CONVERSION NOTES

- This is the Graduate Catalogue. Most references to Undergraduate programs and options have been removed and put in the Undergraduate Catalogue.
- This catalogue was created by converting HTML content into a PDF file. The complex inter-linkage of references was only partially duplicated, but all data from the HTML structure is in this PDF file. The most complete information on any Degree or Program will be under the College or School, in the Department's Academic Offerings.

Hyperlinks

There are hundreds of hyperlinks in the text. Most of them link to pages in the PDF, but some link back to the website, and may link to web pages with <u>current information that is not applicable to</u> <u>this catalogue</u>. To find out where the link goes: hover the cursor over a hyperlink. If the cursor becomes a hand with pointing finger, it is a local link that will go to a page in the PDF. If the cursor becomes a hand with pointing finger and a box with a "W" in it, the link goes to the web.

Courses specific to a Program are listed under the College/School under the *Departments and Programs* link.

Odd Characters

The conversion program changed lower case "st" into a ligature: **statistical** It sometimes changed apostrophes and hyphens into a diamond with a question mark:

advisor

The Find/Replace function does not recognize these characters, so they could not be replaced.

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Welcome to the University of Vermont's Graduate Online Catalogue

On this Web site, you'll find numerous ways to access information about academic programs, courses, policies, and requirements.

Those individuals already familiar with the paper catalogue may also find it useful to consult the <u>graduate</u> <u>table of contents</u>.

Students at The University of Vermont are responsible for knowing and complying with all requirements for their respective degrees as stated in the catalogue.



* The University of Vermont reserves the right to make changes in the course offerings, degree requirements, charges, regulations, and procedures contained herein as educational and financial considerations require, subject to and consistent with established procedures and authorizations for making such changes.

Notes on using the online catalogue:

The official UVM bar is at the top left of each **official** Catalogue page.

The green arrow identifies links that point **outside** the official catalogue site [External Link].

UVM Academic Calendar

:: Academic Year 2002-2003

Fall 2002			
Events	Dates	Days of Week	
First Day of Classes	August 26	Monday	
Labor Day Holiday	September 2	Monday	
Add/Drop, Pass/No Pass, Audit Deadline	September 9	Monday	
Fall Recess	October 18	Friday	
Last Day to Withdraw	October 25	Friday	
Thanksgiving Recess	November 27-29	Wednesday-Friday	
Last Day of Classes	December 4	Wednesday	
Reading and Exam Period	December 5-13	Thursday-Thursday,Friday	
Reading Days	December 5,7-8,11	Thursday, Saturday- Sunday, Wednesday	
Exam Days	December 6,9-10,12-13	Friday, Monday-Tuesday, Thursday-Friday	
Reception for December Graduates	December 14	Saturday	

Spring 2003

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First Day of Classes	January 13	Monday
Martin Luther King Holiday	January 20	Monday
Add/Drop, Pass/No Pass, Audit Deadline	January 27	Monday
Presidents' Day Holiday	February 17	Monday
Town Meeting Day Recess	March 4	Tuesday
Spring Recess	March 17-21	Monday-Friday
Last Day to Withdraw	March 14	Friday
Honors Day	April 25	Friday
Last Day of Classes	April 30	Wednesday
Reading and Exam Period	May 1-9	Thursday-Thursday, Friday
Reading Days	May 1,3-4,7	Thursday, Saturday-Sunday, Wednesday
Exam Days	May 2,5-6,8-9	Friday, Monday-Tuesday, Thursday-Friday
Commencement	May 18	Sunday

Revised by the Faculty Senate 5.14.98

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- <u>Civil and Environmental Engineering</u>
- Communication Sciences
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- Counseling
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- Geology
- <u>Historic Preservation</u>
- Materials Science
- <u>Mathematics</u>
- Mechanical Engineering
- Microbiology and Molecular Genetics
- Molecular Physiology and Biophysics
- Movement Sciences and Rehabilitation
- Natural Resource Planning
- Nursing
- Nutrition and Food Sciences
- Pathology
- Pharmacology
- Physics
- Plant and Soil Science
- <u>Statistics</u>
- Water Resources
- Wildlife and Fisheries Biology
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- Master of Physical Therapy
- Master of Public Administration
- Master of Social Work
- Master of Education
 - Curriculum and Instruction
 - Educational Leadership
 - Educational Studies
 - Higher Education and Student Affairs Administration
 - Interdisciplinary Major (Self-Designed)
 - Reading and Language Arts
 - Special Education
- Master of Arts in Teaching
 - Biology
 - Botany
 - Chemistry
 - English
 - French
 - Geography
 - Geology
 - German

- Greek
- History
- Latin
- Mathematics
- Physics
- Master of Science for Teachers
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 - <u>Mathematics</u>
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 - Educational Leadership and PolicyStudies
- Doctor of Philosophy
 - Anatomy and Neurobiology
 - Animal Science
 - Biochemistry
 - Biology
 - Botany
 - <u>Cell and Molecular Biology</u>
 - <u>Civil and Environmental Engineering</u>
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 - Electrical Engineering
 - Materials Science
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The University of Vermont and Burlington Community

The University of Vermont was founded in 1791, taking its place among the handful of colleges founded in this country in the eighteenth century for the higher education of young colonials and Americans of the first postrevolutionary generation. The University was the fifth New England college chartered (after Harvard, Yale, Dartmouth, and Brown), the second established by a state to grant the bachelor s degree, and the twentieth in the nation to do so.

The University pioneered in yet another area of society, that of giving women equal status with men in higher education, by becoming the first institution in the country to admit women to full membership in the scholarly society, Phi Beta Kappa.

Though it has enjoyed a long tradition of substantial private support, University development has been identified closely with that of the State since 1791, when Vermont s founding General Assembly granted a charter to the University and set aside about 29,000 acres throughout the State with the intent that rents from this land would support the new educational institution. The same Vermont General Assembly established that the bylaws of the University should give no preference to any religious sect or denomination or discriminate against any, making The University of Vermont the first in this country to go on public record as supporting freedom of religion upon its campus.

The University of Vermont consists of the Colleges of Agriculture and Life Sciences, Arts and Sciences, Engineering and Mathematics, Education and Social Services, Medicine, and the Graduate College; the Schools of Allied Health Sciences, Business Administration, Natural Resources, and Nursing; and Continuing Education.

With a population of about 39,000, Burlington is Vermont s largest city. The greater Burlington area of approximately 132,000 inhabitants is divided between pleasant suburbs and picturesque farms and woodland. Burlington enjoys magnificent views of Lake Champlain and the Adirondack Mountains to the west and Vermont s Green Mountains to the east. Easily available outdoor activities include swimming, boating, hiking, climbing, and skiing. For more information, please visit the <u>City of Burlington</u> Website.

Some 200 miles northwest of Boston, 300 miles north of New York City, and about 100

miles south of Montreal, Burlington is served by major airlines, buses, and Amtrak, and is contiguous to Vermont s interstate highway system.

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Graduate Honors and Awards

University Scholars

The University Scholar Awards program was established by the Graduate Collegeto recognize outstanding and sustained contributions of University faculty toresearch and scholarship in their disciplines. Each year, four faculty membersare selected for this award. For the academic year 2001-2002 the recipients wereDonald DeHayes (Natural Resources) and Catherine Donnelly (Nutrition and FoodSciences). For the academic year 2002-2003 the recipients are Charles Goodnight(Biology), Rachel Johnson (Nutrition and Food Sciences), Joni Seager (Geography)and Denise Youngblood (History).

Graduate Teaching Fellow Award

Each year, a number of graduate students who serve as Graduate Teaching Fellows are recognized for their teaching excellence; one of those is named Graduate Teaching Fellow of the Year. The most recent recipient of the Graduate Teaching Fellow of the Year Award is Glenn Bailey, Psychology, 2002.

Graduate College Research Day

Graduate College Research Day. In the spring each year, the Graduate College recognizes formally the research undertaken by graduate students. A full day is devoted to talks and poster presentations by students from all of the disciplines. The entire University community has the opportunity to see and hear about the high quality research that graduate students conduct.

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Resources for Research and Scholarship, and Cultural Activities

The University Libraries

Located in the Bailey/Howe Library, the main unit of the University libraries, are the services and print and electronic collections relating to the humanities, social sciences, and many of the sciences. This library holds the largest book and map collection in Vermont, and maintains a representative collection of major periodicals, scholarly journals, indexes, and abstracting services. It is a depository for United States and Canadian government publications and for U.S. patents and trademarks. The Special Collections Department includes the Wilbur Collection of Vermontiana, rare books, literary and historical manuscripts, and the papers of many individuals associated with the state and the federal government. A separate Chemistry and Physics Library is located in the Cook Physical Sciences Building. Collections in medicine and the health sciences are located in the Dana Medical Library. Materials in the Libraries @ collections are accessible through the online catalog, Voyager. A wide choice of electronic resources are made available through the Libraries information gateway, Sage. Sage provides access, in a fully integrated way, to Voyager, full text magazines and newspapers, a wide variety of indexes, a number of specialized reference works, and the World Wide Web. Sage is reached from workstations in the libraries, from residence rooms, and from locations off campus. Audiovisual materials are located in the Media Resources Department of the Bailey/Howe Library and in the Dana Medical Library. The Library Research Annex (located directly east of the corner of East Avenue and Carrigan Drive) contains many older and less used monographs, serials, periodicals, and government documents from the Libraries. It also houses the UVM archives; many large, modern manuscript collections; and other older and rare printed materials from the Special Collections Department. It has public hours and a delivery service.

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Computing and Information Techonolgy

Computing and information technology plays a vital role in supporting the learning, research, and service needs of the University. The Division of Computing and Information Technology (CIT) provides computing, networking, and telephone service for all UVM students, faculty, and staff. CIT support includes the following:

- Full Internet access, including electronic mail (e-mail) and access to the World Wide Web (WWW). The UVM network is available throughout the campus, including residence hall rooms. Off-campus students have a choice of free basic dial-up access, or specially priced full Internet access. E-mail and the Web are increasingly being incorporated into instruction and research. Students can register for courses by telephone and via the World Wide Web. UVM is also a member of the Internet 2 Consortium.
- Computer labs equipped with Macintosh, Windows, and X-Windows (Unix) workstations. These areas are staffed by helpful consultants and include software for word processing, spreadsheets, statistics, scientific visualization, and a powerful geographic information system. All areas are networked, allowing access to UVM's host systems as well as to national and international resources available through the Internet. For advanced computing needs, the Academic Resource Facility (the ARF) is equipped with highend specialized hardware for exploring and developing computing, visualization, and multimedia applications.
- A variety of host systems. Students use a multiprocessor IBM AIX (Unix) cluster named "Zoo" for e-mail, Web publishing, statistics, geographic information systems, and advanced academic work and research. From the time they indicate their intent to enroll, students are eligible for Zoo accounts.
- Sales and service for Macintosh and Windows personal computers from major vendors. Students, from the time they indicate their intent to enroll at UVM, can purchase Macintosh and Windows computers from the UVM Microcomputer Depot (see http://cit.uvm.edu/mcsv for details). UVM recommends purchasing computers through the Microcomputer Depot; these systems are configured to work on the UVM network and come with the most comprehensive support UVM provides.
- A modern digital telephone system providing low-cost long distance and including voicemail for all on-campus students, faculty, and staff.
- Free publications, tutorials, consulting support, and a help line. CIT maintains an

active role promoting and supporting information technology on campus.

Many other parts of the University provide specialized computing resources designed to meet the needs of specific programs. These include facilities provided by the Colleges of Engineering and Mathematics, Education and Social Services, Medicine, Arts and Sciences, and Agriculture and Life Sciences, the Schools of Business Administration, Natural Resources, and Nursing, the Language Laboratory, and Libraries and Media Services. In addition, Continuing Education provides teleclassrooms and a Digital Media Development Laboratory, and Residential Life provides networking and computer labs in the residence halls.

See CIT's World Wide Web page at <u>http://www.uvm.edu/cit/</u> or contact CIT by sending e-mail to cit@uvm.edu.

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GRADNET

GRADNET is the electronic forum where graduate students, faculty, and staff discuss issues, research topics, graduate student life, and announcements that pertain to the graduate community. Information on subscribing is provided at Graduate Student Orientation or at the Graduate College. For more information, visit the <u>Graduate College</u> Web Site **1**.

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Robert Hull Fleming Museum

<u>The Fleming Museum</u> is an important art center and multicultural resource for the UVM community. It houses a collection of more than 18,000 works, including American and European paintings and works on paper, American decorative arts costumes, and outstanding collections of art and artifacts from African, ancient Egyptian, Pacific, and Native American cultures. In addition to the permanent galleries, changing exhibitions are shown throughout the year. Lectures, workshops, films, performances, and exhibition openings are held in conjunction with exhibitions and are free to UVM students, faculty, and staff.

The Fleming Museum provides access to the collections and exhibitions for study and research. Undergraduate and graduate students from the departments of art, history, English, education, and anthropology have assisted with the production of exhibitions, art classes for children, and community family day. Interns receive academic credit for their work. Over 40 work study students each semester work in the Museum in the areas of education, public relations and marketing, security, and exhibition design and construction.

Stocked with books, posters, and items related to the exhibitions, the Museum Store is an inviting resource at gift-giving time. The Fleming has more than 700 members, with a student membership category available.

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Sponsored and Institutional Research

The University received over \$100 million in sponsored funding, nearly \$80million of this total for research, during fiscal year 2002. UVM ranks nationallyas one of the 100 leading universities in terms of federal sponsored researchsupport. In addition, there are a substantial number of faculty research projectssupported, in part, by institutional research committees. Graduate studentsfrequently serve as integral parts of faculty research projects in a wide rangeof disciplines.

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The George Aiken Lectures

The University of Vermont's George D. Aiken Lectures are a permanent tribute to the former Dean of the United States Senate and Governor of Vermont for his many years of service to the people of the state and nation. Supported by an endowment and held annually at The University of Vermont, the programs, which began in 1975, provide a platform for distinctive views on critical American issues and is the University's major annual public-policy forum. The tradition of keeping the Aiken Lectures free and open to the public endures. For more information, contact UVM Division of Continuing Education office.

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The Vermont Seminars

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The Vermont Seminars program augments the focus of teaching and research at the University and enriches educational offerings by bringing to campus individuals from a variety of walks of life, including faculty, statespersons, distinguished citizens, and leaders in special fields.

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The George Bishop Lane Artists' Series

Established in 1955 with a generous gift from the Lane family, the Lane Series features a diverse season of performing arts events including classical music, early music, opera, theatre, jazz, and folk music. Each year brings a variety of artists from established international favorites to promising new talent.

Serving as a link among many constituencies, the Lane Series finds its audience, volunteers, and advisors from the students, faculty, and staff of UVM as well as the community at large. In addition to the presentation of performances, the Lane Series ensures students and public direct interaction with performers through master classes, workshops, residencies, lectures, and receptions. The Friends of the Lane Series serve as advisors and volunteer many hours of service; corporate and private sponsors throughout the state provide financial support.

<u>The Lane Series</u> **●** is a part of Continuing Education. The offices are located at 30 South Park Drive in Colchester, VT (802) 656-4455.

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:: Academics	Educational and Living European	
Catalogue 2002-03	Educational and Living Expenses	
Courses	The tuition and fee charges listed here are for 2002-2003 only and are subject to change in future years.	
Academic Offerings	<i>Tuition.</i> The Tuition and fee charges listed here are for 2002-2003 only and are subject	
Colleges & Schools	to change in future years. Tuition - Rates for the 2002-2003 academic year are as follows: For Vermont residents, \$347 per credit hour; \$4,160 flat rate for 12 hours and	
Faculty	\$347 per credit hour in excess of 12 hours. For nonresidents of Vermont, \$867 per cr hour; \$10,405 flat rate for 12 hours, and \$867 per credit hour in excess of 12 hours. The lower rates for Vermont residents are made possible by a subvention to the University from the State of Vermont.	
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Graduate Student Fees

Application Fee. All applications for admission must be accompanied by a \$25 application fee. This fee is nonrefundable.

Continuous Registration Fee: GRAD 900. A fee of \$100 per semester is charged each graduate student who has enrolled for all credits required in the degree program but who has not completed all degree requirements (e.g. comprehensive examination, thesis defense) in order to maintain continuous enrollment. Students who have not cleared grades of I or XC, but who have enrolled for all required course work must pay this fee.

Comprehensive Fee. Based on the number of credits enrolled per semester, Students pay a Comprehensive Fee each semester according to the following schedule: 0-3 (including Continuous Registration), no fee; 4 credits, \$58, 5 credits, \$68, 6 credits \$76, 7 credits, \$86, 8 credits, \$96; 9-11 credits, \$104, 12 or more \$277.

Student Health Fee. A health fee is included in the full-time Comprehensive Fee. Students enrolled for fewer than 12 credit hours are eligible for University Health Services by paying a health fee of \$148 per semester.

Student Accident and Sickness Insurance. Through an arrangement with a commercial insurance company, students are able to procure health insurance which is designed to provide coverage for services beyond those provided by the Center for Health and Wellbeing. There is an additional charge for this extended coverage beyond the student health fee. The 2000-01 cost for one year s coverage for single students is \$668. Married students may obtain coverage for their spouse and children. Further details are available from the Center for Health and Well-being. To participate in this insurance, the student health fee must be paid each semester as well as the additional insurance premium.

Reactivation Fee. Reactivation following withdrawal without an approved leave of absence requires payment of a \$25 reactivation fee.

Advanced Degree Fee. The fee charged to each advanced degree recipient is as follows:

Doctoral Degree	\$25
Master's Degree (with thesis)	\$20

Master s Degree (without thesis) \$10

This fee may be paid at any time but must be paid prior to the deadline established for submission of doctoral dissertations or master st theses for each of the three graduation periods.

It is the responsibility of the degree candidate to pay the appropriate advanced degree fee at the Graduate College Office, 333 Waterman, in order to have a degree awarded.

Housing and Living Expenses. The University offers a variety of housing opportunities. Jeanne Mance Hall at the northwest edge of campus offers dormitory accommodations for graduate students. Each room is furnished with a bed, dresser, wardrobe, and refrigerator. A kitchen and laundry center is located on each floor. Computer and study areas are located on the first floor. The maximum rates for the August 19, 2000 May 18, 2001 fall and spring semesters are \$410 per month for a single room. Summer rates are lower. In addition, a limited number of University-owned apartments are available for married and graduate students. The apartments are located at Fort Ethan Allen in Colchester on a bus route five miles from the main campus. For detailed information about either housing option, contact the Ethan Allen Housing Office, 1007 Ethan Allen Avenue, Colchester, VT 05446 (802-654-1735). If considering University housing, contact the Housing Office as soon as possible.

Graduate students may participate in a variety of meal plans from Marriott Food Services and take their meals at a number of locations around campus.

Rents in the Burlington area vary from approximately \$100 per week for a single furnished room to \$700-\$800 or more per month for a two-bedroom apartment. A single student should expect minimum overall living expenses of approximately \$1000 per month.

Bill Adjustment. A refund of 100 percent will be processed for enrollment reduction effected prior to the end of the second week of classes, a refund of 50 percent will be allowed for reductions during the third week of classes; a refund of 25 percent during the fourth week; no refund will be processed thereafter. At the end of the semester, an audit will be made of each student's record. If the audit reveals that total credit hour enrollment is greater than at the end of the specified drop period, the student will be financially liable for the total enrollment. Students will be charged for all hours as specified in policy statements regarding tuition.

Withdrawals. A student may voluntarily withdraw from the University by notifying the Graduate Dean and the Registrar. The student will receive a refund in accordance with the bill adjustment policy. Date and time of withdrawal normally will be the date the withdrawal notice is received by the Registrar.

Dismissal. If a student is suspended or dismissed, a refund will be processed according to the bill adjustment schedule.

Death. In case of death of the student, tuition which has been paid for the semester during which the death occurs will be refunded fully.

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Graduate Residency Regulations, In-State Status Regulation

The Vermont Legislature has established a lower rate of tuition for students who are Vermont residents. These regulations define eligibility requirements for in-state status classification. All students at The University of Vermont and State Agricultural College (UVM) shall be assigned in-state or out-of-state status classification consistent with these regulations. A Vermont domicile must be established for a student to be eligible for instate status.

In-State Status Classification Rules

- 1. Domicile shall mean a person s true, fixed, and permanent home. It is the place at which one intends to remain indefinitely and to which one intends to return when absent.
- 2. As one element of domicile, a student must reside in Vermont continuously for one year prior to the semester for which in-state status is sought.
- 3. A residence established for the purpose of attending UVM shall not by itself constitute domicile.
- 4. An applicant becoming a student within one year of first moving to the state shall have created a rebuttable presumption that residency in Vermont is for the purpose of attending UVM and/or acquiring in-state status for tuition purposes.
- 5. A domicile or residency classification assigned by a public or private authority neither qualifies nor disqualifies a student for UVM in-state status. Such classification may be taken into consideration, however, in determining the student status at UVM.
- It shall be presumed that a student who has not reached the age of majority (18)holds the domicile of his/her parents or legal guardian(s).
- Receipt of financial support by a student from his/her family shall create a rebuttable presumption that the student domicile is with his/her family, regardless of whether the student has reached the age of 18.
- 8. A student who has not reached the age of 18 whose parents are legally separated or divorced shall be rebuttably presumed to hold the domicile of the parent with legal custody.
- 9. A student of parents legally separated or divorced may be granted in-state status if a noncustodial or joint custodial parent is domiciled in Vermont and has

contributed more than 50 percent of financial support for at least one year prior to the semester for which in-state status is sought.

