic records, official transcripts, laboratory journals, examination papers, and the like.

ANY ATTEMPT TO INFLUENCE IMPROPERLY, for example, by means of bribery or threat, any member of the faculty, the staff, or the administration of the University in any matter pertaining to academics or research.

AIDING OR ABETTING another individual in the planning or the commission of any act of academic misconduct.

ANY IMPROPRIETY OR ACT OF MISCONDUCT COMMITTED BY A GRADUATE STUDENT IN A TEACHING ROLE in the University, such as requesting or accepting a favor in exchange for a grade or engaging in any form of sexual harassment.

DELIBERATE OBSTRUCTION of an investigation of any act of academic or research misconduct.

B.ACADEMIC MISCONDUCT WITHIN A PARTICULAR COURSE

When an instructor believes there is sufficient evidence to demonstrate a clear case of academic misconduct within a particular course taught by that instructor, the instructor shall notify the student in writing, and also orally if possible, that unless the student requests a hearing to contest the instructor's belief, the instructor shall impose the appropriate academic consequences warranted by the circumstances. This should occur within 30 days of discovery of the alleged academic misconduct. The

appropriate academic consequence for serious offenses is generally considered to be failure in the course. For less serious offenses regarding small portions of the course work, failure for that portion is suggested, with the requirement that the student repeat the work satisfactorily for no credit.

The faculty member is responsible for saving the evidence of academic misconduct in its original form and need not return any of the papers or other materials to the student. Copies of the student's work and information about other evidence will be provided to the student upon request.

The student is given seven days from this first written notice to respond. If the student confesses or does not respond to the written notice of the instructor's belief of academic misconduct and appropriate consequences within the course, the academic consequences shall be imposed and a report submitted to the Dean of the instructor's school or college and to the Dean of the Graduate School.

If a student chooses to contest the instructor's belief of academic misconduct, the student must make a written request to the Office of the Dean of the Graduate School for a hearing to determine the facts of the alleged misconduct.

C. Allegations of Academic Misconduct

The following procedures apply in most instances where academic misconduct is alleged. In some cases, misconduct may be alleged for students who are supported through a federally funded fellowship or training grant program or through other federal grants (e.g., as a Research Assistant). In such instances, the procedures stipulated by agreements between the University and the federal government will prevail, including use of the University's policy and procedures for review of alleged unethical research practices. The procedures described in this document will apply to those allegations not subsumed by such agreements. In addition, standards governing the professional conduct of students in particular fields may be relevant in certain settings (e.g., clinical, counseling, therapeutic, etc.). Allegations of professional misconduct based on such standards may be brought forward under this code.

Whenever an alleged violation of this code has been filed with the Office of the Dean of the Graduate School, the accused is to be notified in writing within ten working

days. The written statement filed with the Office of the Dean should describe fully the alleged misconduct and the circumstances involved (i.e., the name of the individual alleged to be responsible for the misconduct; date, time, place of the alleged misconduct; name(s) of person(s) who might have been involved in or have knowledge of the alleged misconduct; and any other pertinent information). The statement must bear the signature(s) of the individual(s) submitting it, and it must be dated. A copy of the statement will be sent to the accused within ten working days of its filing. The Dean of the Graduate School will discuss the allegation of academic misconduct with the dean of the relevant school or college. The Dean of the Graduate School will then make a determination regarding whether the alleged violation should be resolved at the Graduate School level in accordance with the hearing and appeal procedures contained herein or whether the alleged violation should be referred to the field of study, academic department, school or college in which the infraction is thought to have occurred. (Such a determination will also be made when an accused student, pursuant to section B, requests a hearing.)

If the alleged violation is referred to the field of study, academic department, school or college, then it will be addressed and resolved in accordance with the applicable hearing and appeal procedures followed by that particular unit. The Office of the Dean of the Graduate School will notify the accused in writing of this determination. In the event that the alleged violation is referred to the field of study, academic department, school or college, the Office of the Dean of the Graduate School should be notified of any outcome of the case. In either event, the Dean of the school or college in which the alleged misconduct occurred is notified that a report of alleged misconduct has been received.

If the alleged violation is to be resolved at the Graduate School level, the report of alleged misconduct is referred to the Office of the Dean of the Graduate School, which confirms the allegation(s) and the existence of supporting evidence. The Office reviews the allegation(s) and the evidence to determine specifically which provision(s) of this Code is/are alleged to have been violated. If the allegation(s) cannot be supported, or if there is insufficient evidence to proceed with an inquiry, the matter is dropped. If the allegation(s) can be supported, and if sufficient evidence exists to warrant

an inquiry, the Office of the Dean of the Graduate School notifies the appropriate Associate Dean (either the Associate Dean of the Graduate School at Storrs or the Associate Dean of the Graduate School at the Health Center). The Office also notifies the accused by Certified Mail of the charge(s). A copy of this Code is sent with the letter of notification to inform the accused of his or her rights and of the hearing and appeals procedures to be followed. The Office also notifies the Dean of the school or college in which the alleged misconduct occurred of the charges.