- The burden of proof as to eligibility for in-state status rests with the student.
 Eligibility must be established by clear and convincing evidence.
 In-State Status Classification Documentation
- 11. The student must submit with the application form all relevant information.
- 12. The classification decision shall be based upon information furnished by the student, information requested of the student, and other relevant information available consistent with University policies and procedures and legal guidelines.
- 13. Testimony, written documents, affidavits, verifications, and/or other evidence may be requested.
- 14. The student s failure to produce information requested may adversely affect the decision for instate status.
- 15. A student or others furnishing information may request the deletion from documents of irrelevant private data.

In-State Status Classification Appeals

16. The decision of the Residency Officer must be appealed in writing to the Residency Appellate Officer within thirty (30) calendar days of the date of the Residency Officer s written decision. Appeal to the Residency Appellate Officer is the final appeal at UVM.

In-State Status Reclassification

- 17. A student who does not qualify for in-state status classification may reapply for such classification each subsequent semester.
- 18. In-state status classification becomes effective the first semester following the date of successful application.

Re-Examination of Classification Status

 Classification status may be re-examined upon the initiative of the Residency Officer in the exercise of sound discretion. Circumstances such as periodic enrollment may be cause for reexamination.

Adopted by the Board of Trustees, December 14, 1974; amended June 13, 1981, and May 2, 1987. These regulations took effect with the 1987-88 academic year.

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Graduate Fellowships, Assistantships, Traineeships, Stipends, and Grants

Students who wish to be considered for fellowships as well as admission must submit completed applications, with supporting materials, by March 1 of the academic year preceding that for which application is made, or the program s application deadline, whichever is earlier. Any applicant requesting fellowship, assistantship, or traineeship support must submit an official copy of the Graduate Record Examination score report.

Application for fellowships is made by completing the appropriate section on the application form. No separate form is required except where indicated in the descriptions below.

Tuition scholarships accompanying Graduate Teaching, College, Research, and Student Affairs Assistantships do not cover physical education activity courses, nor do they cover courses numbered below 200, except upon prior approval of the Dean of the Graduate College.

Graduate College Fellowships

The Graduate College offers ten fellowships in support of master s degree programs in the social sciences and humanities. Five fellowships provide a one-year stipend (currently \$5,000) and a full tuition scholarship (36-credit hour maximum) for the degree program (one-two years). The remaining five fellowships provide the tuition scholarship only.

The fellowships are open to prospective students in the social sciences and humanities when they apply to graduate study. Holders of Graduate College Fellowships are required to carry full-time enrollment towards an advanced degree. The fellowships are not renewable.

Graduate Teaching Assistantships and Graduate Research/Teaching Assistantships

Graduate Teaching Assistantships are awarded by many of the departments offering

graduate work. Graduate Teaching Assistants are generally appointed for nine months with stipends averaging \$12,100 for 2002-2003. Normally, Teaching Assistants enroll for a minimum of six to a maximum of ten hours per semester. In addition to the stipend, the assistantship award includes a tuition scholarship covering the number of credit hours specified in the award letter, but not to exceed ten credit hours per semester, during the period of the assistantship.

Graduate Research/Teaching Assistantships are awarded in some of the science departments offering graduate work. Research/Teaching Assistants may be appointed for nine or 12 months with stipends generally ranging from \$12,000 to \$17,500 and a tuition scholarship (see limits in Teaching Assistantship description). Approximately 20 hours of research and teaching effort per week is required of Graduate Teaching and Research/Teaching Assistants, and Assistants must expect that more than one academic year will be necessary to complete the requirements for the master s degree. If a Teaching or Research/Teaching Assistant is a candidate for the doctoral degree, at least four calendar years must be anticipated for completion of the academic program. Generally, assistants are appointed in the departments in which they are doing graduate work.

Student Affairs Assistantships

Within the Division of Student Affairs, a number of assistantships are made available annually. Each assistantship provides graduate students a professional opportunity to support and develop the Division's goals and activities in its work with students. The candidates selected to fill these positions are assigned administrative and advisory positions in the residence halls, departments within the Division, and in other student services areas. Graduate students who hold Student Affairs Assistantships will gain valuable experience in the areas of group advising, administration, personnel advising, and educational programming. Such positions are open to either married or single students who have been accepted for graduate work in any of the academic programs of the University. The majority of graduate students are enrolled in the Higher Education and Student Affairs graduate program. Selection is based upon academic record, character, recommendations, and quality of related experiences. A personal interview is required. Requests for applications and additional information should be addressed to the Division of Student Affairs, Nicholson House, 41 South Prospect Street, Burlington, VT 05405-0094. Questions can also be directed via e-mail: stuaffastn@ uvm.edu. Completed applications must be received by January 1 for full consideration. Applications received after January 1 will be considered only for unanticipated openings. Appointments will be announced on or about April 1.

Graduate Assistantships

Graduate Assistantships are generally available when a faculty member receives a grant from a source external to the University. The range of payments for 12-month appointments for 2002-2003 is \$21,500 to \$26,000; assistants on 9-month appointments receive proportionate payments. Part of the salary is for tuition at the instate rate with a maximum enrollment of ten credit hours each semester and nine credit hours during the summer session (12-month appointments).

Approximately 20 hours of effort per week on the project is required of graduate assistants, and more than one academic year will be necessary for the completion of the master's degree, and more for completion of the doctoral degree. For information on the availability of assistantships, contact the chairperson of the department.

Graduate Fellowships/Traineeships

Graduate Fellowships/Traineeships are available in some departments through grants from various state and federal agencies. Fellowships/Traineeships generally include both a stipend and tuition scholarship.

UVM Opportunity Fellowships

The Graduate Dean s Office administers fellowships to increase campus diversity in graduate programs. Opportunity Fellowships, which are generally funded at a level equivalent to Graduate Teaching Assistantships, are available to students in all UVM graduate programs. Please indicate interest in these fellowships on the application form.

Summer Research Stipends

To promote graduate scholarship and to assist students in completing their programs in a timely and successful manner, the Graduate College provides a limited number of summer research stipends to graduate students. The stipends, awarded competitively, are designed to help students devote the summer to their dissertation, thesis, or final research project. Details about the stipends are available at the Graduate College Web site, <u>http://www.uvm.edu/~gradcoll</u>.

Travel Mini-Grants

The Graduate College provides mini-travel grants to help students underwrite the cost of attending conferences where they will present papers or posters based upon their research. The Mini-Grants Program is administered by the Graduate Student Advisory Council. Funds are awarded three times per year. The student's home department must provide a match. Further information on the Mini-Grants Program is available at the Graduate College Web site, <u>http://www.uvm.edu/~gradcoll</u>.

Other Fellowships

Fellowships established by private donors are available periodically in some departments.

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Graduate Financial Aid

The University has several options designed to help graduate students finance their UVM education. In order to ensure that the financial aid application process is understandable and accessible, each applicant is assigned to a "service team" within the Financial Aid Office. Whenever a student has a question about his or her financial aid status, he or she may call upon the members of the service team who will be familiar with the applicant's particular circumstances.

Limited amounts of need based financial aid are available for students enrolled in the UVM Graduate College. Much of the available aid consists of low interest student loans, repayable after graduation or withdrawal from the University. Those students with financial need who do not receive supplemental assistance in the form of assistantships or fellowships may find that their need based financial assistance is insufficient to meet their entire cost of attendance. It is important, therefore, for graduate students to fully assess their costs and resources before making a final decision about attendance.

The University provides, through the Office of Financial Aid, long-term loans and /or work study jobs for students based upon demonstrated need remaining after all assistantships, fellowships, traineeships, tuition grants, and any other sources of financial assistance are considered.

In order to be considered for financial assistance, an applicant must meet the following requirements:

- 1. U.S. citizenship (or permanent resident status).
- 2. At least half-time enrollment (6 credit hours).
- 3. Financial need as determined by federal eligibility requirements.

Application for Financial Aid

Application for financial aid should be made as soon after application for admission to the University as possible. In order to apply for aid, graduate students are required to complete the Free Application for Federal Student Aid (FAFSA). The priority deadline for filing a FAFSA is March 1 of each year. Applications mailed after that date will be reviewed according to the date of submission. The UVM Title IV School Code is 003696.

This number is required on the FAFSA. Applicants may also be asked to provide copies of prior year income tax returns and other supporting documentation by the financial aid office. If you are a midyear transfer, a Financial Aid Transcript from your current school must be mailed to the Financial Aid Office. If you are starting your graduate program in the summer, it is important for you to contact your service team to determine what FAFSA you need to complete for summer financial aid. After admission to the University and upon submission of required documentation, applicants will be notified of financial aid eligibility.

For Additional Information

More detailed information about the financial aid opportunities and procedures may be obtained from the UVM Office of Financial Aid located in 330 Waterman Building.

Service Teams	Phone #	E-Mail Address
Team A-F	802-656-8530	<u>team.a-f@uvm.edu</u>
Team G-M	802-656-8531	<u>team.g-m@uvm.edu</u>
Team N	802-656-2474	<u>team.n@uvm.edu</u>
Team O-Z	802-656-8532	<u>scholarships@uvm.edu</u>

The Financial Aid Office Fax number is: (802)-656-4076. Please visit our Web site at www.uvm.edu/fao for additional information on financial aid.

Financial Aid Refund Policy

A student who cancels, withdraws for personal or medical reasons, is suspended or is dismissed will receive an adjustment of charges in accordance with the following schedule. Medical withdrawals require approval of the University Student Health Center.

- 100% tuition and fees credit adjustment prior to the end of the first two weeks of classes.
- 85% tuition and fees credit adjustment through approximately 3 per cent of the semester.
- 67% tuition and fees credit adjustment through approximately 60 per cent of the semester.
- No adjustment after the 60 per cent point of the semester.

Due to federal requirements, financial aid recipients who withdraw during the semester will receive their refund based on current federal guidelines. Room and meal plan payments will be refunded on a prorated basis. Note: The effective date of any cancellation or withdrawal is the date the student's dean receives such notification in writing. The dean may recommend to the Registrar that an exception be made to this policy only in extenuating circumstances. In no case will an adjustment be made after the first day of classes of the following semester.

Changes in Credit Hour Load

A student who adds courses during the semester will be billed additional tuition and fees applicable to the adjusted credit hour load. A student who drops courses during the semester will receive a tuition credit based upon the effective date as described above. A student who withdraws from a course during the semester will receive a tuition credit based upon the effective date as described above. However the course will remain on the student's record. Financial aid will be reviewed and adjusted for any changes to the course load.

Satisfactory Academic Progress for Financial Aid Recipients

In order to maintain eligibility for financial aid, matriculated undergraduate and graduate students must progress at a rate that ensures completion of their degree programs within a reasonable time frame. Beginning with the first semester of study in a degree program at the University of Vermont, a federal financial aid recipient is required to accumulate earned hours totaling at least 75 per cent of the number of hours attempted. Each student's progress will be measured at the end of each year of attendance to ensure adherence to this standard.

All students must have attained at least a 2.0 overall cumulative grade point average in order to continue to qualify for assistance.

Any student not meeting the standard described above will be placed on Financial Aid Probationary Status for a one year period (during which aid eligibility will be maintained). Should the student not meet the required credit standard or cumulative grade point average standard by the end of that probationary year, the student's eligibility for additional financial aid will be withdrawn until the student has met the required standard.

Students whose aid is withdrawn for not maintaining academic progress according to the standard outlined above may appeal their loss of aid by writing to the Director of Financial Aid. The decision to withhold aid eligibility may be overridden by the Director and a five member appeals committee in circumstances which warrant special consideration. Such circumstances may include but are not limited to medical emergencies or family crises which resulted in the student's not meeting the stated requirements.

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Support Services for Graduate Students

Graduate Student Advisory Committee

The Graduate Student Advisory Committee (GSAC), comprised of graduate student representatives from various graduate programs, provides a forum for discussion of graduate student issues and assists the Dean and the Executive Committee in matters affecting graduate students. Issues considered by GSAC include academic matters, professional development and student life. GSAC sponsors occasional social events and conducts a mini-grants program to support, in part, expenses associated with student travel for professional purposes.

Center for Cultural Pluralism

The Center coordinates efforts to create a campus culture based on equality, respect for all members of our community, and appreciation of diversity. The Center is a highly visible, tangible symbol of commitment to inclusiveness and multicultural education. It provides a central meeting place for individuals and groups working on diversity issues and facilitates interaction and cooperation among students, faculty, and staff, and with members of the larger Burlington community as well.

Under the direction of the Special Advisor to the Provost, the Center develops policy and strategies for increasing diversity at UVM, including efforts to improve recruitment and retention of students, faculty and staff of color, transformation of the curriculum to include more multicultural perspectives, and creation of a campus climate in which each individual feels safe and valued in the classroom, residence halls, offices, and co-curricular activities. The Center oversees programming of social, cultural, and educational events throughout the year, works with standing committees devoted to various diversity efforts, conducts research, and develops grant proposals for additional funding for diversity initiatives from foundations.

In addition to the Special Advisor to the Provost and staff, the Center houses the Race and Culture Course, meeting spaces, a classroom, art gallery, resource library, multicultural and religious and spiritual organizations, several handicapped-accessible offices available for campus-wide use, and offices for graduate assistants and visiting scholars. The Center for Cultural Pluralism is located in Allen House on the University Green at the corner of Main Street and South Prospect, (802) 656-8833. Visitors are welcome.

ALANA Student Center

The primary goal of the Center is to help meet the academic, cultural, social, and emotional needs of ALANA (African, Latino/a, Asian, and Native American) students by providing resources and support. The Center offers information and programs to promote a just multiracial campus climate. Several ALANA student groups (Alianza Latina, Asian American Student Union, Womyn of Color, Wahbeenowin: the seventh generation, and New Black Leaders) meet at the Center. The Center has a small computer lab, meeting/study space, kitchen, and television lounge.

<u>The ALANA Student Center</u> is located in Blundell House on Redstone Campus, (802) 656-3819.

Career Services

Career Services staff assist first year students through graduate students from all majors. Whether you need to select a major, develop some career direction, choose a summer job, find an internship, identify a work-study position, prepare a resume, network with alumni, or get hired after graduation

Career Services is located at Living/Learning Center, E Building, 656-3450. Email:career@granola.uvm.edu. Hours: Mon., Tues., Thurs., and Fri. 8:00 a.m. to 5:00 p.m.; Wed. 8:00 a.m. to 7:00 p.m.

Center for Health and Wellbeing

<u>The Center for Health and Wellbeing</u> is available to all students (including incoming first year medical students as of 9/00) for primary and preventive health care (including: Medical, Women s and Sports Therapy Clinics; mental health counseling, nutrition counseling, psychiatry, drug and alcohol services, health promotion and education). Most of these services are covered by the <u>health fee</u>. Students entering the University are required to furnish the Center with a complete immunization record to include two valid measles (Rubeola) vaccinations and a medical history. A physical exam is not required.

The Burlington area has a large and sophisticated medical community of which the Center for Health and Wellbeing is a part. Students requiring consultations are referred to specialists in the area. When necessary, hospitalization is usually arranged at the Fletcher Allen Hospital, a teaching hospital located on the edge of the main campus. Note: The University Health Center (UHC) is not the UVM Student Health/Medical Clinic (CHWB).

The University also makes available to students an optional health insurance plan that provides hospitalization and some outpatient benefits. Full-time students who do not provide proof of adequate health insurance at the time of registration will be required to purchase the University sponsored plan.

The Counseling Center is a campus resource which provides confidential counseling, consulting and educational outreach programs. Many graduate students consult the staff regarding academic stress, relationships, mental health issues and future planning.

<u>The Counseling Center</u> is located on the corner of Main St. and So. Williams. Hours are from 8-4:30, M-Thu, and 8-5:30 F during the academic year and 8-4:30 during vacations. The Counseling Center is part of the Center for Health and Wellbeing and is free to students who have paid the health fee or are registered for six credits or more.

Services for Students with Disabilities

Services and accommodations for students with disabilities are coordinated by three offices: The Office of Specialized Student Services certifies and coordinates services for students with physical disabilities, learning disabilities, and attention deficit disorders; The Counseling Center certifies and coordinates services for students with emotional disabilities; The Center for Health and Wellbeing certifies and coordinates services for students with ongoing medical conditions. Services to equalize opportunities in the classroom and course accommodations are arranged through these offices. Students are encouraged to inform the staff of the appropriate certifying office of any needed services or accommodations at least two weeks in advance of each semester. Current and comprehensive documentation of disability will be required.

The Office of Specialized Student Services, A170 Living/Learning Center, 656-7753, TTY 656-3865. The Counseling Center, 146 So. Williams St., 656-3340. Center for Health and Wellbeing, 425 Pearl St., 656-3350. ADA/504 Compliance, 428 Waterman, 656-8280.

Graduate College Workshops

Each year the Graduate College sponsors workshops designed to support the professional development of graduate students. Examples of topics considered include teaching techniques and student learning, personal writing and evaluating student writing, grant writing, developing web pages, mentoring, ethical conduct of research, and more.

Exercise and Wellness

The University s extensive physical education facilities are available for recreational use by faculty, staff, and students during hours not devoted to specific instruction. Swimming, handball, skating, tennis, squash, and many other individual and group activities are available for interested participants.

In addition to the physical education facilities, the University has an active Outing Club. There are many opportunities in Vermont for participation on either an organized or informal level in such activities as hiking, camping, sailing, swimming, skiing, running, bicycling, and other outdoor activities.

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- Orthopedic Surgery (ORTH)
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- Physical Therapy (PT)
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Catalogue 2002-03	Courses in Anatomy & Neurobiology (ANNB)	
Courses	ANNB 201 - Human Gross Anatomy Lectures and detailed regional dissections emphasize functional anatomy of major	
 About Catalogue Courses 	systems (e.g. musculoskeletal, cardiovascular, nervous). Prerequisite: Permission. Credits: 6.00	
	ANNB 202 - Human Neuroscience	
 Browse Courses by Subject 	Structural basis of human nervous system function: spinal reflex organization, sensory/motor systems, clinical examples, brain dissection, cell biology of neurons	
Course Search	& glia, membrane excitability, & synaptic transmission. Credits: 3.00	
Academic Offerings	ANNB 261 - Neurobiology	
Colleges & Schools	Focus on molecular and cellular aspects of the nervous system. Electrical signaling, synaptic transmission, signal transduction, neural development,	
Faculty	plasticity and diseases. Prerequisites: BIOL 103 or ANPS 19 & 20. (Same as BIOL 261).	
Policies & General	Credits: 3.00	
Information	ANNB 301 - Medical Gross Anatomy Individualized laboratory instruction, small group conferences, clinically correlated	
Catalogue Archives	lectures. Basic anatomical information. Emphasis on importance of the relationship between normal human structure and function. Credits: 8.00	
	ANNB 302 - Neuroscience	
	A correlated presentation of the neuroanatomy and neurophysiology of the mammalian central nervous system. Lectures, demonstrations, laboratory, and clinical correlation workshops. Credits: 4.00	
	ANNB 306 - Techniques in Neurobiology	
	Discussion, demonstration of techniques used to study the nervous system. Experience with light, fluorescence, electron microscopy; microsurgical procedures; electrophysiological stimulating, recording techniques; neuronal	
	tracing techniques. Prerequisite: Neuroscience 302. Credits: 3.00	

ANNB 311 - Medical Histology

Microscopic study of cells, tissues, and organs emphasizing the correlation of structure and function.

Credits: 3.00

ANNB 320 - Developmental Neurobiology

Provides fundamental knowledge of cell-to-cell interactions necessary for proper development and organization of the nervous system. Topics include pattern formation, neuronal differentiation, axon guidance, and target interactions. Prerequisite: Neuroscience 302 or consent of instructor. Alternate years. Credits: 3.00

ANNB 323 - Neurochemistry

Biochemistry of the nervous system. Topics include ion channels, synaptic function, neurotransmitters and neuropeptides, signal transduction, and hormones in brain function. Prerequisite: 302 or Cell and Molecular Biology 301 or Biochemistry 301, 302. Alternate years. Credits: 3.00

ANNB 342 - Spec Dissections in Gross Anat

A detailed and independent study of a single anatomical region, utilizing gross, microscopic, and embryologic materials. Prerequisite: 301. Credits: 1.00

ANNB 381 - Sem in Anatomy & Neurobiology

Research presentations and critical review of the literature in various areas of anatomical and neurobiological sciences. Credits: 1.00

ANNB 382 - Sem in Anatomy & Neurobiology

Research presentations and critical review of the literature in various areas of anatomical and neurobiological sciences. Credits: 1.00

ANNB 391 - Master's Thesis Research

Credit as arranged. Credits: 1.00 to 18.00

ANNB 395 - Special Topics

A supplementary course to the medical neuroscience course (Neuroscience 302) designed for graduate students which will provide more detailed information concerning selected topics in neurobiology. Prerequisite: Neuroscience 302. Credits: 3.00

ANNB 491 - Doctoral Dissertation Research

Credit as arranged. Credits: 1.00 to 18.00

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Catalogue 2002-03	Courses in Animal Science (ASCI)
Courses	ASCI 205 - Equine Reproduction and Management In-depth investigation of equine reproduction and physiology, mare and stallion
About Catalogue Courses	endocrinology, breeding techniques, processing semen, embryo transfer, parturition, neonatal foal care, and marketing in the equine industry. Prerequisite: ASCI 001, ASCI 115, or Instructor permission.
Browse Courses	Credits: 3.00
by Subject	ASCI 215 - Physiology of Reproduction
Course Search	Fundamental principles of the physiology of reproduction with emphasis on, but not limited to, farm animals. Prerequisite: 120 or instructor permission.
Academic Offerings	Credits: 4.00
Colleges & Schools	ASCI 216 - Endocrinology Physiology of endocrine and autocrine/paracrine systems and growth factors.
Faculty	Prerequisite: Course in both biology and physiology; one course in anatomy desirable. Alternate years, 2001-2002.
Policies & General	Credits: 3.00
Information	ASCI 220 - Lactation Physiology
Catalogue Archives	Physiological mechanisms that control and affect lactation in domestic and laboratory animals with emphasis on dairy cattle. Includes mammary anatomy, development and health, and milk synthesis. Prerequisite: One chemistry course
	and one course in anatomy and physiology, or Instructor permission. Credits: 3.00
	ASCI 230 - Agricultural Policy & Ethics
	Examines American agriculture and policies from various perspectives - historical, political, ecological, technological, social, economic, and ethical. Emphasis on contemporary issues, policy options, future developments. Prerequisite: Junior standing or permission. Credits: 3.00
	ASCI 263 - Clin Top:Companion Animal Med
	The use of case studies in companion animal medicine to develop clinical, analytical, and diagnostic studies. Prerequisites: ASCI 118, 141, junior standing.

Credits: 3.00

ASCI 264 - Clin Topics:Livestock Medicine

An advanced study of diseases in cattle, sheep, goats, and pigs, emphasizing disease detection, pathobiology, treatment and prevention. Prerequisites: ASCI 118, ASCI 141, Junior standing. Credits: 3.00

ASCI 272 - Adv Top:Zoo,Exotic,Endang Spec

An exploration of modern zoo philosophy and ethics and the extent of human intervention necessary for the preservation of endangered species. Prerequisite: ASCI 171 and Instructor permission. Credits: 3.00

ASCI 281 - Animal Sciences Career Seminar

Discussion and workshop activities exploring careers in animal and food sciences. Includes resume preparation and interview training. Prerequisite: Junior standing ASCI major. UG only. Credits: 1.00

ASCI 282 - Graduate Seminar

Reports and discussions of problems and special investigations in selected fields. One hour, required each year for graduate students. Credits: 1.00

ASCI 297 - Spec Topics in Animal Science

Written courses in seminars or topics beyond the scope of existing offerings. See Schedule of Courses for specifics. Prerequisite: Department chair's permission. May enroll more than once for maximum of 15 hours.

ASCI 298 - Spec Topics in Animal Science

Written courses in seminars or topics beyond the scope of existing offerings. See Schedule of Courses for specifics. Prerequisite: Department chair's permission. May enroll more than once for maximum of 15 hours. Credits: 4.00

ASCI 391 - Master's Thesis Research

Chair permission. Credits: 1.00 to 9.00

ASCI 392 - Independent Literature Rsch

Reading and literature research culminating in a paper on a topic of current interest in Animal Sciences. Prerequisites: Permission. Credits: 3.00

ASCI 491 - Doctoral Dissertation Research

Chair permission. Credits: 1.00 to 12.00

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Catalogue 2002-03	Courses in Anthropology (ANTH)
Courses	ANTH 200 - Field Work in Archaeology Methods and techniques of archaeological investigation in field situations and the
About Catalogue Courses	laboratory analysis of data. Prerequisites: 24, one 100-level course in anthropology or history, instructor's permission. Summers only. Credits: 6.00
 Browse Courses by Subject 	ANTH 210 - Archaeological Theory Development of archaeology from the 19th century to the present including
Course Search	concepts of form, space and time, intellectual attitudes, current systems theory, and research strategies. Prerequisites: ANTH 024, one 100-level Anthropology
Academic Offerings	course; or HP 201; or graduate standing in Historic Preservation Program, or HIST 121, HIST 122, or HIST 149. Alternate years.
Colleges & Schools	Credits: 3.00
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ANTH 220 - Develop & Applied Anthropology

Seminar examines the application of anthropological knowledge and methodologies to alleviate social problems around the world, with a special focus on the cultural politics of expertise. Prerequisites: ANTH 23, three 100-level courses, or instructor's permission. Alternate years. Credits: 3.00

ANTH 225 - Anthropological Theory

Schools of anthropological thought examined in relation to data on non-Western societies and the historical and social context in which the anthropologist works. Prerequisites: ANTH 021, one 100-level course.

Credits: 3.00

ANTH 228 - Social Organization

Examination of the basic anthropological concepts and theories used in the crosscultural analysis of kinship and marriage. Prerequisites: ANTH 021, one 100-level course.

Credits: 3.00

ANTH 283 - Colonialism

The concepts, ideologies, and practice(s) of colonialism within a sociocultural and historical context emphasizing the cultures of the colonizer and the colonized and the interaction thereof. Prerequisites: ANTH 021, one 100-level course, or ANTH 021, six hours in the social sciences. Alternate years. Credits: 3.00

ANTH 284 - Microethnography

Tape recorders and video cameras used to explore human patterns of communication; specifically phonemic, paralinguistic, haptic and kinesic detail, as well as ethnographic semantics. Prerequisite: 28 or Linguistics 101. Credits: 3.00

ANTH 290 - Meth of Ethnographic Field Wrk

Examination of theoretical and ethical premises of field work methodology with practical experience in participant observation, interviewing, the genealogical method, and the recording of data. Prerequisite: Twelve hours of Anthropology. Alternate years.

Credits: 3.00

ANTH 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Prerequisites: ANTH 021, one 100level course.

Credits: 6.00

ANTH 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Prerequisites: ANTH 021, one 100level course. Credits: 4.00

ANTH 297 - Advanced Readings & Research

Prerequisite: Junior/Senior standing. Credits: 1.00

ANTH 298 - Advanced Readings & Research

Prerequisite: Junior/Senior standing. Credits: 3.00

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	Courses in Art (ART)
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Courses	ART 201 - Arch, Landscape and History (See Historic Preservation 201.) Prerequisites: six hours advanced studies in art
 About Catalogue Courses 	and architecture, permission. UG only. Credits: 3.00
Browse Courses by Subject	ART 282 - Seminar in Western Art Selected topics in Western Art. See Schedule of Courses for specific offerings each semester. Prerequisites: six hours of 100-level Art History courses, including
Course Search	three hours in the area of the seminar; junior or senior standing. UG only. Credits: 3.00
Academic Offerings	ART 295 - Special Topics in Studio Art
Colleges & Schools	Advanced work in existing departmental offerings. Prerequisite: instructor's permission only. UG only.
Faculty	Credits: 3.00
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Catalogue 2002-03	Courses in Biochemistry (BIOC)	
Courses	BIOC 212 - Biochemistry of Human Disease Molecular approach to genetic, metabolic, and infectious diseases; recombinant	
About Catalogue Courses	DNA technology and medicine; molecular biology of cancer. Prerequisites: Chemistry 42 or 141. Credits: 3.00	
 Browse Courses by Subject 	BIOC 213 - Biomedical Biochemistry Lab Introduction to basic principles underlying biochemical analysis in areas of	
Course Search	biomedical interest. Prerequisites: Concurrent registration in BIOC 212 or permission. One hour per semester.	
Academic Offerings	Credits: 1.00	
Colleges & Schools	BIOC 301 - General Biochemistry Survey for science majors. Chemistry, structure, metabolism, and function of	
Faculty	proteins, carbohydrates, lipids; enzymes, bioenergetics and respiratory processes. Prerequisites: Chemistry 141, 142 or 143, 144, and departmental permission.	
Policies & General	Credits: 3.00	
Information	BIOC 302 - General Biochemistry	
Catalogue Archives	Survey for science majors. Amino acids, nucleic acids, protein synthesis, cellular and physiological control mechanisms. Prerequisites: Chemistry 141, 142 or 143, 144, and departmental permission. Credits: 3.00	
	 BIOC 303 - Biochemistry Lab Experimental work designed to demonstrate important principles and to illustrate methods and techniques of modern biochemistry. Prerequisite: BIOC 301, BIOC 302 or BIOC 305-BIOC 306, or concurrent registration therein, and Department permission. Credits: 1.00 to 4.00 	
	BIOC 305 - Medical Biochemistry A survey course in human biochemistry, with particular emphasis on medical applications. Prerequisite: For medical students only. Credits: 3.00	

BIOC 306 - Medical Biochemistry

A survey course in human biochemistry, with particular emphasis on medical applications. Prerequisite: For medical students only. Credits: 3.00

BIOC 307 - Special Topics in Biochemistry

Areas of biochemistry not treated in concurrent advanced course offerings. Prerequisites: 301, 302 or 305-306; Chemistry 162. Credits: 3.00

BIOC 308 - Special Topics

Areas of biochemistry not treated in concurrent advanced course offerings. Prerequisites: 301, 302 or 305-306; Chemistry 162. Credits: 3.00

BIOC 320 - General Enzymology

General consideration of enzyme nomenclature, purification, assay, kinetics, mechanisms, cofactors, active sites, subunit structure, allosteric and regulatory properties, and control of multienzyme systems. Prerequisites: BIOC 301, BIOC 302, or BIOC 305-BIOC 306, and CHEM 162. Credits: 3.00

BIOC 331 - Nucleic Acids

The study of structure, composition, organization, function, synthesis, and metabolism of nucleic acids and nucleoprotein particles and matrices in eukaryotic organisms. Prerequisite: BIOC 301-BIOC 302, BIOC 305-BIOC 306. Credits: 3.00

BIOC 352 - Protein:Nucleic Acid Interact

Crosslisting: MMG 352. Credits: 3.00

BIOC 371 - Physical Biochemistry

Protein interaction, solubility and fractionation, electrophoresis, sedimentation, phase rule study, diffusion, viscosity, spectrophotometry, and related topics. Prerequisite: BIOC 301, BIOC 302 or BIOC 306, CHEM 160 or CHEM 162. Credits: 3.00

BIOC 375 - Cancer Biology

Overview of cancer biology for health science students. Foundation for cancer research. Lecture format; interdisciplinary viewpoint; outside lectures. Prerequisites: BIOC 301-BIOC 302 or BIOC 305-BIOC 306; BIOC 212 under special circumstances. Credits: 3.00

BIOC 381 - Seminar

A review of recent developments and current literature in the various fields of biochemistry. Prerequisite: Department permission. Credits: 1.00

BIOC 391 - Master's Thesis Research

Credit as arranged. Credits: 1.00 to 12.00

BIOC 392 - Independent Literature Rsch

Reading and literature research culminating in a paper on a topic of current interest in biochemistry. Credits: 1.00 to 12.00

BIOC 491 - Doctoral Dissertation Research

Credit as arranged. Credits: 1.00 to 12.00

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Courses in Biology (BIOL)

BIOL 202 - Quantitative Biology

Mathematical concepts applied to biological problems such as growth, metabolism, temperature effects, kinetics, and graphic interpretation of data. Statisftics not treated. Prerequisite: At least one intermediate level course in biology, Math. 9, or instructor's permission. Credits: 3.00

BIOL 205 - Adv Genetics Lab

Lecture/discussions alternated with laboratories to provide experiences with genetic techniques. Bench work and data analysis emphasized. Prerequisite: 101. Credits: 4.00

BIOL 209 - Field Zoology

Collection, identification of invertebrates; September field work. Half of student's collection is general, identified to family; half is one or two groups identified to species. Prerequisite: 102 or 104.

Credits: 4.00

BIOL 212 - Comparative Histology

Anatomy of tissues, chiefly vertebrate. Tissue similarities and specializations of organs among the various groups of animals in relation to function. Prerequisite: 104.

Credits: 4.00

BIOL 217 - Mammalogy

Classification, identification, morphology, evolution, and distribution of mammals. Prerequisite: 102. Credits: 4.00

BIOL 219 - Compar/Func Vertebrate Anatomy

(2-4) Structure, function, and phylogeny; survey of evolutionary and functional trends; investigation of the structure of all chordate groups. Prerequisite: 104.Alternate years, 2000-01.Credits: 4.00

BIOL 223 - Developmental Biology

An analysis of the cellular, subcellular, molecular, and genetic mechanisms that operate during oogenesis and embryogenesis in invertebrate and vertebrate organisms. Prerequisites: 101, 103.

Credits: 3.00

BIOL 225 - Physiological Ecology

Processes by which animals cope with moderate, changing, and extreme environments. Prerequisites: 102, 104. Credits: 3.00

BIOL 238 - Winter Ecology

Natural history and winter adaptation of plants and animals of western Maine. Field work during winter break; oral and written report completed during spring semester. Prerequisite: Instructor permission. Credits: 3.00

BIOL 246 - Ecological Parasitology

Parasite-host interactions examined with evolutionary perspective. Topics include the origin of parasites, evolution of virulence, and ecological consequences of parasitism. Laboratory includes original experiments. Prerequisite: 102. Credits: 4.00

BIOL 254 - Population Genetics

The forces that change gene frequencies in populations are examined. Topics include Hardy-Weinberg-Castle equilibrium, selection, mutation, migration, genetic drift, and quantitative genetics. Prerequisites: 102; calculus and statistics recommended.

Credits: 4.00

BIOL 255 - Compar Reproductive Physiology

Various means by which animals reproduce. Special emphasis on the embryological origin and evolutionary relationships of sex cell differentiation. Prerequisite: 104.

Credits: 4.00

BIOL 261 - Neurobiology

Focus on molecular and cellular aspects of the nervous system. Electrical signaling, synaptic transmission, signal transduction, neural development, plasticity and disease. Prerequisite: 103. Cross-listing: ANNB 26. Credits: 3.00

BIOL 263 - Genetics Cell Cycle Regulation

Molecular events during the cell cycle; mutants defective in cell cycling; comparison of normal and transformed (cancer) cell cycling. Prerequisite: 101 or instructor's permission. Alternate years, 1999-00. Credits: 3.00

BIOL 264 - Community Ecology

Theoretical and empirical analyses of community structure. Topics include population growth, metapopulation dynamics, competition, predation, species diversity, niches, disturbance succession, island biogeography, and conservation biology. Prerequisites: 102; at least junior standing. Credits: 3.00

BIOL 265 - Developmntl Molecular Genetics

Current topics in developmental genetics explored through lectures and discussions of current literature; emphasis on molecular approaches. Prerequisites: 101. Alternate years, 2000-01. Credits: 3.00

BIOL 270 - Speciation and Phylogeny

Contributions of modern research in such fields as genetics, systematics, distribution, and serology to problems of evolutionary change. Prerequisite: 101 (102 recommended). Alternate years, 1999-00. Credits: 3.00

BIOL 281 - Biology Seminar

Review and discussion of current zoological research. Attendance required of Biology graduate students. Seniors in zoological research programs may enroll for 0 credits. Credits 0-1. Credits: 0.00

BIOL 282 - Eco Lunch

Review and discussion of current zoological research. Attendance required of Biology graduate students. Seniors in research programs may enroll for 0 credits. Credits: 0.00 to 1.00

BIOL 283 - Ecology-Evolution Journal Club

Review and discussion of current zoological research. Attendance required of Biology graduate students. Seniors in zoological research programs may enroll. Credits: 0.00

BIOL 284 - Cell Lunch

Review and discussion of current zoological research. Attendance required of Biology graduate students. Seniors in research programs may enroll for 0 credits. Credits: 0.00 or 1.00

BIOL 295 - Special Topics

See Schedule of Courses for specific titles. Credits: 4.00

BIOL 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 4.00

BIOL 301 - Cell Biology

Advanced survey of cell organelles, their composition, origin, and the relationship between their structure and function. Emphasis on recent literature and current controversies. Prerequisite: CHEM 142; Graduate standing in Biology or Instructor permission. Cross-listed with: CLBI 301. Credits: 3.00

BIOL 302 - Specialized Cells & Cell Proc

Current issues and research in the field of plant, invertebrate, mammalian cell, and molecular biology. Prerequisite: BIOL 301. Cross-listed with: CLBI 302. Credits: 3.00

BIOL 371 - Graduate Colloquium

Topics of current faculty and graduate student interest presented in a seminardiscussion format. Specific titles for colloquia will be listed in the course schedule. Credits: 1.00

BIOL 381 - Special Topics

Readings with conferences, small seminar groups, or laboratories intended to contribute to the programs of graduate students in phases of zoology for which formal courses are not available. Prerequisite: An undergraduate major in life science.

Credits: 4.00

BIOL 391 - Master's Thesis Rsch

Credit as arranged. Credits: 1.00 to 10.00

BIOL 491 - Doctoral Dissertation Research

Credits: 1.00 to 10.00

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:: Academics				
Catalogue 2002-03	Courses in Biomedical Technologies (BMT)			
Courses	BMT 229 - Seminar: Clinical Chemistry Discussion of recent advances in clinical chemistry. Credits: 1.00			
 About Catalogue Courses 	BMT 242 - Immunology			
 Browse Courses by Subject Course Search 	Concepts of the human immune system. Topics covered include: cellular and humoral immunity; immunoglobulin and T-cell receptor structure and function; autoimmunity; hypersensitivity; tumor immunology; immunodeficiency. Prerequisites: One semester of biochemistry. Credits: 3.00			
Academic Offerings	BMT 244 - Immunology Laboratory			
Colleges & Schools	Laboratory exercises that utilize techniques which elucidate antigen-antibody reactions. Techniques covered include: agglutination; precipitation;			
Faculty	immunodiffusion; fluorescence; cell labelling and quantitation; ELISA applications. Fall.			
Policies & General Information	Credits: 1.00			
Catalogue Archives	BMT 269 - Sem: Immunohematology Discussion of recent advances and practices used in transfusion medicine. Spring. Credits: 1.00			
	BMT 381 - Special Topics Seminar Credits: 1.00			
	BMT 391 - Masters Thesis Research Credits: 1.00 to 6.00			
	BMT 395 - Advanced Topics Credits: 1.00 to 3.00			

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Catalogue 2002-03	Courses in Biomedical Technology (BMED)
Courses	BMED 281 - Molecular Applications Lecture and laboratory course focused on application of molecular biology
About Catalogue Courses	techniques to diagnostic testing and biotechnology. Techniques include Northern and Western blot analysis, In situ hybridization, tissue culture, immunoassay development and use. Prerequisite: CHEM 031, CHEM 032, or CHEM 023; CHEM
 Browse Courses by Subject 	141, CHEM 142, or CHEM 042; BIOL 001, BIOL 002, or ANPS 019, ANPS 020. Fall.
Course Search	Credits: 4.00 BMED 293 - Research Concepts
Academic Offerings	Discussion of research methodology including analysis of primary scientific literature. Spring.
Colleges & Schools	Credits: 1.00
Faculty	
Policies & General Information	
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Catalogue 2002-03	Courses in Biostatistics (BIOS)
Courses	BIOS 200 - Med Biostatistics&Epidemiology Introductory design and analysis of medical studies. Epidemiological concepts,
About Catalogue Courses	case-control and cohort studies. Clinical trials. Students evaluate statistical aspects of published health science studies. Prerequisite: Statistics 141 or 143 or 211. Three hours. Cross-listing: Statistics 200.
Browse Courses by Subject	Credits: 3.00
Course Search	BIOS 391 - Master's Thesis Research
Academic Offerings	Credit as arranged. Credits: 1.00 to 12.00
Colleges & Schools	
Faculty	
Policies & General Information	
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:: Academics			
Catalogue 2002-03	Courses in Botany (BOT)		
Courses	BOT 205 - Mineral Nutrition of Plants Role of essential elements for plant growth including classical and modern		
About Catalogue Courses	approaches to the study of ion availability and transport. Prerequisite: BOT 104. Credits: 3.00		
Browse Courses by Subject	BOT 209 - Biology of Ferns Evolutionary biology; a survey of New England ferns and discussion of their phylogenic relationships; current research emphasizing morphological,		
Course Search	BOT 213 - Plant Communities		
Academic Offerings	Plant sociology; structure and organization of the plant community; sampling methods and analysis of data; climatic and edaphic factors; field work.		
Colleges & Schools	Prerequisite: 109 or departmental permission. Credits: 3.00		
Faculty	BOT 223 - Fundamentals of Field Science		
Policies & General Information	Pattern and process in natural systems. Weekly discussion of unifying questions in science. Field labs teach sampling and analysis of vegetation, soils, and animals. Prerequisite: Graduate standing or several university courses in earth sciences,		
Catalogue Archives	life sciences, and chemistry. Credits: 3.00		
	BOT 226 - Environmental Problem Solving Students negotiate a contract, work as a team, and map and inventory forested natural areas as they apply problem solving skills to Vermont environmental project. Prerequistes: Instructor permission. One to three hours.		

Credits: 1.00

http://www.uvm.edu/academics/catalogue2002-03/?Page=CatalogueCourses&subject=BOT&term=200209&SM=coursemenu.html[9/21/2018 2:31:48 PM]

BOT 232 - Botany Field Trip

Trips to selected environments outside Vermont, led by faculty members representing different fields of botany. Overall, integrated approach to ecology, structure, and function.

Credits: 1.00

BOT 234 - Ecology of Freshwater Algae

Community, population and physiological ecology of algae. Topics include taxonomy; diversity; distribution and seasonal succession; productivity and grazing; growth kinetics; and competitive and synergistic reactions. Prerequisites: Botany 160 or Natural Resources 103 or Biology 102. Alternate years. Credits: 3.00

BOT 241 - Tropical Plant Systematics

Principles and methods of angiosperm phylogeny. Recent systematic and evolutionary research on flowering plants; survey of tropical flowering plant families. Student presentations on recent research. Prerequisite: 109. Alternate years.