D. Graduate hearing committee

The Graduate Hearing Committee is composed of three voting members (two members of the graduate faculty and one graduate student). The Executive Committee of the Graduate Faculty Council selects them with advice from appropriate Deans. The appropriate Associate Dean of the Graduate School (Storrs or Health Center) conducts the hearing as a non-voting member. A member of the Hearing Committee cannot have a direct involvement in the case under consideration. The accused will be notified in writing of the composition of the hearing committee and will have the right to object to the appointment of any committee member on the grounds that the member's participation would jeopardize the party's right to a fair hearing. The Associate Dean conducting the hearing will determine whether any objections have merit and will judge whether a panel member will be seated.

The proceeding, although formal, is not a court proceeding and the Hearing Committee will not be bound by the procedures and rules of evidence of a court of law. The Committee's decision is to be made by majority vote and is to be based on clear and convincing evidence submitted at the hearing, including evidence regarding intent.

The Associate Dean will conduct the hearing, ordinarily in private unless the accused student and accuser agree to an open hearing, using the following steps:

1. Identification of the accused student, the person bringing the allegation, any representative of the accused, and the hearing panel.
2. The accused student may make an opening

statement.

3. The presentation of evidence by the person alleging the misconduct. Evidence includes written statements, testimony of the person alleging the misconduct, oral testimony of witnesses, physical exhibits, and evidence of intent.
4. Questioning of witnesses and accuser, and rebuttal of evidence.
5. Presentation of evidence by the accused student. Evidence includes written statements, testimony of the accused student, oral testimony of witnesses, physical exhibits, and evidence of intent.
6. Questioning of the accused student and witnesses, and rebuttal of evidence.
7. Recall of any hearing participants.
8. Summation statements by the person alleging the misconduct and by the accused student.

During the hearing the accused student:

1. May decline to make statements. Refusal to answer questions shall not be interpreted as evidence of guilt.
2. May decline to appear at the hearing. Refusal to appear shall not be interpreted as evidence of guilt. The hearing panel will consider the evidence in the absence of the accused student.
3. May be advised for consultation purposes during the hearing. The student's consultant may not address the hearing panel or others at the hearing unless permitted by the Associate Dean conducting the hearing.

The hearing panel's decision is to be forwarded to the student, the person alleging the misconduct, the Dean of the school or college in which the alleged misconduct occurred, and to the Dean of the Graduate School within two weeks from the date of the hearing.

If the student is found not to be responsible for graduate academic misconduct, then no academic consequence may be imposed and the case is considered officially closed, and all records associated with the hearing are removed from the student's permanent academic file.

In the event that the student is found responsible for graduate academic

misconduct, the panel may recommend to the Dean of the Graduate School academic and/or university sanctions. The Dean will examine the record of the hearing and will weigh the severity of the recommended sanction(s) against the seriousness of the student's misconduct. The Dean then will meet with the student before making a final judgment about sanctions. The Dean may impose any academic sanctions and may recommend to the Dean of Students any university sanctions to be imposed.

Decisions of the Dean of the Graduate School can be appealed to the Provost for University Affairs by the student. An appeal is not a new hearing. It is a review of the record of the original hearing. The accused student and a consultant of his or her choice have the right to review the accused student's file and other records of the hearing. An appeal may be sought on two grounds:

1. On a claim of error in the hearing procedure. Appeals on such grounds must be presented, specifically described, in writing within five days (excluding weekends and holidays) of the announcement of the decision.
2. On a claim of new evidence or information material to the case that was not available at the time of the hearing. Appeals on such grounds must be presented, specifically described, in writing within five days (excluding weekends and holidays) of the new evidence having been discovered.

The Provost for University Affairs shall have the authority to dismiss an appeal not sought on proper grounds.

If an appeal is upheld, the Dean of the Graduate School shall refer the case with procedural specifications back to the hearing panel.

NOTE: A graduate student is defined as any individual who holds admission to the Graduate School to pursue either a graduate certificate or a graduate degree, as well as any other individual enrolled in a graduate-level course who is not strictly an undergraduate degree or an undergraduate certificate student.

This policy was approved and adopted by the Board of Trustees on November 10, 1998.