Credits: 4.00

BOT 252 - Molecular Genetics II

How cells control the flow of genetic information from gene into active gene product. Distinctions between quiescent and active genes, mechanisms of genetic communication/regulation. Prerequisites: Biology 101 or Agricultural Biochemistry 201 or Biochemistry 301, or equivalent; others by instructor's permission. Credits: 3.00

BOT 254 - Genetics of Fungi

Understanding the classical and molecular genetics of fungi with respect to their contributions in agriculture, basic genetics, biotechnology, industry, recombinant DNA, and gene expression. Prerequisites: Biology 101, or Agricultural Biochemistry 201 or Biochemistry 301 or equivalents; others by instructor's permission.

Credits: 3.00

BOT 257 - Plant Cell Physiology

Detailed study of photosynthesis, plant cell membrane function, and plant cell growth. Prerequisites: 104, Chemistry 141, 142 or Chemistry 42, Physics 11, 12 or 31, 42. Alternate years. Credits: 4.00

BOT 258 - Biology of the Fungi

Taxonomy, genetics, physiology, ecology, and economic importance of the fungi. Representatives of each major group are explored with respect to the above. Includes microbiological technique and laboratory culture of the fungi. Prerequisites: 101 or 104 or 132 or permission. Credits: 4.00

BOT 261 - Plant Growth & Development

Concepts in plant structure and development. Biophysics of plant structure and pattern-formation. Introduction to methods of plant microscopy and microtechnique. Prerequisites: 104, 108, Intro. Physics or permission. Credits: 4.00

BOT 281 - Botany Seminar

Presentations of personal research by faculty, graduate students, and outside guest speakers. Attendance required of botany graduate students and seniors in botanical research programs. Without credit. Credits: 0.00

BOT 295 - Special Topics

For advanced students within areas of expertise of faculty. Aspects of ecology, physiology, genetics, cytology, bryology, pteridology, paleobotany, photobiology, membrane physiology, and cell biology. Prerequisite: Departmental permission. Credits: 6.00

BOT 311 - Field Naturalist Practicum

Landscape analysis; planning and designing field projects; integrated problem solving. Prerequisites: Enrollment in the Field Naturalist program. Variable hours up to three.

Credits: 0.00 to 3.00

BOT 381 - Problems in Modern Botany

Subject matter varies. Topics will stress current graduate student and staff research interests in a journal review or presentation-discussion format. Prerequisite: Permission. Credits: 3.00

BOT 391 - Master's Thesis Research

Credit as arranged. Credits: 1.00 to 10.00

BOT 392 - Master Project Rsch

Credit as arranged. Credits: 0.00 to 3.00

BOT 491 - Doctoral Dissertation Research

Credit as arranged. Credits: 1.00 to 10.00

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Catalogue 2002-03	Courses in Business Administration (BSAD)
Courses	BSAD 222 - Human Resource Management Critical examination of contemporary problems in human resource management;
About Catalogue Courses	including job analysis, recruitment, training and employee development, health and safety, compensation, performance appraisal, and related topics. Prerequisite: BSAD 120; Senior standing.
Browse Courses	Credits: 3.00
by Subject	BSAD 226 - Current Iss in Mgmt & Org Thry
Course Search	Subjects may include training and development, selection and recruitment, and affirmative action. Prerequisite: BSAD 120.
Academic Offerings	Credits: 3.00
Colleges & Schools	BSAD 234 - Canadian-US Business Relations A study of the Canadian-U.S. bilateral relationship as it affects international
Faculty	business, emphasizing trade, investment, energy, and industrial deveopment policies. Prerequisite: EC 011, EC 012.
Policies & General Information	Credits: 3.00

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BSAD 251 - Marketing Research

The role of research in a marketing information framework. Emphasis on survey research, data collection, and analysis. Experimental designs also examined. Prerequisite: BSAD 150. Credits: 3.00

BSAD 252 - Marketing Research Practicum

Market research field project. Students design survey instruments, collect and analyze data, and present results to clients in a business environment. Prerequisite: BSAD 251. Credits: 3.00

BSAD 258 - International Market Analysis

Examines the cultural, economic, historic, and political factors that affect the analysis of foreign markets. Specific attention is given to the processes by which market entry decisions are developed and implemented. Prerequisites: Senior or graduate standing; BSAD 150 or permission of instructor. Credits: 3.00

BSAD 260 - Financial Statement Analysis

A study of the concepts and techniques underlying corporate financial statement analysis, emphasizing business equity valuation. Prerequisites: BSAD 180 or 308. Credits: 3.00

BSAD 263 - Accounting & the Environment

An examination of the critical role of accounting in implementing and assessing the firm's environmental strategy. A variety of accounting issues are addressed through readings and case studies. Prerequisites: Junior standing, BSAD 61 or 65 or concurrent enrollment in BSAD 308.

Credits: 3.00

BSAD 266 - Advanced Accounting

Accounting for partnerships, special sales contracts, parent-subsidiary relationships, fiduciary relationships, and governmental units. Prerequisite: BSAD 162.

Credits: 3.00

BSAD 267 - Auditing

Independent and internal auditing. Topics include standards, ethics and legal responsibilities of the profession, financial statements, audit concepts, and techniques, and the audit option. Prerequisite: BSAD 162. Credits: 3.00

BSAD 270 - Quant Anyl for Managerial Dec

Application of management science methods to managerial decision making, emphasizing modeling and use of solution results. Topics include mathematical programming, waiting-line analysis, and computer simulation. Prerequisite: STAT141, MATH 020 or MATH 021. Credits: 3.00

BSAD 282 - Security Val & Portfolio Mgmt

Examination of theories and evidence on the investment decision process including operations of equity securities markets, market efficiency, financial asset prices, and portfolio management. Prerequisites or Corequisites: BSAD 181 and 184 or BSAD 308.

Credits: 3.00

BSAD 285 - Options and Futures

Financial derivatives - options, futures and swaps. Topics include: structures of the markets for exchange traded and over-the counter derivatives; identification and exploitation of arbitrage opportunities; use and misuse of derivatives to hedge risk in both financial and product markets. Prerequisites or Corequisites: BSAD 181 and 184 or BSAD 308.

Credits: 3.00

BSAD 293 - Integrated Product Development

(Cross-listed with Mechanical Engineering 265, Statistics 265.) Project-based course focusing on the entire product life cycle. Team dynamics, process and product design, quality, materials, management, and environmentally-conscious manufacturing. Prerequisite: Senior standing. Credits: 3.00

BSAD 295 - Special Topics

Advanced courses on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles and prerequisites. Prerequisite: Senior standing.

Credits: 6.00

BSAD 302 - Business Economics

An introduction to the principles of economics as relevant to business decisionmaking. The use of various analytical tools are stressed through their application in solving a variety of managerial problems. Prerequisite: MBA standing or permission of MBA Program Director. Credits: 3.00

BSAD 305 - Fundamentals of Marketing Mgmt

Accelerated course on marketing principles and theory. Analytical approach to study of product pricing strategies; distribution, communication, and promotion; consumer behavior and development of corporate marketing strategy. Prerequisite: MBA standing. Credits: 3.00

BSAD 306 - Fundamentals of Accounting

Introduction to basic concepts, assumptions, conventions providing foundation for developing financial statements. Analysis, interpretation of the income statement, balance sheet, statement of changes in financial position. Prerequisite: MBA standing.

Credits: 3.00

BSAD 307 - Organization & Mgmt Studies

A survey course of the principles of management and organization behavior. The fundamentals of planning, organizing, leading, staffing, and controlling are covered. Particular attention is given to organization theory and behavior, including topics such as motivation, group behavior and decision making. All areas are covered in an international context. Prerequisite: MBA standing. Credits: 3.00

BSAD 308 - Corporate Finance

An introduction to financial decision making in the firm. Decisions related to acquisition and allocation of funds are examined and practiced through cases and problems. Prerequisite: MBA standing; BSAD 306. Credits: 3.00

BSAD 309 - Fund Legal Environ of Business

General overview of areas of interaction between businesses and governments. Examination of governmental policy toward business and review of laws governing business-government interactions. Prerequisite: MBA standing. Credits: 3.00

BSAD 331 - Health Care Management

Addresses changing challenges confronted by managers in health services delivery organizations. Examines applications and limitations of management concepts and processes in the health care context. Prerequisite: MBA standing. Cross-listed with: PA 312.

Credits: 3.00

BSAD 340 - Production & Operations Mgmt

Study of the operations function in manufacturing and service organizations. Design, planning, and control are examined, with emphasis on managerial analysis and decision making. Prerequisite: One course in STAT. Credits: 3.00

BSAD 341 - Forecasting

Modern forecasting methods and practices including smoothing, regression, econometric and Box-Jenkins models; combining forecasts and forecasting simulations. Professional software used for developing forecasts. Prerequisite: MBA standing; one course in Statistics or research methods. Credits: 3.00

BSAD 345 - Management Information Systems

An introduction to the design and implementation of management information systems. A theoretical framework is developed and applied by students to an information system. Prerequisite: MBA standing. Credits: 3.00

BSAD 346 - Decision Making Models

Application of decision-making models to administrative problems. Structuring decisions through decision trees, making choices, assessing risk, resolving conflicting objectives and overcoming organizational impediments. Prerequisite: One course in Statistics. Cross-listed with: PA 308. Credits: 3.00

BSAD 352 - Business to Business Marketing

Exploration and analysis of the marketing of goods and services to organizations. Topics include organizational buying, market segmentation, positioning, pricing, communication, physical distribution and customer services, and sales management. Prerequisite: MBA standing; BSAD 305. Credits: 3.00

BSAD 365 - Managerial Accounting

Study of development, utilization of accounting information for product costing and pricing purposes, for routine planning and control of organizational activities, for decision-making purposes. Prerequisites: MBA standing, BSAD 306. Credits: 3.00

BSAD 376 - Mgmt of Change in Organization

Applied behavioral science perspective adopted to identify conceptual issues, develop diagnostic skills, examine alternative intervention strategies relevant to accomplishment of planned changes in organizational systems. Prerequisite: MBA standing; BSAD 307.

Credits: 3.00

BSAD 380 - Managerial Finance

Focus on key financial decisions that affect the value of the firms. Topics: capital structure, leasing, mergers and acquisitions, capital market theories and evidence. Prerequisites: MBA standing, BSAD 308.

Credits: 3.00

BSAD 394 - Independent Readings&Research

Allows a student to pursue independent research under the direction of a faculty member. Normally, the course will include a research paper. Prerequisite: MBA standing; permission of the Graduate Studies Committee. Credits: 3.00

BSAD 395 - Special Topics

Topics and material that may develop later into a regular course offering; in addition, it may include topics and material offered only once. Prerequisite: MBA standing; permission of the Graduate Studies Committee. Credits: 3.00

BSAD 396 - Business Policy

A case course focusing on the resolution of complex cases involving simultaneous solutions of problems in two or more functional areas. Prerequisites: MBA standing; last semester of study. Credits: 3.00

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::Academics

Courses in Chemistry (CHEM) Catalogue 2002-03 CHEM 201 - Advanced Chemistry Lab Courses Laboratory and discussion only. Laboratory problems requiring modern analytical, physical, and inorganic synthetic techniques. Prerequisites: 146, credit for or About Catalogue concurrent enrollment in 161 or 162 and 221. Courses Credits: 3.00 Browse Courses CHEM 202 - Advanced Chemistry Lab by Subject Laboratory only. Laboratory problems requiring modern analytical, physical, and inorganic synthetic techniques. Prerequisites: 201. Course Search Credits: 2.00 Academic Offerings CHEM 205 - Biochemistry I Introduction to chemistry and structure of biological macromolecules; examination Colleges & Schools of mechanisms of chemical processes in biological systems including enzyme catalysis, biosynthesis, regulation, and information transfer. with: BIOC 205 and Faculty MMG 205. Prerequisite: CHEM 142 or CHEM 144. Cross-listed Credits: 3.00 Policies & General Information CHEM 206 - Biochemistry II Continuation of Biochemistry I. Biochemistry of nucleic acids; nucleic acid based **Catalogue Archives** processes, such as replication and transcription; cellular information transfer, genomics, and proteomics. Prerequisite: CHEM 205. Cross-listed with: BIOC 206 and MMG 206.

Credits: 3.00

CHEM 207 - Biochemistry Lab

Introduction to biochemical tools, including spectrometry, chromatography, and electrophoresis; natural and recombinant enzyme isolation; assays of DNA-modifying enzymes; computer-based structure/function exercises. Co-requisite: CHEM 205 or CHEM 206. Cross-listed with: BIOC 207 and MMG 207. Credits: 2.00

CHEM 214 - Polymer Chemistry

Polymer size and weight distributions. Kinetic models for step polymerization, addition polymerization, copolymerization. Physical properties, characterization of polymers in the solid state and in solution. Prerequisites: 144, 162. Alternate years.

Credits: 3.00

CHEM 221 - Instrumental Analysis

Systematic survey of modern methods of chemical analysis. Fundamental principles and applications of spectroscopy, electrochemistry, and separation techniques. Prerequisites: Credit for or concurrent enrollment in 161 or 162. Credits: 3.00

CHEM 222 - Advanced Analytical Chemistry

In-depth coverage of selected modern instrumental methods of chemical analysis, emphasizing most recent developments in spectroscopy, electrochemistry, and separation techniques. Prerequisite: CHEM 221. Credits: 3.00

CHEM 223 - Mass Spectrometry

This course covers basic aspects of modern mass spectrometry instrumentation and techniques as well as specific applications relevant to the students in the course. Prerequisites: 142 or 144 and 221 or instructor's permission. Credits: 3.00

CHEM 224 - Chemical Separations

Theory and practice of chromatographic separations. Emphasis on gas-liquid, liquid-liquid, and liquid-solid chromatography. Prerequisite: CHEM 221. Alternate years.

Credits: 3.00

CHEM 225 - Electroanalytical Chemistry

Principles of modern electrochemical analysis focusing mainly on finite current methods - voltammetry, polarography, chronoamperometry, cyclic voltammetry, etc. Introductory to modern operational amplifier instrumentation. Double layer theory and electron transfer kinetics. Prerequisite: 161. Alternate years. Credits: 3.00

CHEM 226 - Analytical Spectroscopy

Principles of optical spectroscopic methods of analysis. Emphasis on theory and practice of atomic spectroscopy and new molecular spectroscopic methods. Prerequisite: CHEM 221. Alternate years.

Credits: 3.00

CHEM 227 - Spec Topics in Analytical Chem

Selected topics of current interest in analytical chemistry. New techniques and methodologies, especially in chemical instrumentation. Credit as arranged. Credits: 1.00

CHEM 228 - Spec Topics in Analytical Chem

Selected topics of current interest in analytical chemistry. New techniques and methodologies, especially in chemical instrumentation. Credit as arranged. Credits: 3.00

CHEM 231 - Adv Inorganic Chemistry

Advanced group theory; electronic transitions in metal complexes and spectroscopic analysis; inorganic substitution and electron transfer mechanisms; homogeneous and heterogeneous catalytic processes; bioinorganic chemistry. Prerequisite: 131. Credits: 3.00

CHEM 234 - Organometallic Chemistry

Systematic survey of synthesis, properties, structures, bonding, and reactions of both main group and transition series organometallic compounds. Variation of structure and metal-carbon bond stability throughout periodic system. Prerequisite: 231. Alternate years.

Credits: 3.00

CHEM 236 - Physical Inorganic Chemistry

Fundamental physical basis for spectroscopic techniques and other observable phenomena important to field of inorganic chemistry. Topics include ligand field theory, magnetism, magnetic resonance, Mossbauer spectroscopy, and optical activity. Prerequisites: 161, 231. Alternate years. Credits: 3.00

CHEM 237 - SpecTopic: Inorganic Chemistry

Areas of current interest involving inorganic systems such as bioinorganic, solid state and polymers with unusual properties. Credit as arranged. Credits: 3.00

CHEM 238 - SpecTopic: Inorganic Chemistry

Areas of current interest involving inorganic systems such as bioinorganic, solid state and polymers with unusual properties. Credit as arranged. Credits: 3.00

CHEM 241 - Advanced Organic Chemistry

Stereochemistry, reactivity criteria, reaction mechanisms, and synthetic methods stressed. Reactive intermediates such as carbanions, carbocations, carbenes, and free radicals used to systematize mechanistic discussions. Prerequisites: 142, 162.

Credits: 3.00

CHEM 242 - Advanced Organic Chemistry

Detailed mechanistic descriptions of processes which may include enolate reactions and stereochemical considerations, addition processes such as halogenation, cycloadditions, hydroboration, hydride and metal-ammonia reductions, annelations such as biomimetic cyclizations, oxidation processes, rearrangements, eliminations, and examinations of approaches to multistep syntheses. Prerequisite: CHEM 241. Credits: 3.00

CHEM 251 - Physical Organic Chemistry

Structure-reactivity relationships, molecular properties and their interpretation. Methods and results of investigations of mechanisms of common organic reactions. Prerequisites: 142, 162. Alternate years. Credits: 3.00

CHEM 257 - Special Topics in Organic Chem

Advanced level discussion of specific topics in organic chemistry of current interest such as photochemistry, carbenes, bioorganic chemistry, magnetic resonance, etc. Credit as arranged.

Credits: 3.00

CHEM 258 - Special Topics in Organic Chem

Advanced level discussion of specific topics in organic chemistry of current interest such as photochemistry, carbenes, bioorganic chemistry, magnetic resonance, etc. Credit as arranged.

Credits: 3.00

CHEM 262 - Chemical Thermodynamics

Systematic study of application of thermodynamics to chemical problems. Concepts of statistical thermodynamics introduced. Prerequisites: 161, 162. Alternate years. Credits: 3.00

CHEM 263 - Intro to Quantum Mechanics

General considerations of quantum mechanics. Development of techniques pertinent to application of quantum mechanics to chemical problems. Prerequisite: CHEM 161, CHEM 162. Alternate years. Credits: 3.00

CHEM 264 - Fundamentals of Spectroscopy

In-depth discussion of the theory of molecular states and transitions between them, with applications to electronic spectroscopy. Explicit treatment of vibrations in molecules. Prerequisites: 161, Math.121. Alternate years. Credits: 3.00

CHEM 266 - Molecular Orbital Theory

Introduction to Huckel molecular orbital method. Energy levels and orbitals, molecular properties and their interpretation. Effects of substituents on electronic structure. Extensions of Huckel method. Prerequisites: 142, 161. Alternate years. UG only.

Credits: 3.00

CHEM 267 - Special Topics in Phys Chem

Advanced discussion of physical chemistry and chemical physics, group theory, solid state, molecular orbital theory, irreversible thermodynamics, kinetics and mechanisms, solution theory, calculations, spectroscopy. Credit as arranged. Credits: 3.00

CHEM 268 - Special Topics in Phys Chem

Advanced discussion of physical chemistry and chemical physics, group theory, solid state, molecular orbital theory, irreversible thermodynamics, kinetics and mechanisms, solution theory, calculations, spectroscopy. Credit as arranged. Credits: 3.00

CHEM 285 - Special Topics

Credits: 2.00

CHEM 286 - Special Topics Credits: 2.00

CHEM 342 - Natural Products: Alkaloids

The major classes of alkaloids surveyed from a biogenetic point of view. Classical and modern degradation methods, total syntheses and biosynthetic incorporation of labeled compounds. Prerequisite: Credit or concurrent enrollment in CHEM 242. Alternate years.

Credits: 3.00

CHEM 344 - Natural Products: Terpenes

The chemistry of mono, sesqui, di and triterpenes, including degradations, structure proofs, total syntheses, rearrangement reactions, and biogenesis. Prerequisite: Credit or concurrent enrollment in CHEM 242. Alternate years. Credits: 3.00

CHEM 381 - Grad Seminar

Current problems and literature. Credits: 1.00

CHEM 382 - Grad Seminar

Current problems and literature. Credits: 1.00

CHEM 386 - Methods of Chem Investigation

Methods of Chem Investigation. Ungergraduate only. Credits: 2.00

CHEM 388 - Rsch Prob Conception&Solution

Independent origination of research problems and the methods of their solution. Required of all doctoral candidates. Prerequisite: Permission of the Department. This course shall be completed at least six months in advance of the Ph.D. dissertation defense, and in no case later than the end of the seventh semester of Graduate studies at UVM.

Credits: 1.00

CHEM 391 - Master's Thesis Research

Credits: 1.00 to 18.00

CHEM 395 - Independent Lit Rsch Project

Reading and literature research culminating in the preparation of a comprehensive and critical review of a topic of current interest in chemistry. Credits: 6.00

CHEM 491 - Doctoral Dissertation Research

Credits: 1.00

2002-03 Online Catalogue

:: Academics

Catalogue 2002-03	Courses in Civil & Environmental Engr (CE)
	CE 220 - Intro to Finite Element Anyl
Courses About Catalogue Courses Browse Courses 	Introduction to finite element analysis: applications in solid mechanics, hydrodynamics, and transport: analysis of model behavior: Fourier analysis. Computer project required. Prerequisites: computer programming, linear algebra, and PD, or permission of instructor. Credits: 3.00
by Subject	CE 226 - Civil Engineering Systems Anyl
Course Search	Linear programming, dynamic programming, network analysis, simulation; applications to scheduling, resource allocation, routing, and a variety of civil
Academic Offerings	engineering problems. Prerequisite: Senior or graduate standing in CEE or instructor permission.
Colleges & Schools	Credits: 3.00
Faculty	CE 241 - Traffic Operations & Design Advanced concepts of traffic engineering and capacity analysis; highway and
Policies & General Information	intersection capacity; traffic analysis and simulation software; design and application of controls. Prerequisite: CE 140. Credits: 3.00
Catalogue Archives	CE 248 - Hazardous Waste Mgmt Engr Management of hazardous and industrial waste from generation to disposal; emphasis on pollution prevention within industry; waste minimization, recovery, reuse, treatment technologies; environmental regulations, risk assessment, costs and public policy; group projects. Prerequisite: Senior standing in Engineering or sciences. Credits: 3.00
	CE 251 - Envr Facility Dsgn/Wastewater Design of wastewater conveyance and treatment facilities; sewage treatment plant design; equipment selection. Prerequisite: CE 151. Credits: 3.00
	CE 252 - Industrial Hygiene Industrial hygiene problems; effects of pollutants on health; threshold limit values; emphasis on the engineering evaluation of hazard and control techniques. Prerequisites: Chemistry 25, Physics 25. Credits: 3.00

CE 253 - Air Pollution

Sources of air pollution, methods of measurement, standards, transport theory and control techniques used. Emphasis on source measurement and contaminant control design. Prerequisites: Chemistry 25, Math. 21. Credits: 3.00

CE 254 - Environmental Quantitive Anyl

Chemistry and microbiology of water quality management; diffusion, equilibria, reaction kinetics, acids and bases, colloids, enzymes, bacterial physiology, pollution indicator organisms; laboratories demonstrate standard techniques. Prerequisites: Chemistry 31 or 25, Math. 22. Credits: 4.00

CE 255 - Phys/Chem Proc Water/Wstwater

Theory of physical/chemical processes for treating waters and wastewaters; reactor dynamics, mass transfer, adsorption, ion exchange, precipitation/ Credits: 3.00

CE 256 - Biol Proc Water/Wastewater Tr

Theory and application of biological processes for treating industrial and domestic wastewaters and contaminated ground water; microbiological considerations; aerobic and anaerobic processes; reactor design, in-situ bioremediation; bench-scale and pilot-scale experimentation. Prerequisites: 151 and 154 or equivalent or permission of instructor.

Credits: 3.00

CE 260 - Hydrology

Theory of precipitation, run-off, infiltration, and ground water; precipitation and runoff data; and application of data for use in development of water resources. Prerequisites: 160, Statistics 141. Credits: 3.00

CE 261 - Open Channel Flow

Application of the laws of fluid mechanics to flow in open channels; design of channels and transition structures including riprap and culverts; gradually-varied flow problems. Prerequisite: 160. Credits: 3.00

CE 265 - Ground Water Hydrology

Principles of ground water hydraulics, well characteristics, aquifers, and use of numerical methods to solve ground water flow problems. Prerequisites: Calculus III and programming experience or instructor's permission; graduate standing or senior Civil Engineering standing. Credits: 3.00

CE 272 - Structural Dynamics

Vibrations, matrices, earthquake engineering, stability and wave progagation. Prerequisites: Senior or graduate standing in Engineering or physical sciences, or instructor permission. (Same as ME 272). Credits: 3.00

CE 280 - Applied Soil Mechanics

Use of soil mechanics in evaluation of building foundations, braced excavations, earth structures; lateral earth pressures, pile foundations, caisson foundations, slope stability, and construction problems. Prerequisite: CE 180. Credits: 3.00

CE 282 - Engr Properties of Soils

Study of soil properties influencing engineering behavior of soils: soil mineralogy, physiochemical concepts, plasticity properties, permeability, and compaction: laboratory study of soil index properties, permeability, compaction tests. Prerequisite: CE 180 or equivalent. Credits: 3.00

CE 283 - Designing with Geosynthetics

Geotextiles, geogrids, geonets, geomembranes, geocomposites, geopipes. Design for separation, reinforcement, filtration, drainage, erosion, control, liners. Applications in transportation, drainage, solid waste containment. Material testing, behavior. Prerequisite: CE 180. Credits: 3.00

CE 290 - Engineering Investigation

Independent investigation of a special topic under the guidance of a staff member. Preparation of an engineering report is required. Credits: 3.00

CE 295 - Special Topics

Content is dictated by expanding professional interest in newly developing, or recently developed, technical areas in which there is particular need or opportunity. Prerequisite: Minimum Senior standing. Credits: 6.00

CE 304 - Adv Engineering Analysis I

See Mechanical Engineering 304, 305. Prerequisites: Math 271 or Math 230; CE 304 for CE 305. Cross-listings: ME 304, 305; Math 275, 276. Credits: 3.00

CE 305 - Adv Engineering Analysis II

See Mechanical Engineering 304, 305. Prerequisites: Math 271 or Math 230; CE 304 for CE 305. Cross-listings: ME 304, 305; Math 275, 276. Credits: 3.00

CE 321 - Engr Computations on Adv Arch

Engineering computations using multiprocessing computers, concurrent processing, algorithms for numerical approximation of differential equations, linear systems. Programming projects required. Credits: 3.00

CE 365 - Contaminant Hydrogeol&Remediat

Practical, theoretical aspects of contaminant hydrogeology, advances in technologies, mass transport and transformation in saturated and vadose zones; movement, distribution, and remediation of nonaqueous-phase liquids. Prerequisite: CE 265 or with Instructor permission. Credits: 3.00

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CE 366 - Numerical Method/Surface Water

Development of the governing equations for geophysical hydrodynamics/transport, shallow water equations, analysis and implementation of finite element/finite difference computational algorithms. Prerequisite: CE 220. Credits: 3.00

CE 390 - Adv Topics in Civil & Envr Eng

Special topics to intensify the programs of graduate students in civil and environmental engineering. Hours and credits to be arranged. Credits: 4.00

CE 391 - Master Thesis Rsch

Credits: 1.00 to 12.00

CE 395 - Advanced Special Topics

Advanced topics in recently developed technical areas. Hours and credits as arranged. Credits: 3.00

CE 491 - Doctoral Dissertation Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

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::Catalogue 2002-03

Courses in	Cmty Dev	& Apld Econ	(CDAE)
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Courses

 About Catalogue Courses Browse Courses by Subject 	CDAE 205 - Rural Comm in Modern Society The changing structure and dynamics of rural social organization in context of modernization and urbanization. Emphasis on rural communities in the U.S. Prerequisite: Six hours of Sociology. Cross-listed with: SOC 205. Credits: 3.00	
Course Search	CDAE 208 - Agricultural Policy and Ethics	
Academic Offerings	An examination of American agriculture and policies from various perspectives historical, political, ecological, technological, social, economic, and ethical. Emphasis on contemporary issues, policy options, and future development.	
Colleges & Schools	Prerequisites: 61 or equivalent, permission. Fall. Credits: 3.00	
Faculty		
Policies & General Information Catalogue Archives	CDAE 218 - Community Ldrshp,Org&Inst Dev Role of civic engagement, leadership, and social and political institutions in a community development context. Special attention given to problems of formulation and implementation of alternative change strategies. Prerequisites: Jr standing, CDAE 102, or permission. Credits: 3.00	
	CDAE 237 - Economics of Sustainability Economic analysis that integrates natural resource and community planning for sustainable development at local, national and international levels. or permission. and green business. Prerequisites: 61 or equivalent, Examples include land use, sustainable agriculture Credits: 3.00	
	CDAE 253 - Macroeconomics for Appl Econ	

Explore macroeconomic principles and concepts as they affect individuals and businesses in local, regional, national, and global economics. Prerequisites: Economics 11, and CDAE 61 or equivalent. Credits: 3.00

CDAE 254 - Microeconomics for Appl Econ

The study of economic choices of individuals and firms, and the analysis of competitive and noncompetitive markets. Emphasis on application of intermediate microeconomic theory Prerequisites: 61 or equivalent. Math 19, or permission. Credits: 3.00

CDAE 264 - Risk Anyl&Forecast Procedures

Analytical concepts and skills and their applications in risk analysis related to agricultural and resource markets focusing on decision making processes. Prerequisite: STAT 141, CDAE 061, MATH 019, or Instructor permission. Credits: 3.00

CDAE 266 - Dec Making:A&R Entrepreneurshp

Quantitative decision-making methods and applications in agricultural and resource businesses. Major topics include linear programming, risk and uncertainty, inventory decisions, and e-commerce. Prerequisites: CDAE 166, Math 19, and AGRI 85 or CS 2.

Credits: 3.00

CDAE 267 - Strat Plan:A&R Entrepreneurshp

Applications of marketing, finance, and management strategies. Drafting a simulated business plan for rural entrepreneurs and economic development. Prerequisites: ARE majors or minors, or with instructor's permission; senior standing.

Credits: 4.00

CDAE 272 - Int'l Economic Development

International trade, finance, investment and development theories and policies for community development. Prerequisites: Jr standing, CDAE 102 or instructor's permission. with 273.

Credits: 3.00

CDAE 273 - Project Development & Planning

National, community and private sector project development. Focus on planning methods and policy instruments, sectoral linkages, and contributions to the economy as a whole. Prerequisite: 171 or instructor's permission. Credits: 3.00

CDAE 295 - Special Topics

Lectures or readings on contemporary issues in Community Development and Applied Economics. Enrollment may be more than once, up to twelve hours. Credits: 9.00

CDAE 351 - Research Methods

Developing research projects with the scientific methods; evaluating alternative literature review, sampling, surveying, and analytic methods; and reporting the results. Prerequisite: Three hours of Statistics. Credits: 3.00

CDAE 354 - Advanced Microeconomics

Principles and applications of advanced microeconomics: consumer and market demand, firm and market supply, perfect and imperfect markets, partial and general equilibrium, and policy analysis. Prerequisite: CDAE 254 or equivalent. Credits: 3.00

CDAE 377 - Practicum in Extension Educ

Credits: 1.00 to 12.00

CDAE 391 - Master's Thesis Research

Credits: 6.00

CDAE 392 - Graduate Seminars

Report and discuss research projects and findings of graduate students and faculty, and offer workshops on selected topics in community development and applied economics. May enroll more than once for up to three credits. Prerequisite: Graduate standing. Credits: 1.00

CDAE 395 - Special Topics

Lectures or readings on contemporary issues in Community Development and Applied Economics at the graduate level. Prerequisite: Graduate standing. Credits: 3.00

2002-03 Online Catalogue

:: Academics		
Catalogue 2002-03	Courses in Communication Sciences (CMSI)	
Courses	CMSI 208 - Cognition & Language (Same as Psychology 208.) Study of cognition and language in terms of mental	
About Catalogue Courses Browse Courses	representation models; contemporary models of memory, as well as capacity theories of language comprehension and production. Prerequisite: Psychology 109 or 101 or Statistics 101 or 141. Credits: 3.00	
by Subject	CMSI 215 - Cognition & Aging	
Course Search	(Same as Psychology 215.) Changes in both sensory and cognitive aspects of aging, including changes in vision, hearing, perception, learning, and memory.	
Academic Offerings	Prerequisite: 208 or permission of instructor. Credits: 3.00	
Colleges & Schools	CMSI 281 - Cognitive Neuroscience	
Faculty	The structure and organization of the human central nervous system as relative to higher cognitive and linguistic behaviors. Prerequisites: Nine hours at the 200	
Policies & General Information	level; Biology 4. Credits: 3.00	
Catalogue Archives	CMSI 283 - Swallowing Disorders Introduction to normal and disordered swallowing function across the life span including etiologies, signs/symptoms of dysphagia, diagnostic procedures and treatment within an interdisciplinary model. Prerequisites: Nine hours in Communication Sciences or instructor's permission. Credits: 3.00	
	 CMSI 284 - Augmentative Communication An introduction to development and selection of augmentative/alternative communication strategies and systems for persons with severe communication challenges. Prerequisites: Nine hours in Communication Sciences or instructor's permission. Credits: 3.00 	

CMSI 285 - Collab Intervntn Schl Settings

Introduction to a transdisciplinary approach to collaborative, curriculum-based assessment and intervention for students with special needs in school settings. Prerequisites: Nine hours in Communication Sciences or instructor's permission. Credits: 3.00

CMSI 287 - Early Lang&Communicat'n Interv

Research in normal and disordered language, cognition, and social development is applied to interventions for children, birth to age 5, with language and communication problems. Prerequisite:CMSI 94. Credits: 3.00

CMSI 291 - Clinical Study

Supervised practicum experiences with children and adults presenting disorders of speech, hearing, and language. Prerequisite: Permission Credits: 3.00

CMSI 292 - Clinical Study

Supervised practicum experiences with children and adults presenting disorders of speech, hearing, and language. Prerequisite:Permission Credits: 3.00

CMSI 293 - Seminar

Prerequisite: Instructor's permission. Variable credit. Credits: 3.00

CMSI 294 - Seminar

Prerequisite: Instructor's permission. Variable credit. Credits: 3.00

CMSI 299 - Autism Spect Dis:Assess&Interv

Assessment and intervention considerations in communication, social interaction and play, selection intervention strategies for children with autism. and use of evaluation tools, and implementation of Credits: 3.00

CMSI 310 - Clinic Preparation&Management

Principles of behavioral observation, analysis and modification as they apply to the assessment and remediation of communication disorders. Prerequisite:permission Credits: 3.00

CMSI 311 - Interdis Ldrshp Tr:Rsrch Sem I

Seminar exploring interdisciplinary process and collaborative teaming, cultural competence, and family-centered care as they relate to neurodevelopmental and related disabilities. Prerequisites: Permission of instructor. Variable Prelock. Cross-listings: ECHD 295, EDSP 295, NFS 295, GRNU 296, PA 395, PSY 380, PT 381, SWSS 380. Credits: 3.00

CMSI 312 - Intrdis Ldrshp Tr:Rsrch Sem II

Seminar exploring interdisciplinary process and collaborative teaming, cultural competence, and family-centered care as they relate to neurodevelopmental and related disabilities. Prerequisites: Permission of instructor. Variable Prelock. Cross-listings: ECHD 295, EDSP 295, NFS 295, GRNU 296, PA 395, PSY 380, PT 381, SWSS 380.

Credits: 3.00

CMSI 371 - Audiolog Assess:Spch-Lang Path

Examination of basic hearing parameters designed for SLPs. Orientation to nature and causes of hearing impairment; assessment procedures and rationales; hearing screening and counseling/management issues. Prerequisites: CMSI 101 or instructor permission. Credits: 3.00

CMSI 372 - Mgmt&Habil/Child w/Hearing Imp

Survey effects of hearing impairment on children's communication, academic and psychosocial development. Orientation to amplification, assistive devices, managing listening environments, auditory training, and educational planning. Prerequisites: CMSI 271 or 371 or instructor permission. Credits: 3.00

CMSI 380 - Rsch Methods in Comm Disorders

Empirical research methodology as applied to the study of normal and deficient speech, language, and hearing processes. Students analyze data statistically and write a research proposal. Credits: 3.00

CMSI 381 - Advanced Readings

Readings, with conferences, intended to contribute to the programs of graduate students in phases of communication science and disorders for which formal courses are not available. Credit as arranged, up to three hours each semester. Credits: 3.00

CMSI 382 - Advanced Readings

Readings, with conferences, intended to contribute to the programs of graduate students in phases of communication science and disorders for which formal courses are not available. Credit as arranged, up to three hours each semester. Credits: 3.00

CMSI 383 - Seminar Lang/Lrng Disabilities

Assessment and intervention issues for school-age children and adolescents with language learning disabilities are discussed emphasizing research to practice an oral language and literacy connections. Prerequisite: 387, permission of instructor or Graduate Standing. Credits: 3.00

CMSI 384 - Articulation-Phonological Dis

Etiology, diagnosis, pathology, and habilitation and rehabilitation of articulation of speech. Prerequisite: Permission. Credits: 3.00

CMSI 385 - Voice Disorders

Study of normal and abnormal laryngeal anatomy and physiology as they relate to diagnoses and treatment of a wide variety of vocal pathologies. Prerequisite: Permission.

Credits: 3.00

CMSI 386 - Adult Neuropathologies

Etiology, pathology, diagnosis, and principles of rehabilitation of CNS pathologies affecting communication. Emphasis on motor speech disorders and cognitive consequences of traumatic brain injury. Prerequisites:CMSI 281, 389 or equivalent.

Credits: 3.00

CMSI 387 - Language Disorders

Identification, evaluation, and rehabilitation procedures for children with language disabilities. Prerequisite: CMSI 94. Credits: 3.00

CMSI 388 - Stuttering

Study of adult and child fluency disorders which focuses upon symptomatology, etiology, diagnosis, and rehabilitation of stuttering patients. Prerequisite: Stuttering Boot Camp (CMSI), admission to CMSI Graduate Credits: 3.00

CMSI 389 - Aphasia in Adults

Study of linguistic and cognitive impairments associated with stroke and other types of neuropathologies in the adult patient. Emphasis on rehabilitation strategies, principles, and procedures. Prerequisite:CMSI 281. Credits: 3.00

CMSI 391 - Master's Thesis Research

Credits: 1.00 to 6.00

CMSI 392 - Non Thesis Research

Credits: 1.00 to 9.00

2002-03 Online Catalogue

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Catalogue 2002-03

Courses in Computer Science (CS)

Courses

- About Catalogue Courses
- Browse Courses
 by Subject
- Course Search
- Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

CS 201 - Operating Systems

Supervisory and control software for multiprogrammed computer systems. Processes synchronization, interprocess communication, scheduling, memory management, resource allocation, performance evaluation, object-oriented systems, case studies. Prerequisites: 103, 104. Credits: 3.00

CS 202 - Compiler Construction

Practice in design and implementation of translators for ALGOL-like languages. Regular and context-free grammars, parsing, code generation for stack and register machines. Interpreters. Run-time storage administration for blockstructured languages. Prerequisites: 103, 243. Credits: 3.00

CS 204 - Database Systems

Techniques for processing very large collections of data. Secondary storage. Database design and management. Query languages and optimization. Database recovery. Prerequisites: 101, 104; 201 recommended. Credits: 3.00

CS 205 - Software Engineering

Treatment of software engineering problems and principles, including documentation, information hiding, and module interface specification syntax and semantics. Requires participation in a team project. Prerequisite: 100, 104. Credits: 3.00

CS 222 - Computer Architecture

Architecture of computing systems. Control unit logic, input/output processors and devices, asynchronous processing, concurrency, parallelism, and memory hierarchies. Prerequisite: 101. Credits: 3.00

CS 224 - Analysis of Algorithms

Introduction to both analytical and experimental techniques in algorithm analysis. Basic algorithm design strategies. Introduction to complexity theory. Prerequisites: 103, 104. Math. 173 recommended.

Credits: 3.00

CS 243 - Theory of Computation

Introduction to theoretical foundations of computer science. Models of computation. Church's thesis and noncomputable problems. Formal languages and automata. Syntax and semantics. Prerequisite: 104. (Same as Math 243). Credits: 3.00

CS 251 - Artificial Intelligence

Introduction to methods for realizing intelligent behavior in computers. Knowledge representation, planning, and learning. Selected applications such as natural language understanding and vision. Prerequisites: 103, 104, STAT 151. Credits: 3.00

CS 256 - Neural Computation

Introduction to artificial neural networks, their computational capabilities and limitations, and the algorithms used to train them. Statistical capacity, convergence theorems, backpropagation, reinforcement learning, generalization. Prerequisites: Math. 124 (or 271), Statistics 151, programming skills, graduate standing or instructor's permission.

Credits: 3.00

CS 260 - Parallel Algorithms&Prog Tech

Taxonomy of parallel computers, basic concepts for parallel computing, effectiveness and scalability, parallel algorithms for variety of problems, messagepassing programming paradigm and data-parallel languages. Prerequisite: 103, 104. MATH 173 and MATH 124 recommended. Credits: 3.00

CS 265 - Computer Networks

Introduction to the theoretical and pragmatic principles of computer networking and client-server computing. Topics include: Local Area Networks; the Internet; ATM technology; TCP programming. Prerequisite: 101, 104. MATH 173 and STAT 151 recommended.

Credits: 3.00

CS 266 - Network Security&Cryptography

Security and secrecy in a networked environment. Cryptography: public and private key. Authentication: trusted agents, tickets. Electronic mail and digital signatures. Privacy and national security. Prerequisites: 104, Math. 124 or 271. Credits: 3.00

CS 274 - Computer Graphics

Graphical representation of two- and three-dimensional objects on color raster displays. Line generation, region filling, geometric transformations, hidden line and surface removal, rendering techniques. Prerequisite: 104, Math. 121, Math. 124 or 271.

CS 294 - Independent Readings&Research

Independent readings and investigation under the direction of faculty member. Prerequisite: Department permission. Credits: 3.00

CS 295 - Special Topic:Computer Science

Subject will vary from year to year. May be repeated for credit. Credits: 6.00

CS 303 - Adv Top:Prog Environ&Language

Object-oriented, functional, or procedural programming languages, language design, parsing, translation, compilation, interpretation, programming and runtime environments. May be repeated for credit with instructor permission. Prerequisites: 103, 202.