GRADUATE SCHOOL COMPLAINT RESOLUTION PROCEDURE

The University of Connecticut is a community of scholars and researchers committed to integrity, freedom of inquiry and intellectual pursuit, respect for individuals and the rights of others, and tolerance for both individual differences and differing points of view. Accordingly, a fundamental responsibility of the Graduate School is to foster durable, harmonious, and productive working relationships among graduate students, post-doctoral fellows, faculty members, and administrators. For the purposes of this document, a graduate student is defined as any individual who holds admission to the Graduate School to pursue either a graduate certificate or a graduate degree, as well as any other individual enrolled in a graduate-level course. A postdoctoral fellow is defined as a person who (1) holds a research or other doctoral degree and is not pursuing a graduate degree, and (2) is working in a temporary position with a focus on further training in research and scholarship. A faculty member is defined as a person holding an academic appointment in one or more academic units at the assistant professor level or higher. An administrator is defined as a person functioning in an administrative role and having contact and interaction with graduate students, postdoctoral fellows, and faculty, whether holding a faculty position concurrently or not.

Occasionally, difficult situations may arise. This document establishes a process by which graduate students, postdoctoral fellows, and faculty can pursue fair and timely resolution of complaints resulting from their in-teractions with faculty, administrators, academic programs or departments, or other graduate students or post-doctoral fellows. Many of these situations involve matters of personal sensitivity and need to be resolved amicably and with a minimum of legalistic maneuvering. The procedures outlined here are intended as means to resolution and not as means to cast blame or deliver recriminations. Thus, it is expected that parties involved in these processes shall suffer no reprisals or harassment and shall not be penalized in any way for doing so. Further, if several individuals.

For an issue to be considered under this policy, the party (or parties) bringing the complaint may not be anonymous. If one

wishes to alert the Graduate School about an issue while remaining anonymous, the University of Connecticut Reportline (<https://www.compliance-helpline.com/uconncares.jsp>) may be used for this purpose, although progress toward resolution ultimately may require the complainant to disclose his or her identity at some point.

This document does not apply in matters of academic misconduct, disciplinary issues, harassment, conflict of interest, or any other area in which the University has in force other policies or procedures governing the handling of specific kinds of complaints and allegations. After reviewing a complaint submitted under this policy, the Associate Dean of the Graduate School with jurisdiction (Storrs or Health Center) may determine that the issue falls under the jurisdiction of the Responsibilities of Student Life: The Student Code, the Academic Integrity in Graduate Education and Research policy, the Policy Statement on Harassment, the Policy on Conflict of Interest in Research, or other such policy. In such instances, the Associate Dean will notify the parties involved and refer the complaint to the appropriate authorities.

In the areas of research and publication, the Graduate School further subscribes to the tenets of responsible conduct in research as set forth in *On Being a Scientist: Responsible Conduct in Research* (1995) by the National Academy of Sciences, as periodically amended.

Grounds for complaints brought forward by graduate students, postdoctoral fellows, and faculty under this policy may fall within one or more categories, including but not limited to:

- alleged inappropriate or unfair application of policies or regulations of a particular degree program, department, school or college, or of the University;
- any alleged personal conflict or interaction that adversely impacts either the rights of a member of the academic community or the academic/research environment;
- alleged inappropriate or unfair decisions related to work assignments,

- research reports, or publications;
- inappropriate or unfair decisions related to the award of graduate student financial support within the purview of the Graduate School;
- alleged disregard of official University requirements, policies, or regulations;
- alleged tampering with or misuse of research data or University resources or property; and
- alleged inappropriate interference or intimidation by another individual in the performance of one's academic or research duties.

Step One: Informal Resolution

A person who believes that he or she has a complaint must attempt first to resolve the issue by discussing the matter directly with the individual(s) involved.

Step Two: Mediation

If the attempt to resolve the complaint informally is not successful, the individual(s) may submit a concise yet complete written summary of the issue to the Coordinator of Graduate Studies or Department Head of the complainant's unit ("the local mediator") to seek a mediated resolution. In the event that the issue involves the designated mediator or if the mediator is not available, the Associate Dean of the Graduate School may designate another individual to serve in that role. In the event that the complaint involves the Associate Dean, then the Associate Dean from the other campus (Storrs or Health Center) will administer the process.

The written summary must (1) bear the signature of the complainant(s), (2) be specific in terms of the circumstances and individuals involved in the situation resulting in the complaint, (3) include detailed information about the complainant's attempt to resolve the issue informally, and (4) be submitted within thirty (30) calendar days of the last unsuccessful attempt to resolve the matter informally.

As soon as feasible, ordinarily within 10 calendar days of receipt of a complaint, the mediator will confer with the cognizant Associate Dean of the Graduate School (either Storrs or Health Center) to determine whether the mediation process would more appropriately be pursued within the local unit (program or department) or by the Graduate School.