Credits: 3.00

CS 316 - Adv Topi:Computational Science

Topics chosen from engineering and scientific applications, visualization, largescale data analysis. May be repeated for credit with instructor permission. Prerequisite: Varies by semester. Instructor permission required. Credits: 3.00

CS 321 - Adv Top:Computer Architecture

Topics from computer architecture, network architecture, array and vector processors, memory hierarchies. May be repeated for credit with Instructor permission. Prerequisite: CS 222. Credits: 3.00

CS 331 - Adv Tpcs Database&Knwldg Sys

Topics chosen from database design, knowledge based systems, object-oriented and relational systems, data models, knowledge representation. May be repeated for credit with Instructor permission. Prerequisite: CS 204, CS 224. Credits: 3.00

CS 346 - Adv Top: Theory of Computation

Topics from complexity theory, analysis of algorithms, formal languages, combinatorial and geometric algorithms, and theory of databases, networks, distributed algorithms. May be repeated with Instructor permission. Prerequisite: CS 224, CS 243. Credits: 3.00

CS 361 - Adv Topics:Systems Software

Topics chosen from operating systems, distributed or parallel software systems, real-time systems, experimental systems, software engineering. May be repeated for credit with Instructor permission. Prerequisite: CS 201, CS 222. Credits: 3.00

CS 381 - Seminar

Presentations by students, faculty, and guest speakers on advanced topics in Computer Science. May be repeated up to three times for credit. Credits: 1.00

CS 391 - Master's Thesis Research

Credits: 4.00

CS 394 - Independent Study

Independent readings and investigation under the direction of a faculty member. Prerequisite: Instructor permission.

Credits: 4.00

CS 395 - Special Topics

Subject will vary from year to year. May be repeated for credit. Prerequisite: Instructor permission.

Credits: 6.00

2002-03 Online Catalogue

:: Academics		
Catalogue 2002-03	Courses in Counseling (EDCO)	
Courses • About Catalogue Courses	EDCO 220 - Developmental Persp in Counsel Survey of major and emerging theories of human development and application of theoretical concepts to self and others from a counseling perspective. Prerequisite: Graduate standing; others by Instructor permission. Credits: 3.00	
Browse Courses by Subject	EDCO 291 - Special Topics in Counseling Special issues in counseling, administration and planning, social work or higher	
Course Search	education not appropriate to content of existing courses. Courses reflect the social services orientation of the Department of Integrated Professional Studies.	
Academic Offerings	Credits: 3.00	
Colleges & Schools	EDCO 310 - Counseling Strats for Teachers Counseling strategies appropriate for use in the classroom for class management	
Faculty	assessment and utilization of different learning styles, and promotion of positive behavior change. Prerequisite: permission.	
Policies & General Information	Credits: 3.00 EDCO 340 - Development Guidance in Schls	
Catalogue Archives	An introduction to the role of the school counselor including developmental guidance program planning and implementation, consultation, crisis intervention, parent education and ethical issues. Prerequisite: Counseling majors or Instructor permission. Credits: 3.00	
	 EDCO 344 - Counseling Children&Adolescent Students learn theories and will practice counseling children and adolescents: assessment intervention planning, and play therapy, client-centered, behavioral, cognitive, Adlerian, brief and narrative approaches. Prerequisites: EDCO 374- Counseling Theory and Practice, EDCO 375-Laboratory Experience in Counseling, Counseling Majors or permission. Credits: 3.00 EDCO 350 - Prof Issues in Counseling 	

A seminar in which professional, ethical, and legal issues facing counselors in schools and mental health settings are addressed through reading, research,

presentation, and discussion. Prerequisite: Graduate standing or Instructor permission.

Credits: 3.00

EDCO 351 - Using Tests in Counseling

Exploration of tests and testing process used in counseling and school settings. Includes necessary statistics. Experience in taking, administering, interpreting various tests; study projects for application to any setting. Prerequisites: Graduate standing or permission.

Credits: 3.00

EDCO 361 - Practice of Mental HIth CnsIng

Introduction to issues, needs, models and sociopolitical factors present in community and private-practice mental health counseling, with an emphasis on prevention and wellness. Prerequisite: Graduate standing or Instructor permission. Credits: 3.00

EDCO 363 - School Counseling Practicum

Introductory supervised experience in counseling in a school field setting. Includes 100 hours working as a counselor with a minimum of 40 hours of direct counseling experience. Prerequisites: Counseling Majors or Permission. Credits: 3.00

EDCO 364 - Internship School Counseling

Supervised counseling experience in a school counseling setting with direct client work. Prerequisite: Counseling majors or Instructor permission. Credits: 1.00 to 8.00

EDCO 374 - Counseling Theory & Practice

Theoretical and practical approach to understanding the counseling process. Refinement of personal philosophy, theory of counseling, and implementation in practice. Prerequisite: Graduate standing or Instructor permission. Credits: 3.00

EDCO 375 - Lab Experience in Counseling

Students learn and practice basic counseling skills and techniques. Videotaped practice sessions are supervised by course instructor. Prerequisite: EDCO 374. Counseling majors only. Credits: 3.00

EDCO 376 - Chem Dependency: Etiology&Trtmt

Development (self, family, trauma) and resolution of chemical dependency. Cognitive-behavioral, psychoanalytic, systemic and eclectic orientations. Experiential psychotherapy technique and project required. Prerequisites Graduate standing or permission. Credits: 3.00

EDCO 377 - Diversity Issues in Counseling

Students examine personal, cultural, political, and social factors affecting a diverse range of people with focus on developing appropriate and effective counseling skills. Prerequisite: Instructor permission.

Credits: 3.00

EDCO 378 - Diagnose&Treat Plan/Child&Adol

Etiology and diagnosis of mental disorders in children and adolescents according to DSM. Includes intake, evaluation, treatment planning, and clinical documentation skills. Prerequisite: Counseling majors or Instructor permission. Credits: 3.00

EDCO 379 - Diagnose&Treat Plan w/Adults

Etiology and diagnosis of mental disorders in adults according to DMS. Includes intake, evaluation, treatment planning, and clinical documentation skills. Prerequisite: Counseling majors or Instructor permission. Credits: 3.00

EDCO 381 - Counsel/Career&Lifestyle Dev

An exploration of the theories, assessment instruments, counseling techniques, and issues most relevant in counseling for career and lifestyle development. Prerequisite: EDCO 374, EDCO 375; Graduate standing or Instructor permission. Credits: 3.00

EDCO 383 - Mental Health Counseling Pract

Introductory supervised experience in counseling in a mental health field setting. Includes 100 hours working as a counselor with a minimum of 40 hours of direct counseling experience. Prerequisite: Counseling majors or Instructor permission. Credits: 1.00

EDCO 384 - Intern:Mental HIth Counseling

Supervised counseling experience in a mental health counseling setting with direct client work. Prerequisite: Counseling majors or Instructor permission. Credits: 3.00

EDCO 387 - Therapeutic Psychopharmacology

Introduction to neuroanatomy, neurophysiology, and pharmacology as they pertain to mental health counseling. Course also covers commonly prescribed medications, ethical issues and the referral process. Prerequisite: EDCO 360 or program permission. Credits: 3.00

EDCO 388 - Family Counseling: Systems

Theory and process of counseling with families, including family theory and current family therapy orientations and intervention skills. Includes practice of counseling interventions. Prerequisites: 220, 374, permission. Credits: 3.00

EDCO 389 - Family Counseling:Interventns

Supervised practice in family counseling. Prerequisites: 388, permission. Credits: 3.00

EDCO 390 - Advanced Counseling Seminar

Analysis and practice of advanced counseling skills with focus on new developments. Emphasis on integration of theory and technique into a consistent counseling model. Prerequisites: EDCO 374, EDCO 375, and Instructor

permission. Credits: 3.00

EDCO 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 18.00

EDCO 392 - Group Dynamics: Theory & Exp

Encounter group experiences for prospective counselors providing increased awareness of self and models relating to others. Theory, practice of group dynamics. Prerequisites: Graduate standing and permission. Credits: 3.00

EDCO 393 - Adv Group Counseling

Group leadership skills are developed, practiced, and refined through in-class experiences that focus on feedback exchange, group techniques, ethical issues, and group theory. Prerequisites: 220, 374, 375, 392 and permission. Credits: 3.00

EDCO 394 - Special Topics in Counseling

Special issues in counseling, administration and planning, social work, higher education not appropriate to content of existing courses. Prerequisite: Instructor permission. Variable credit.

Credits: 3.00

EDCO 397 - Independent Study

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

2002-03 Online Catalogue

::Academics

••Academics	
::Catalogue 2002-03	Courses in Early Childhood Special Educ (ECSP)
Courses	ECSP 200 - Contemporary Issues
About Catalogue	Credits: 3.00
Courses	ECSP 310 - Curriculum & Tech Special Ed See EDSP 310,311.
 Browse Courses 	Credits: 3.00
by Subject	ECSP 311 - Curriculum & Tech Special Ed See EDSP 310,311.
Course Search	Credits: 3.00
Academic Offerings	ECSP 386 - Intern:Mgmt Lrng Env for Hdcpd See EDSP 386.
Colleges & Schools	Credits: 12.00
Faculty	ECSP 391 - Master's Thesis Research Credits: 1.00 to 12.00
Policies & General Information	
Catalogue Archives	

2002-03 Online Catalogue

Academics		
Catalogue 2002-03	Courses in Education (EDSS)	
Courses About Catalogue Courses Browse Courses 	EDSS 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in Education and related areas. Credits: 6.00	
by Subject	EDSS 238 - Teaching W/Global Perspective	
Course Search	Approaches to teaching global and multicultural issues: justice and human rights, peace, and the environment. Development of curriculum materials. Links between local and global concerns. Prerequisite: Twelve hours of education and related	
Academic Offerings	areas.	
Colleges & Schools	Credits: 3.00	
Faculty	EDSS 245 - Microcomp Appl in Education For elementary, secondary educators with experience in simple programming. Design of instructional procedures, integrating computers into school curriculum. Use of computer software to teach basic skills, reasoning, thinking skills. Prerequisite: CS 003 or equivalent; Instructor permission.	
Policies & General Information		
Catalogue Archives	Credits: 3.00 EDSS 248 - Educational Media	
	Modern instructional aids, theory and practice, educational media related to psychology of teaching and learning. Prerequisite: Twelve hours in Education and related areas. Credits: 3.00	
	EDSS 261 - Current Dir:Curric&Instruction Current trends, issues, literature, programs, and organizational activities in fields of curriculum and instruction emphasizing areas of individual concern. Focus on elementary and secondary school levels. Prerequisite: Twelve credits in education or equivalent. Credits: 3.00	

http://www.uvm.edu/academics/catalogue2002-03/?Page=CatalogueCourses&subject=EDSS&term=200209&SM=coursemenu.html[9/21/2018 2:44:35 PM]

EDSS 295 - Laboratory Exp in Education

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences.

Credits: 3.00

EDSS 309 - Interdisciplinary Seminar

Introduction to interdisciplinary study; the field of policy analysis and social change. Core academic experience for Interdisciplinary Majors. Prerequisite: Interdisciplinary majors; others by Instructor permission. Credits: 3.00

EDSS 313 - Stat Meth Ed & Social Services

Basic concepts of descriptive and inferential statistics. Topics: frequency distributions; measures of central tendency, dispersion; correlation, hypothesis testing. Application of concepts to educational situations. Credits: 3.00

EDSS 319 - Internship

Students will undertake an approved internship in an institution which reflects the particular area of interest and needs of the student. Prerequisite: Instructor permission.

Credits: 3.00

EDSS 321 - School Improvement: Thry & Prac

Analysis of research and practices pertinent to improvement of American schools. Student assignments include synthesis papers and site-specific research projects derived from course studies. Prerequisite: Twelve hours of Graduate study in education.

Credits: 4.00 to 6.00

EDSS 333 - Curr Concepts, Planning & Dev

Overview of conceptions of curriculum for elementary and secondary education; examination of contemporary curriculum trends, issues; processes for initiating, planning, developing curriculum activities and programs. Prerequisite: Twelve hours of education or Instructor permission. Credits: 3.00

EDSS 336 - Professional Writing

Problems in writing faced by professionals in educational and human service settings. Students write reports, critiques, reviews; analyze examples of published work; receive detailed critiques of their work. Credits: 3.00

EDSS 343 - The Study of Teaching

Study of the art and science with emphasis on students' own teaching. Current research on teaching and self-study are major foci. Prerequisite: Twelve hours of education; teaching experience. Credits: 3.00

EDSS 363 - Sem: Anyl of Curr & Instruction

A case study analysis of the design, implementation, and evaluation of selected curricular and instructional improvements. Prerequisite: Ed.D. students have priority.

Credits: 3.00

EDSS 380 - Professional Problems in Ed

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDSS 387 - Collaborative Consultation

Adult development and group dynamics theory provide the knowledge base for collaborating with parents and teachers to meet the diverse needs of students with disabilities. Cross-listed with: EDSP 387. Credits: 3.00

EDSS 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 6.00

EDSS 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Electrical Engineering (EE)
Courses	EE 201 - Linear System Theory Basic concepts in system theory; linear algebra; state space representation;
 About Catalogue Courses 	stability; controllability and observability. Applications of these concepts. Prerequisites: EE 171 or Graduate standing. Credits: 3.00
Browse Courses by Subject	EE 209 - Transient Phenomena Study of complex variable basis of Laplace and Fourier Transforms; applications
Course Search	to transient behavior of lumped and distributed parameter systems, root locus. Nyquist criterion and two-dimensional field problems. Prerequisite: 4. Not offered
Academic Offerings	2001-02. Credits: 3.00
Colleges & Schools	EE 210 - Introduction Control Systems
Faculty	Analysis and design of continuous and discrete-time control systems; stability, signal flow, performance criteria, classical and state variable methods, simulation
Policies & General Information	design tools, computer-based realizations. Prerequisite: 171. Credits: 3.00
mormation	EE 221 - Prin VLSI Digital Circuit Des
Catalogue Archives	The design, layout, and simulation of VLSI digital circuits. Emphasis on custom, laboratory design; typical topics will include memory, PLA, ALU, and elemental arithmetic circuits. Prerequisites: 131, 163, 121. Credits: 3.00
	EE 222 - Prin VLSI Analog Cir Design
	The design, layout, and simulation of VLSI analog circuits. Emphasis on small signal models and circuits used in operational amplifiers. Prerequisites: EE 163, EE 121, Instructor permission. Credits: 3.00
	EE 224 - Principles VLSI System Design
	Survey of VLSI design. Architecture and partitioning of functions. Design for testability. Simulation including timing. Synthesis. Design verification;
	manufacturing interface. Required team project and report. Prerequisites: EE 221 or Instructor permission. Credits: 3.00

EE 227 - Biomed Measmnts Instrum & Sys

Biomedical and clinical engineering in research, industry, and health care institutions. Measurement techniques and instrumentation. Integrated biomedical monitoring, diagnostic, and therapeutic systems. Co-requisites: EE 121, ANPS 020; Instructor permission. Alternate years. Credits: 3.00

EE 228 - Sensors

Sensor design, interrogation, and implementation. A wide variety of electrical, electronic, optical, mechanic, and cross-disciplinary devices. System designs, measurement techniques, and methodologies. Prerequisites: Senior standing in Engineering or Physics.

Credits: 3.00

EE 231 - Digital Computer Design

Hardware organization and realization, hard-wired and microprogrammed control units, interrupt and I/O systems. Hardware design language introduced and used for computer design. Prerequisites: EE 131, either EE 134 or CS 101. Credits: 3.00

EE 232 - Digital Computer Design II

Memory designs, error control, high-speed addition, multiplication, and division, floating-point arithmetic, cpu enhancements, testing and design for testability. Prerequisites: EE 231.

Credits: 3.00

EE 241 - Electromagnetic Theory I

Maxwell-Lorentz theory emphasizing uniqueness and conservation laws. Potential theory with applications to boundary value problems, Green's function techniques, multipole expansions, and numerical methods. Prerequisites: 141; Math. 272 recommended.

Credits: 3.00

EE 242 - Electromagnetic Theory II

Macroscopic Maxwell theory, boundary conditions and dispersion relations for spatio-temporal fields. Electromagnetic wave propagation, reflection and transmission, guided waves, radiation, scattering and diffraction phenomena. Prerequisites: EE 241 or Instructor permission. Credits: 3.00

EE 245 - Lasers&Electro-Optical Devices

A theoretical description of light-matter interactions in photon emitting resonant cavities. A practical understanding of laser design and operation. Prerequisite: 142.

Credits: 3.00

EE 246 - Engineering Optics

Applications of optics to the solution of engineering problems. Optical signal processing, fiber optic sensors, integrated optics. Prerequisites: EE 245 or Instructor permission. Credits: 3.00

EE 250 - Test Engineering

Parametric, structural, functional, characterization and stress testing of components and subsystems. Test methods, strategies, planning, and economics. Test equipment hardware and software. Prerequisites: 121, 131. Alternate years. Credits: 3.00

EE 251 - Digital Syst Testing & Design

Circuit failures, fault models, testing and test pattern generation, logic and fault simulation, design for testability, scan design, test interfaces, design for built-in self-test. Prerequisite: 131. Alternate years.

Credits: 3.00

EE 261 - Solid State Mat & Devices I

Energy band theory, effective mass, band structure and electronic properties of semiconductors. Transport of electrons and holes in bulk materials and across interfaces. Homojunctions, heterojunctions, and Schottky barriers. Prerequisite: EE 163.

Credits: 3.00

EE 262 - Solid State Mats & Devices II

Multijunction and interface devices. Heterostructure and optical devices. Dielectric and optical properties solids. High-frequency and high-speed devices. Prerequisite: EE 261. Credits: 3.00

EE 266 - Science & Tech Integrated Cir

Science and technology of integrated circuit fabrication. Interaction of processing with material properties, electrical performance, economy, and manufacturability. Prerequisites: EE 163 or EE 261; concurrent registration in EE 164 or EE 262. Credits: 3.00

EE 270 - Prob Thry & Stochastic Process

(Same as Statistics 270.) Probability theory, random variables, and stochastic processes. Response of linear systems to random inputs. Applications in electrical engineering. Prerequisite: 171 or equivalent. Credits: 3.00

EE 274 - Intro Wavelets & Filter Banks

Continuous and discrete-time signal processing. Continuous wavelet transform. Series expansion of continuous and discrete-time signals. Perfect reconstruction, orthogonal and biorthogonal filter banks. Wavelets from filters. Prerequisites: 171, or instructor's permission.

Credits: 3.00

EE 275 - Digital Signal Processing&Filt

Sampling, aliasing, and windowing. Decimation and Interpolation. FIR and IIR filters. DFT and FFT. Digital simulation and implementation using real-time processors. Prerequisites: 171. Lab same as 189. *Students who have previously taken 189 may enroll in the lecture portion for three credits. Credits: 4.00

EE 276 - Image Processing & Coding

Image enhancement techniques by point and spatial operations. Data compression techniques to include scalar quantization, entropy coding, transform and sub-band coding. Labs on PC hardware; PC and Unix-based software. Prerequisites: 275; 270 recommended.

Credits: 4.00

EE 281 - Materials Science Seminar

Presentation and discussion of advanced electrical engineering problems and current developments. Prerequisite: Senior or Graduate Engineering enrollment. Credits: 1.00

EE 282 - Seminar

Credits: 1.00

EE 285 - Engr Design Anyl & Synthesis

Advanced engineering problem solving, analytical techniques and simulations involving control systems, digital electronics, computer hardware and software; technical writing and documentation emphasized. Prerequisites: Graduate standing in EE or department permission. Credits: 3.00

EE 295 - Special Topics

Formulation and solution of theoretical and practical problems dealing with electrical circuits, apparatus, machines, or systems. Prerequisite: 4. Credits: 4.00

EE 310 - Digital Control Systems

Digital control system analysis and design using transform, algebraic, and state space methods. Sampled data systems, stability, quantization effects, sample rate selection, computer-based realization. Prerequisite: EE 210 or Instructor permission.

Credits: 3.00

EE 312 - Intro Optimum Control Systems

Optimal control problem formulation and solution; including the calculus of variations, Pontryagin's maximum principle, Hamilton-Jacob theory, dynamic programming, and computational methods. Prerequisite: EE 210. Credits: 3.00

EE 314 - Nonlinear System Theory

Basic nonlinear methods including computational and geometrical techniques for analysis of nonlinear systems. Describing function methods and bifurcation and catastrophe theory. Sensitivity and stability considerations. Prerequisite: EE 201 or MATH 230.

Credits: 3.00

EE 338 - Semiconductor Dev Model&Simul

Analysis and application of computer models for semiconductor process and device simulation. Strategies for development of device models for circuit simulation. Prerequisite: EE 262; Instructor permission. Credits: 3.00

EE 340 - ST: Electromagnetic Field Thry

For advanced students in the field of electromagnetism. Topics selected from special interests of staff with lectures and readings from current literature. Credits: 3.00

EE 341 - ST: Electromagnetic Field Thry

For advanced students in the field of electromagnetism. Topics selected from special interests of staff with lectures and readings from current literature. Credits: 3.00

EE 352 - Adv Semicond Device Phys & Des

MOSFET, bipolar, and CMOS device parameters, their characterization, and their relation to process technology. Description and use of computer-aided process and device models. Prerequisite: EE 262. Alternate years. Spring semester. Credits: 3.00

EE 354 - MOS Analog Intergrtd Circ Dsgn

Analysis and design of MOS analog integrated circuits. Each student will design, layout, test, and document an analog integrated circuit using computer-aideddesign techniques. Prerequisite: EE 338, EE 339. Credits: 3.00

EE 365 - Optical Properties of Solids

Optical and optoelectronic properties of semiconductors. Applications to photodetectors, solar cells, light emitting diodes and lasers. Prerequisites: 242, 262, Physics 273. Credits: 3.00

EE 366 - Solid State & Semicond Thry I

Energy band theory for electrons and phonons in crystalline solids. Brillouin zones. Conservation laws. Elements of statistical mechanics. Transport properties. Applications to semiconductor electronics. Prerequisite: EE 261, PHYS 273 or CHEM 263.

Credits: 3.00

EE 373 - Digital Communication

Source entropy and channel capacity; signal representation; optimal detector for Gaussian channels; digital modulation/demodulation schemes; error probability; block/convolutional codes; Viterbi algorithm; real channels. Prerequisites: 174, 270, 373 for 374.

Credits: 3.00

EE 374 - Digital Communication

Source entropy and channel capacity; signal representation; optimal detector for Gaussian channels; digital modulation/demodulation schemes; error probability; block/convolutional codes; Viterbi algorithm; real channels. Prerequisite: EE 174, EE 270, EE 373 for EE 374. Credits: 3.00

EE 378 - St:Stat Comm & Related Fields

Coding for communication or computer systems, pattern recognition and learning machines, artificial intelligence, etc., selected from special interests of staff with lectures and readings from current literature. Prerequisite: Instructor permission. Credits: 3.00

EE 391 - Master's Thesis Research

Credits: 6.00

EE 395 - Advanced Special Topics

Advanced topics of current interest in electrical engineering. Prerequisite: Instructor permission.

Credits: 4.00

EE 491 - Doctoral Dissertation Research

Credits: 6.00

2002-03 Online Catalogue

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Courses in Elementary Education (EDEL)

Courses

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- Browse Courses
 by Subject
- Course Search
- Academic Offerings

Colleges & Schools

Faculty

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Catalogue Archives

EDEL 200 - Contemporary Issues

Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in Education and related areas. Credits: 3.00

EDEL 222 - Cultivate Children's Literacy

Contemporary research and practice related to the development of strategic, motivated, and independent readers and writers. Emphasis on integrating reading and writing within collaborative environments. Prerequisite: Twelve hours in education and/or related areas including an introductory course in reading or Instructor permission.

Credits: 3.00

EDEL 234 - Lit & Lang for Children&Youth

Characteristics, interests, reading habits of children and youth; selection, evaluation of literature. Organizing book units for teaching literature, for content areas. Emphasis on development of oral, written expression. Prerequisite: Twelve hours in education and related areas or Instructor permission. Credits: 3.00

EDEL 236 - Multicultural Children's Lit

Current research in multicultural education and literacy informs examination of representation and perspective in literature for children and youth. Perspectives include religion, race, gender, SES. Credits: 3.00

EDEL 241 - Science for Elem Schools

Examination of elementary school science programs. Emphasis on methods and materials relating to construction, use of science units for children in grades K-6. Prerequisite: Twelve hours in education and related areas or Instructor permission. Credits: 3.00

EDEL 295 - Lab Experience in Education

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 12.00

EDEL 375 - Lit Assmt:Understand Indiv Dif

Designing and using assessment strategies to improve and adapt instruction. Identify, evaluate, and document literacy development, emphasizing students at risk of reading failure. Prerequisite: EDEL 222 or Instructor permission. Credits: 3.00

EDEL 376 - Lab Exp Rdg&Related Lang Instr

Approaches for prevention, correction of reading and written language difficulties. Supervised teaching of individuals and/or small groups experiencing reading and language problems. Apprenticeships in reading instructional programs. Prerequisite: EDEL 375. Credits: 3.00

EDEL 378 - Advanced Study & Research

Survey of research, comparison and evaluation of emerging programs design and development of projects in reading. Prerequisite: Fifteen hours in education including nine hours in the field of reading and language education or Instructor permission.

Credits: 3.00

EDEL 380 - Professional Problems in Ed

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDEL 382 - Teaching Internship

Supervised teaching experiences on a full-time basis, with related seminars in teaching subject. Prerequisite: Permission of coordinator of Professional Laboratory Experiences. Credits: 8.00

EDEL 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 18.00

EDEL 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 1.00 to 6.00

2002-03 Online Catalogue

: Academics		
Catalogue 2002-03	Courses in English (ENG)	
Courses	ENG 201 - Sem Engl Lang or Critical Thry Recent topics: "Origins and Development of the English Language;" "Re-	
About Catalogue Courses	disciplining the History of Literature and the Literature of History;" "Women's Texts." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission.	
 Browse Courses 	Credits: 3.00	
by Subject	ENG 202 - Sem Engl Lang or Critical Thry	
Course Search	Recent topics: "Origins and Development of the English Language;" "Re- disciplining the History of Literature and the Literature of History;" "Women's	
Academic Offerings	Texts." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission.	
Colleges & Schools	Credits: 3.00	
Faculty	ENG 211 - Sem in Composition & Rhetoric Recent topics: "Writing the New Yorker;" "Writing Vermont Life;" "Editing and	
Policies & General Information	Publishing." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00	
Catalogue Archives	ENG 212 - Sem in Composition & Rhetoric	
	Recent topics: "Writing the New Yorker;" "Writing Vermont Life;" "Editing and Publishing." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00	
	ENG 221 - Seminar in Literature to 1800	
	Recent topics: "Women in 17th Century English Poetry;" "Dante and the Experience of Reading;" "Orality and Textuality in Middle English Literature." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00	

ENG 222 - Seminar in Literature to 1800

Recent topics: "Women in 17th Century English Poetry;" "Dante and the Experience of Reading;" "Orality and Textuality in Middle English Literature." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 241 - Seminar in 19th Century Lit

Recent topics: "Dickens"; "Reader, I Married Him: The Brontes;" "Love, Marriage, and Literary Criticism: Jane Austen;" "Reading Serially: The Victorian Novel;" "Invisible Man and 19th Century American Literature," "The Gothic." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 242 - Seminar in 19th Century Lit

Recent topics: "Dickens"; "Reader, I Married Him: The Brontes;" "Love, Marriage, and Literary Criticism: Jane Austen;" "Reading Serially: The Victorian Novel;" "Invisible Man and 19th Century American Literature," "The Gothic." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 251 - Seminar in 20th Century Lit

Recent topics: "The Beat Generation;" "Literature and Society in Modern Ireland;" "Dostoevsky's Influence on 20th Century American Literature." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 252 - Seminar in 20th Century Lit

Recent topics: "The Beat Generation;" "Literature and Society in Modern Ireland;" "Dostoevsky's Influence on 20th Century American Literature." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 281 - Sem Lit Themes, Genres, Folklore

Recent topics: "Spiritual Journeys;" "Murder, He Said: Detective Fiction;" "Chekhov to Cheever: The Short Story." Prerequisites: instructor permission. 86, 6 hours at the intermediate level, and Credits: 3.00

ENG 282 - Sem Lit Themes, Genres, Folklore

Recent topics: "Spiritual Journeys;" "Murder, He Said: Detective Fiction;" "Chekhov to Cheever: The Short Story." Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 290 - Sem Prospective Tchrs of Engl

Approaches to teaching composition, literature, and the English language in secondary school. This course does not logical, artistic, economic, and sociological history of the cinema from its inception through the 1920s. Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 295 - Advanced Special Topics

Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 296 - Advanced Special Topics

Prerequisites: 86, 6 hours at the intermediate level, and instructor permission. Credits: 3.00

ENG 320 - Seminar: Major Author

In-depth study of the works, critical reception, and context of an author writing in English. Representative topics: Chaucer; Shakespeare; Milton; Austen; Dickinson; Morrison.

Credits: 3.00

ENG 330 - Seminar:Literary Period

Advanced survery of authors, themes, genres, and/or cultural context in a British or American literary period. Representative topics: British Renaissance; Restoration and Eighteenth Century; Victorian; American Renaissance. Credits: 3.00

ENG 340 - Studies in Rhetoric & Comp

Introduction to current issues in the field. Representative topics: Rhetorical theory; gender, class, and composing: writing across the curriculum; collaborative learning, literature and composition. Credits: 3.00

ENG 350 - Surv of Lit Theory & Criticism

Theory and Criticism. Credits: 3.00

ENG 360 - Seminar: Special Topics

Topic varies, based on faculty research. Representative topics: orality and literacy in medieval literature; feminist theory; anthropological approaches to literature; narrative theory and Victorian novels. Credits: 3.00

ENG 370 - Principles of Literary Rsch

Methods of literary study, research, and scholarship, including bibliographic, manuscript, and archival work. Credits: 3.00

ENG 391 - Master's Thesis Research

Credits: 1.00 to 6.00

ENG 392 - Seminar Paper Review

Credits: 0.00

ENG 397 - Special Readings & Research

Directed individual study of areas not appropriately covered by existing courses. Permission of Graduate Director. Credits: 3.00

2002-03 Online Catalogue

Academics			
Catalogue 2002-03	Courses in Environmental Studies (ENVS)		
Courses	ENVS 291 - Advanced Environmental Pract		
About Catalogue Courses	Individual readings and research, internship, or field-based learning experience at the advanced level, under direction of faculty member or environmental practitioner. Prerequisite: ENVS 001, ENVS 002; Senior/Graduate standing. Credits: 3.00		
Browse Courses			
by Subject	ENVS 293 - Environmental Law		
Course Search	Principles of environmental law, including legal research methods, threshold issues, case law, trial procedure, and international comparisons in aspects of air,		
Academic Offerings	land, and water law. Prerequisite: Junior standing. Credits: 3.00		
Colleges & Schools	ENVS 294 - Environmental Education		
Faculty	Philosophy, concepts, and strategies of environmental education, emphasizing integration of environmental concerns into formal and nonformal educational		
Policies & General Information	programs for youth and adults. Prerequisite: Six hours of intermediate or advanced courses in Environmental Studies or related areas. Credits: 3.00		
Catalogue Archives	ENVS 295 - Advanced Special Topics		
	Advanced courses of current areas of interest which may vary each semester.		
	Topics have included environmental health, energy, regional planning, international studies, literature, ethics, and natural area management.		
	Prerequisite: One environmental course at 100 level; Junior standing.		
	Credits: 6.00		

2002-03 Online Catalogue

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Catalogue 2002-03	Courses in Forestry (FOR)	
Courses • About Catalogue Courses	FOR 225 - Tree Structure & Function Basic anatomy and physiology of trees and other woody plants, emphasizing their unique structural and physiological adaptations to the environment. Prerequisite: Permission. Credits: 3.00	
 Browse Courses by Subject Course Search 	FOR 228 - Ecosystem Ecology Examination of the structure and function of terrestrial ecosystems using a systems approach. Laboratory sessions involve modeling and data analysis.	
Academic Offerings	Prerequisites: Biology 1, 2, Chemistry 23, an intermediate ecology course, Natural Resources 140, Math. 19, Physics 11 or equivalent. Alternate years, 2002-03. Credits: 2.00	
Colleges & Schools	FOR 231 - Integrated Forest Protection	
Faculty	Integration of concepts of forest protection using a holistic ecological approach to forest pest management. Detection, population dynamics, evaluation, prediction,	
Policies & General Information	and pest management considerations. Prerequisite: FOR 133, FOR 234, or Instructor permission. Alternate years, 2001-02. Credits: 3.00	
Catalogue Archives	FOR 272 - Sustainable Mgmt Forest Ecosys Principles of long-term planning and plan implementation in support of sustainable forestry; Adaptive management; biodiversity and ecosystem health; major management planning project. Prerequisite: FOR 122, NR 205; concurrent or prior enrollment in FOR 223, or Graduate standing. Credits: 4.00	
	FOR 285 - Advanced Special Topics Advanced special topics courses or seminars in forestry beyond the scope of existing formal courses. Prerequisite: Graduate or advanced undergraduate standing; Instructor permission. Credit as arranged. Credits: 4.00	

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FOR 385 - Selected Problems in Forestry

Advanced readings, or a special investigation dealing with a topic beyond the scope of existing formal courses. Prerequisite: Instructor permission. Credits: 4.00

FOR 391 - Master's Thesis Research

Credits: 1.00 to 6.00

FOR 392 - Master's Project Research

Credits: 1.00 to 6.00

2002-03 Online Catalogue

:: Academics	
Catalogue 2002-03	Courses in Foundations (EDFS)
Courses About Catalogue Courses Browse Courses 	EDFS 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in Education and related areas. Credits: 3.00
by Subject	EDFS 203 - Soc, Hst & Phil Found of Educ
Course Search	Critical examination of central educational/social issues and values with special emphasis on the struggle for justice and equality. Themes include schooling and
Academic Offerings	social class, race, and gender; the purposes of education; and the responsibilities of teachers. Prerequisite: Enrollment in teacher licensing program.
Colleges & Schools	Credits: 3.00
Faculty	EDFS 204 - Sem in Educational History Selected topics in history of education. Education in democratic and authoritarian social orders. Topics: education of women, black heritage, American higher education in transition. Prerequisite: Twelve hours in Education and related areas or Instructor permission. Credits: 3.00
Policies & General Information	
Catalogue Archives	EDFS 205 - History of American Education
	Educational principals and practices in the U.S. as they relate to the main currents of social history. Key ideas of historic and contemporary significance. Prerequisite: Twelve hours in Education and related areas or Instructor permission. Credits: 3.00
	EDFS 206 - Comparative Education Examines educational challenges confronting countries around the world. Explores issues related to sustainable development, diversity, citizenship, and justice in formal and nonformal educational contexts. Prerequisite: Twelve hours in Education and related areas. Credits: 3.00

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EDFS 209 - Intro to Research Methods

Seminars and research projects. Methods of historical, descriptive, experimental, quasi-experimental, field studies, and survey research. Credits: 3.00

EDFS 255 - School as Social Institution

Examination of the school and related social institutions, focus on themes, including: social class, race, ethnicity, socialization, role of the family, social change. Prerequisite: Twelve hours of Education and related areas. Credits: 3.00

EDFS 295 - Lab Experience in Education

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 3.00

Credits: 3.00

EDFS 302 - Philosophy of Education

Critical examination of key beliefs and values in current philosophies of helping, e.g. phenomenological, behavioral, holistic, as practiced in a variety of educational and social service institutions. Prerequisite: Twelve hours in education and related areas.

Credits: 3.00

EDFS 303 - Ethics Helping Relationships

Clarification of ethical dimensions of professional rights and obligations for educators, counselors, administrators, other helping professionals. Examination of selected ethical controversies currently facing the helping professionals. Prerequisite: Twelve hours in education and related areas. Credits: 3.00

EDFS 304 - Religion, Spirituality & Ed

A narrative approach to thinking about religion and spirituality and theoretical and practical implications for policy making, pedagogy, curriculum development, and educational leadership.

Credits: 3.00

EDFS 309 - Schol Pers Narr Writing: ED&SS

A workshop for educational writers of theses, dissertations, and scholarly articles. Students will be introduced to critical theory, postmodern, feminist, and narrativist conceptions of educational writing. Credits: 3.00

EDFS 314 - Modes of Inquiry

A critical analysis of the various conceptual and methodological foundations of theory and practice in education and the human services. Prerequisite: Twelve hours in education and related areas. Credits: 3.00

EDFS 322 - Chall Multicultrsm/Ed&Soc Inst

Critical analysis of social, historical, and philosophical dimensions of

multiculturalism. Examination of identity, empowerment, and justice and their relationships to educational/social policies and practices. Prerequisite: Twelve hours in education and related areas. Credits: 3.00

EDFS 347 - Qualitative Research Methods

Introduces students to qualitative methods as a research paradigm and develops skills in ethnographic techniques of field observation, interviewing, and data analysis. Out-of-class fieldwork required. Prerequisite: Master's or doctoral level standing or Instructor permission.

Credits: 3.00

EDFS 348 - Analyze&Write Qualitative Rsch

This course extends students' knowledge of and experience with qualitative research analysis and writing. Students must come with data collected previous to the start of the course. Prerequisite: EDFS 347 or Instructor Permission. Credits: 3.00

EDFS 352 - Aesthetic Ed & Social Justice

Exploration of art that deepens understanding of educational and social problems. Focus on artists who challenge dominant powers. Incorporates democratic perspectives on art and aesthetics. Prerequisite: Twelve hours in education and related areas.

Credits: 3.00

EDFS 354 - Anth Persp on Ed & Soc Serv

Examination of formal and non-formal education as means to produce and alleviate cultural conflict. Incorporates an autobiographical approach to studying socio-cultural implications of schooling and social services. Emphasis on Third World situations. Prerequisite: Twelve hours in education and related areas. Credits: 3.00

EDFS 369 - Ethics in Ed & Soc Serv Admin

Critical examination of theories of ethical decision making. Implications for leadership in educational, social service settings. Ethical investigation utilizing research, scholarship, actual incidents, case studies, role playing. Prerequisite: Ed.D. students have priority. Credits: 3.00

EDFS 377 - Seminar Educational Psychology

Personal values, attitudes, beliefs related to learning. Psychological research of the teaching-learning process. Research use in analysis of educational processes. Applications for educational settings. Prerequisite: Twelve hours in education and related areas.

Credits: 3.00

EDFS 380 - Professional Problems in Educ

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDFS 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 18.00

EDFS 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

EDFS 455 - Soc Process & InstitutionI Chg

Critical analysis of theory and research related to justice, caring, and change in education and other social institutions. Focus: ideology, diversity, and management of knowledge. Prerequisite: Doctoral level standing. Credits: 3.00

2002-03 Online Catalogue

:: Academics	
Catalogue 2002-03	Courses in French (FREN)
Courses	FREN 209 - Advanced Grammar Comparative grammatical study centered on the specific problems encountered by
 About Catalogue Courses 	Anglophones in written and spoken French. Prerequisite: 101. Credits: 3.00
Browse Courses by Subject	FREN 211 - History of French Language The development of French through sound and structure, from late Latin through the 12th century. Prerequisite: FREN 101. Credits: 3.00
Course Search	FREN 216 - Stylistics
Academic Offerings	Study of idiomatic difficulties faced by people who learn French; translation; analysis of the various "levels of speech" in French, with their stylistic features.
Colleges & Schools	Prerequisite: FREN 101.
Faculty	Credits: 3.00
Policies & General Information	FREN 225 - Medieval French Literature First semester: Old French language; 12th century epics, e.g. La Chanson de Roland, Breton lays; Marie de France. Prerequisite: Either FREN 111 or FREN 112 or both.
Catalogue Archives	Credits: 3.00
	FREN 235 - Lit of French Renaissance Readings in fiction, poetry, and essays: Rabelais, the lyric poets Ronsard, and Du Bellay, the tales of Marguerite de Navarre; Montaigne. Prerequisites: Either 111 or 112 or both. Credits: 3.00
	FREN 247 - 17th Century Theatre Works of Corneille, Molihre, and Racine studied in the context of the evolution of 17th century thought. Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 255 - 18th Century Literature

Writers of the early Enlightenment. Possible topics: the impact of the new science; the literary reflection of new social types; the "pursuit of happiness." Prerequisite: Either FREN 111 or FREN 112 or both. Credits: 3.00

FREN 256 - 18th C Literature

Rousseau, Diderot, Laclos, Sade: the generation before the Revolution. Possible topics: the attempts to define "natural man;" the relationship between the arts and morality, between liberty and libertinism. Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 265 - Rom,Symb,Decadence:19th C Lit

Evolution of the idealist tradition: the Romantic movement (Chateaubriand, Sand, Hugo, Musset, Flaubert); the Symbolists (Baudelaire, Verlaine, Rimbaud); fin de sihcle Decadents (Huysmans). Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 266 - Rev&React in 19th C Narrative

Study of the representations of major social issues of the period, such as power, class, money, and women. Representative authors: Balzac, Flaubert, Sand, Stendhal, Zola. Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 275 - 20th Century Literature

Selected topics dealing with poetry and/or narrative related either to an historical period or a literary movement.Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 276 - 20th C Literature

Selected topics dealing with poetry and/or narrative related either to an historical period or a literary movement. Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 285 - Quebec Literature I

A study of contemporary (1960-1985) major works of fiction, poetry, and drama. Authors studied include Anne Hebert, Michel Tremblay, Jacques Godbout, Gaston Miron. Prerequisites: Either 111 or 112 or both. Credits: 3.00

FREN 289 - African Lit: French Expression

Study of West African poetry, theatre, novel, and civilization as an expression of the Black experience in the language of the French colonizer. Prerequisites: Either 111 or 112 or both. Credits: 3.00

Credits: 3.00

FREN 292 - Topics in French Culture

In-depth study of a major aspect of French culture. See Schedule of Courses for specific offering. Prerequisites: 104 or 105 or permission. Credits: 3.00

FREN 293 - Quebec Culture

Sociocultural study of the Francophone culture of Canada. Prerequisite: One 100level French course.