If the complaint remains in the local unit ("local mediation"), the mediator will confer with all parties involved in the issue to seek a resolution. If this effort is successful, the mediator will write a memorandum stating the specifics of the issue, the steps taken in the mediation process, and the agreed-upon resolution. Copies of the memorandum will be signed by and distributed to the principal parties and to the Associate Dean of the Graduate School. This should occur within thirty (30) calendar days of the decision to pursue local mediation. If the mediator is not successful in resolving the issue, he or she will notify the principal parties and the Associate Dean of the Graduate School of that fact in writing within thirty (30) calendar days of the decision to pursue local mediation.

If the mediation of the complaint is to be handled by the Graduate School, the Associate Dean or his or her designee will carry out the mediation process described in the preceding paragraph, following the same time-lines.

If the attempt to resolve the issue through mediation is unsuccessful, the complainant may seek a formal hearing determination.

Step Three: Formal Hearing

The Graduate Hearing Committee is composed of three voting members (two members of the Graduate Faculty and one non-faculty person--either a graduate student or a postdoctoral fellow, respectively). The Associate Dean of the Graduate School will select the members of the Committee. Any person who served as a mediator for the complaint shall not serve as a member of the Committee. The Associate Dean of the Graduate School (Storrs or Health Center) shall preside over the hearing as a non-voting member. A member of the Hearing Committee cannot have a direct involvement in the matter being contested. The complainant will be notified in writing of the composition of the Hearing Committee and may object to the appointment of any voting member on the grounds that the member's participation would jeopardize his/her right to a fair hearing. The Associate Dean

presiding over the hearing will determine whether such objections have merit and may, when necessary, appoint substitute voting member(s).

The Hearing Committee shall not be bound by the procedures and rules of evidence of a court of law. Both the complainant(s) and the party (or parties) who are the object of the complaint may be accompanied by no more than one (1) support person for consultation purposes during the hearing. This support person shall not address the Hearing Committee or others at the hearing unless permitted by the presiding Associate Dean. The hearing shall consist of the following steps:

- 1) Identification of the principal parties involved in the case, the support persons (if any), and the members of the Hearing Committee.
- 2) The complainant may make a succinct opening statement and then present the substance of his/her complaint via statements, witnesses, documents and/or other evidence. This presentation is at the discretion of the presiding Associate Dean, who may exclude irrelevant, repetitive or inherently un-reliable evidence.
- 3) The person(s) who is (are) the object(s) of the complaint may then make an opening statement and present the evidence supporting his/her efforts and responses to the complainant(s) via statements, witnesses, documents and/or other evidence. This presentation is at the discretion of the presiding Associate Dean, who may exclude irrelevant, repetitive or inherently unreliable evidence.
- 4) Members of the Hearing Committee may question the parties involved in the hearing.
- 5) At the discretion of the presiding Associate Dean, the parties may make succinct summations.

All hearings will be recorded and the University will maintain the audio recordings as required by Connecticut state law and are the property of the University. Participants are prohibited from making their own recordings. Upon written request, an accused person or complainant may review the audio recording and make appropriate

arrangements for it to be transcribed at the University. Arrangements and all associated costs involved in the transcription will be the responsibility of the requesting individual.

Following the hearing, the Hearing Committee shall deliberate in private and determine by majority vote of its voting members whether the complaint has merit, and if so, any recommended remedy or sanction. Within ten (10) business days of the hearing, the Associate Dean who presided over the hearing will communicate the Committee's findings and any recommended remedy or sanction to: (i) the complainant(s); (ii) the participating individuals involved in the issue; (iii) the local official; and (iv) the school or college dean(s) of the parties involved.

Step Four: Appeals

The complainant(s) may file an appeal of the Hearing Committee's decision with the Dean of the Graduate School. The appeal itself shall be a review of the record of the hearing, not a new hearing. The appeal may be based on one or more of the following grounds:

- 1) a claim of error in the hearing procedure that substantially affected the decision.
- 2) a claim of new evidence or information material to the issue that was not available at the time of the hearing and that may be sufficient to alter the decision of the Hearing Committee.
- 3) a claim of unfair conduct by a Hearing Committee member or presiding officer.

A request for an appeal must be received by the Dean of the Graduate School within five (5) business days of notification of the decision by the Associate Dean, except under extraordinary circumstances.

The Dean shall have the authority to dismiss an appeal not based on proper grounds. If the appeal is upheld, the Dean shall refer the issue back to the hearing panel with further instructions. The Dean's decision on such appeals shall be final.

Amendments and Revisions to the Document

This document may be reviewed and amended on an ongoing basis as needed. Suggested modifications shall be submitted to the Associate Dean, who shall submit them

to the Executive Committee of the Graduate Faculty Council for consideration and action, with advice from the Graduate Student Senate.

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Adopted by the Graduate Faculty Council
on October 17, 2007 .

Modified on May 23, 2008 .

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