Credits: 3.00

FREN 295 - Advanced Special Topics

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Credits: 3.00

FREN 296 - Advanced Special Topics

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Credits: 3.00

FREN 297 - Advanced Readings & Research

Permission of Chair required. Credits: 3.00

FREN 298 - Advanced Readings & Research

Permission of Chair required. Credits: 3.00

FREN 391 - Master's Thesis Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Geography (GEOG)
Courses	GEOG 202 - Research Methods A systematic overview of the art and science of geographical inquiry. Examination
About Catalogue Courses	of key research and methodological approaches in the discipline. Prerequisite: Junior/Senior standing; nine hours in Geography. Credits: 3.00
 Browse Courses by Subject 	GEOG 203 - Contemp Geog Thought Context A survey of paradigms and issues in contemporary geography. Attention paid to
Course Search	the social and historical contexts of geographic thought. Prerequisite: Nine hours in Geography or Instructor permission.
Academic Offerings	Credits: 3.00
Colleges & Schools	GEOG 204 - Spatial Analysis Analysis of spatial pattern and interaction through quantitative models; introduction
Faculty	to measurement, sampling, and covariation in a spatial framework. Prerequisite: Senior/Graduate standing; at least nine hours in Geography, or Instructor
Policies & General Information	permission. Credits: 3.00
Catalogue Archives	GEOG 245 - Adv Top:Human Env Interactions Advanced offerings on various manifestations of social-environmental relationships. Possible topics include sustainable development, environmental justice, and urban ecology. Prerequisite: Senior/Graduate standing with nine hours in Geography or Instructor permission. Credits: 3.00
	GEOG 246 - Adv Top:Climate&Water Resource Advanced analysis of regional climatology, hydroclimatological hazards, or fluvial

Advanced analysis of regional climatology, hydroclimatological nazards, or fluvial geomorphology. Special topics might include droughts, severe weather, floods and floodplain management, mountain and lowland rivers. Prerequisites: Senior or graduate standing with nine hours in Geography, or instructor permission. Credits: 3.00

GEOG 272 - Adv Top:Space, Power, Identity

Advanced offerings on topics related to the spatial regulation and geographic construction of social identity, paying particular attention to race, gender and sexuality. Prerequisite: Senior/Graduate standing with nine hours in Geography or Instructor permission.

Credits: 3.00

GEOG 273 - Adv Top:Political Econ&Ecology

Advanced offerings in political ecology and political economy, particularly at global and regional scales. Possible topics include Third World economic restructuring, globalization, international environmental movements. Prerequisite: Senior/Graduate standing with nine hours in Geography or Instructor permission. Credits: 3.00

GEOG 274 - Adv Top:Critical Urban&Soc Geo

Advanced offerings in urban and critical social geography. Possible topics include social justice and the city, human rights, geographies of social control. Prerequisite: Senior/Graduate standing with nine hours in Geography, or Instructor permission.

Credits: 3.00

GEOG 281 - Adv Topic:GIS & Remote Sensing

Advanced offerings in GIS or remote sensing focusing on landscape interpretation for decision-making practices. Incorporation of applications from Vermont public and private sectors. Prerequisites: Senior or Graduate standing with nine hours in Geography; or Instructor permission. Credits: 3.00

GEOG 295 - Advanced Special Topics

See schedule of courses for specific titles. Credits: 4.00

GEOG 296 - Advanced Special Topics

See schedule of courses for specific titles. Credits: 3.00

GEOG 297 - Readings & Research

Credits: 4.00

GEOG 298 - Readings & Research

Credits: 3.00

GEOG 300 - Graduate Tutorial

Readings and research on topics arranged individually by students with instructors; attendance in appropriate undergraduate courses may be required. Prerequisite: Instructor permission. Credits: 3.00

GEOG 391 - Master's Thesis Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

: Academics				
Catalogue 2002-03	Courses in Geology (GEOL)			
Courses	GEOL 201 - Advanced Field Geology Advanced field mapping techniques, analysis of field data, preparation of			
 About Catalogue Courses 	geological maps and reports. Prerequisite: GEOL 260. Credits: 3.00			
Browse Courses by Subject	GEOL 230 - Adv Igneous&Metamorphic Petrol Application of phase equilibria, elemental and isotopic data, and textural interpretations to problems in igneous and metamorphic petrology, stressing			
Course Search	modern theories of tectonics and petrogenesis. Prerequisite: GEOL 131. Credits: 4.00			
Academic Offerings	GEOL 233 - Environmental Isotope Geochem			
Colleges & Schools	Course focuses on stable isotope geochemistry of low temperature processes occurring on and near the earth surface through lecture, laboratory, and seminar.			
Faculty	Prerequisite: Introductory Chemistry. Credits: 3.00			
Policies & General Information	GEOL 234 - Global Biogeochemical Cycles Integrated perspective on biogeochemical cycles describing the transform			
Catalogue Archives	and movement of chemical substances in the natural environment, as seen on the global context. Prerequisite: Introductory Chemistry. Credits: 3.00			
	GEOL 235 - Geochemistry of Natural Waters Basic concepts of chemical equilibria applied to natural waters, including thermodynamics, pH, oxidation-reduction, weathering, and solution equilibria. Prerequisites: Chemistry 1, 2. Credits: 3.00			
	GEOL 240 - Tectonics Applications of igneous and metamorphic petrology to problems in tectonophysics, including petrochemistry of the earth's crust and upper mantle and the internal structure of orogenic belts. Prerequisite: 101, 102. Credits: 3.00			

GEOL 241 - Clastic Depositional Systems

Selected readings and field studies emphasizing the interpretation of clastic sedimentary deposits including transportation, processes of sedimentation, and geomorphology of ancient and recent sedimentary environments. Prerequisite: GEOL 153. Alternate years.

Credits: 3.00

GEOL 243 - Clastic Petrology Laboratory

Study of clastic rocks in hand specimen and thin section. Prerequisite: Concurrent enrollment in GEOL 241.

Credits: 1.00

GEOL 245 - Carbonate Depositional Environ

Paleoenvironmental analysis of carbonate rocks including selected readings, field investigations, and petrographic studies. Prerequisite: GEOL 153. Alternate years. Credits: 3.00

GEOL 255 - Geohydrology

Field-based projects address hydrologic processes in geological context; precipitation, runoff, ground water flow, river behavior, and hillslope stability. Stresses data analysis, writing, and practical approaches to water-related environmental problems. Prerequisite: Major in science or engineering or permission.

Credits: 4.00

GEOL 260 - Structural Geology

Examines processes and problems concerning the mechanical behavior of the Earth's crust and surface. Includes rock deformation stress, strain, and the interpretation of geological structures. Prerequisites: 101, 102, Physics 11 or permission.

Credits: 4.00

GEOL 272 - Regional Geology

Discussion of the geology of a selected region of North America; a four-week summer field trip to the area in question. Prerequisite: GEOL 101, GEOL 110, equivalent. or Credits: 4.00

GEOL 273 - Geology of the Appalachians

Origin of mountain belts; the Appalachian mountain system discussed in terms of tectonics and geologic processes active in modern continental margins. Prerequisites: 101, 102, or permission. Credits: 3.00

GEOL 278 - Principles of Aquatic Systems

See NR 278. Credits: 3.00

GEOL 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 4.00

GEOL 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 4.00

GEOL 301 - Intro to Graduate Studies

For first year graduate students in Geology. Includes orientation to faculty, abstract and grant writing, comprehensive exams, talk preparation and scientific method in the Geosciences. Prerequisite: Graduate standing in Geology. Credits: 1.00

GEOL 302 - Intro Graduate Studies Geology

For first year graduate students in Geology. Includes orientation to faculty, abstract and grant writing, comprehensive exams, talk preparation and scientific method in the Geosciences. Prerequisite: Graduate standing in Geology. Credits: 1.00

GEOL 351 - Surface Proc & Quaternary Geol

Discussion and critique of scientific literature pertaining to Earth surface history and processes. Critical examination of author's methods, data, and assumptions. Student-led discussions. Specific focus changes yearly. Prerequisites: Graduate standing in science, natural resources or engineering, or Instructor permission. Credits: 1.00 to 3.00

GEOL 352 - Environmental Geology Seminar

Geologic constraints on environmental problems including: groundwater flow, contaminant transport, slope stability, climate change, sedimentation, deforestation and earthquake hazards. Extensive readings and student-led discussions. Prerequisites: Graduate standing in science, natural resources, or engineering, or Instructor permission. Credits: 1.00 to 3.00

GEOL 353 - Crit Writing Earth&Env Science

Review of manuscripts and grants prepared by UVM students and faculty. Learn to write better by presenting writing, grammar and logic critiques in a seminar format. Prerequisite: Instructor permission.

Credits: 1.00 to 2.00

GEOL 360 - Structural Anyl Deformed Rocks

Mechanisms of rock deformation; fracture phenomena and analysis; fault zone characterisfics; fold generation analysis. Stress and strain interpretation of deformational features in rocks and minerals. Field work. Prerequisite: GEOL 260 or equivalent.

Credits: 4.00

GEOL 361 - Advanced Structural Geology

Selected topics in analytical structural geology. Prerequisite: GEOL 260 or equivalent. Credits: 3.00

GEOL 371 - Advanced Readings

Readings and research problems intended to contribute to the program of graduate students in areas of geology for which formal courses are not available. Prerequisite: Graduate standing in Geology.

Credits: 3.00

GEOL 391 - Master's Thesis Research

Credits: 1.00 to 9.00

2002-03 Online Catalogue

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	Courses in German (GERM)
Catalogue 2002-03	Courses in German (GLICIVI)
Courses	GERM 202 - Expository Writing Improvement of writing skills through work with authentic texts from different
About Catalogue Courses	content areas (literature, media, science, business). Emphasis on stylistic development and sophisticated vocabulary-building. Prerequisite: Two 100-level courses.
 Browse Courses 	Credits: 3.00
by Subject	GERM 213 - History of the German Language
Course Search	Historical and linguistic development of the German language from Indo-European to the present, emphasizing sound shifts, the 16th century, and the modern age.
Academic Offerings	Prerequisite: GERM 155 or GERM 156; one other 100-level course. Credits: 3.00
Colleges & Schools	GERM 214 - Middle Ages
Faculty	Analysis and discussion of several "Minnesang" poets (esp. Walther and Neidhart), the Nibelungenlied, the courtly epics Erec, Parzival, and Tristan, and
Policies & General Information	the satirical epic Helmbrecht. Prerequisite: GERM 155 or GERM 156; one other 100-level course. Credits: 3.00
Catalogue Archives	GERM 225 - Goethe
	Study of Goethe's accomplishments in poetry, drama, and the novel during major phases of his literary career: "Sturm und Drang," Classicism, and Romanticism. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00
	GERM 226 - Schiller Major attention will be paid to Schiller's development as a dramatist (from Die Rauber to Wilhelm Tell) as well as to his contributions to German Classicism. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 237 - 19th-Century Prose

Literary and stylistic analysis of prose works by Tieck, Kleist, Stifter, Gotthelf, Droste-Hulshoff, Storm, Keller, and Hauptmann with emphasis on Romanticism, Poetic Realism, and Naturalism. Prerequisite: GERM 155 or GERM 156 and one other 100-level course.

Credits: 3.00

GERM 238 - 19th Century Drama

Analysis of plays by Tieck, Kotzebue, Kleist, Buchner, Grillparzer, Nestroy, Hebbel, and Hauptmann. Consideration of traditional Viennese "Volkstheater" and the period's major literary movements. Prerequisite: GERM 155 or GERM 156 and one other 100-level course Credits: 3.00

GERM 247 - German Lit from 1890 to 1945

Naturalism, Symbolism, Expressionism and subsequent trends through readings of authors such as Hauptmann, Rilke, Kaiser, Kafka, Mann, and Brecht. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 248 - Contemporary German Literature

Literary movements and their major representatives from 1945 to the present, including relevant sociopolitical, intellectual, and cultural aspects. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 251 - German Folkore

Verbal folklore genres (fairy tales, legends, folk songs, and proverbs) treated in their relation to literature, mass media, and popular culture. Prerequisite: GERM 155 or GERM 156 and one other 100-level course.

Credits: 3.00

GERM 263 - German Romanticism

Study of major works by authors such as Friedrich Schlegel, Novalis, Brentano, Hoffmann, and Eichendorff in their literary, artistic, philosophical, and sociopolitical contexts. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 271 - Proverbs

Diachronic and synchronic survey of German proverbs, proverbial expressions, and wellerisms, emphasizing their use and function in literature, art, mass media, advertisements, and oral communication. Prerequisite: GERM 155 or GERM 156 and one other 100-level course.

Credits: 3.00

GERM 273 - German Intellectual Movements

A survey of developments in art, music, philosophy, and social thought from the Enlightenment to 1945, with particular attention to their impact on German literature. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 275 - Fin-de-Siecle

Prevalent literary and intellectual movements at the turn of the 20th century in their historical, sociopolitical, and cultural contexts. Study of Nietzsche, Freud, Rilke, Hofmannsthal, Schnitzler, and Mann. Prerequisite: GERM 155 or GERM 156 and one other 100-level course.

Credits: 3.00

GERM 276 - Brecht & the Modern Drama

Brecht's revolutionary concept of "epic theatre" in theory and practice and its influence on subsequent dramatists, including Durrenmatt, Frisch, Handke, Hochhuth, Muller, and Weiss. Prerequisite: GERM 155 or GERM 156 and one other 100-level course.

Credits: 3.00

GERM 278 - GDR Fiction

GDR fiction in its literary, historical, and social contexts, with reference to major developments in the GDR from 1949-89. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 279 - German Short Story after 1945

Aesthetic and thematic evolution of the short story and its relation to historical, political, and cultural developments from 1945 to the present. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 281 - Sem in Lit Genre, Period, Theme

Study of a literary genre, period, or theme through close readings of representative texts supplemented by lectures and reports on sociocultural context. May be repeated. Prerequisite: GERM 155 or GERM 156 and one other 100-level course.

Credits: 3.00

GERM 282 - Sem on Particular Author

Study of author(s) through close readings of representative texts supplemented by lectures and reports on the works' socio-cultural context. May be repeated. Prerequisite: GERM 155 or GERM 156 and one other 100-level course. Credits: 3.00

GERM 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

GERM 296 - Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

GERM 391 - Master's Thesis Research

Credits: 6.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Graduate (GRAD)
Courses	GRAD 385 - Master's Language Examination Required for all master's degree students during semester in which examination
 About Catalogue Courses 	will be completed. Credits: 0.00
Browse Courses by Subject	GRAD 395 - Advanced Special Topics Credits: 1.00
by Subject	GRAD 397 - Master's Comprehensive Exam
Course Search	Required for all master's degree students during semester in which comprehensive will be completed.
Academic Offerings	Credits: 0.00
Colleges & Schools	GRAD 399 - Thesis Defense Required for all master's degree candidates during semester in which defense is
Faculty	scheduled. Credits: 0.00
Policies & General Information	GRAD 485 - Doctoral Language Examination Required for all doctoral degree students during semester in which examination
Catalogue Archives	will be completed. Credits: 0.00
	GRAD 497 - Doctoral Comprehensive Exam Required for all doctoral degree students during semester in which comprehensive will be completed. Credits: 0.00
	GRAD 499 - Dissertation Defense Required for all doctoral degree candidates during semester in which defense is scheduled. Credits: 0.00

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2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Graduate Nursing (GRNU)
Courses	GRNU 296 - Special Topics Topics of interest to graduate nursing which are based on theory, research or
About Catalogue Courses	advanced practice. Course content will deal with topics beyond the scope of existing formal courses or thesis research. Prerequisite: Instructor permission. Credits: 3.00
 Browse Courses by Subject 	GRNU 300 - Quantitative Research Study of philosophical assumptions, purposes and methods of quantitative
Course Search	research. Study of statistics and use of quantitative research in nursing. Knowledge and skills related to the research process are applied to delineate a
Academic Offerings	nursing problem and to develop a plan for its study. Prerequisites: Basic statistics course and permission.
Colleges & Schools	Credits: 3.00
Faculty	GRNU 305 - Pathophysiology Focus on physiologic and pathophysiologic aspects of disease. Emphasis on
Policies & General Information	biochemical mechanisms associated with selected disease states which occur across the lifespan. Prerequisite: Permission. Credits: 3.00
Catalogue Archives	GRNU 306 - Pharmacotherapeutics I Indepth examination of the pharmacokinetics and pharmacodynamics of select drugs. Attention to and ethical and legal standards of prescriptive authority. First section of a 2-semester course. Prerequisites: 305 strongly recommended. Credits: 3.00
	GRNU 307 - Pharmacotherapeutics II Continuation of GRNU 306. Indepth examination of the pharmacokinetics and pharmacodynamics of select drugs. Attention to ethical and legal standards of prescriptive authority. Prerequisite: GRNU 306. Credits: 2.00
	GRNU 308 - Family Focus Adv Pract Nrsg Focus on assessment of family health within the context of culture and development across the lifespan. Socioeconomic, demographic, and political influences will be examined. Prerequisite: GRNU 310.

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Credits: 3.00

GRNU 310 - Nursing Theory

Exploration of the concepts, conceptual frameworks, and theories in nursing. Analysis of the current nursing theories with emphasis on the relationship between theory and practice. Prerequisite: Permission. Credits: 3.00

GRNU 315 - Nurs Issues & Hith Care Trends

Issues germane to contemporary nursing are explored. Forces influencing health care organizations are discussed with respect to concepts of management, leadership, change, and nursing roles. Prerequisite: Permission. Credits: 3.00

GRNU 320 - Rsch: Appl of Qualitative Meth

Study of purposes, methods, and strategies underlying historical and philosophical principles, and the implementation of qualitative research in nursing. Prerequisite: Instructor permission.

Credits: 3.00

GRNU 324 - Nurse as Administrator-Theory

This course is a critical study of the knowledge and skills necessary to exercise effective leadership in contemporary and dynamic health care systems. Prerequisites: GRNU 310, GRNU 315, and GRNU 300 or GRNU 320. Credits: 3.00

GRNU 326 - Nurse as Administrator-Pract

Provide student with opportunity to integrate administrative theory, operations and research in a variety of settings. Practicum is structured according to the needs of the individual to provide knowledge, skills essential for the nurse administrator. Pre/Co-requisite: GRNU 324 Credits: 3.00

GRNU 328 - Curriculum/Instruction Nursing

Study of the development, implementation and evaluation of curricula in collegiate and nursing service education. Prerequisites: GRNU 310, GRNU 315, and GRNU 300 or GRNU 320.

Credits: 3.00

GRNU 330 - Thry&Pract/Adult HIth NursingI

Examination of concepts and theories essential to the assessment, diagnosis, and clinical decision making in adult health nursing. Class and clinical placement. Prerequisites or Corequisite: 300, 305 and 310. Alternate years, 1999-2001. * (class hours-clinical hours.) Credits: 6.00

GRNU 331 - Thry&Pract/Adult Hith Nurs II

Analysis and evaluation of nursing concepts based upon theories, research and the practice of adult health nursing. Class and clinical placement. Prerequisite: 330. Corequisite: 315 and 320. Alternate years, spring 2000 and 2002. Credits: 5.00

GRNU 332 - Thry&Pract/Adult Hith Nurs III

Application and synthesis of concepts relevant to advanced practice in adult health nursing, with emphasis on role development. Class and clinical placement. Prerequisite: GRNU 331 and one elective. Credits: 6.00

GRNU 333 - Advanced Health Assessment

Development of advanced knowledge and skills in systematic collection, organization, interpretation, and communication of data necessary for formulation of nursing and medical diagnoses. Lab fee required. Prerequisites: 305 or permission.

Credits: 3.00

GRNU 340 - Thry&Pract/Adv Pop-Focus Nrsg1

Overview of factors related to advanced population-focused nursing with special emphasis on the determinants of health of populations. Prerequisites: 300, 310, and Statisfics 200.

Credits: 6.00

GRNU 341 - Thry&Pract/Adv Pop-Foc Nsg II

Examines advanced practice roles in population-focused nursing related to strategies for change in the health of populations. Prerequisites: 315, 320, and 340.

Credits: 6.00

GRNU 342 - Thry&Prac/Adv Pop-Foc Nsg III

Examines theoretic frameworks and strategies for evaluating the effectiveness of population -focused health services. Prerequisite: GRNU 341. Credits: 6.00

GRNU 348 - Practicum in Nursing Education

A practicum provides opportunity to investigate the roles and functions of the teacher in higher education and/or nursing service settings. Builds on the theory studied in GRNU 328 and focuses on the interactive nature of the teaching-learning process. Prerequisites: GRNU 330 or GRNU 340. Pre/co-requisite: GRNU 328.

Credits: 3.00

GRNU 350 - Thry/Pract Prim Care Children

This course provides the theoretical basis for the primary care of children. An opportunity to apply and evaluate theories and research is provided in clinical settings. Prerequisites: GRNU 305,310,333. Pre/corequisites: GRNU 306, 308 and 300 or 320.

Credits: 5.00

GRNU 351 - Assess Hith Maintenance Adults

Course provides opportunities for students to solidify knowledge of health assessment and initiate and evaluate interventions focusing on maintenance and enhancement of health of adults. Prerequisites:GRNU 305,333. Credits: 1.50

GRNU 352 - Theory&Prac Prim Care Wmn(FNP)

Course provides the theoretical basis needed by FNPs for the primary care of women. Opportunities for application are provided through a 67.5 hour practicum. Prerequisites: GRNU 305,306,308,310,333. Pre/corequisites: GRNU 307 and 300 or 320.

Credits: 3.00

GRNU 353 - Theory&Prac Prim Care Wmn(ANP)

Course provides the theoretical basis needed by ANPs for the primary care of women. Opportunities for application are provided through a 67.5 hour practicum. Prerequisites: GRNU 305,306,310,333. Pre/corequisites: GRNU 307 and 300 or 320.

Credits: 2.50

GRNU 354 - Th/Pract Prim Care Fam I (FNP)

This course focuses on the assessment, diagnosis, management and evaluation of acute and chronic health conditions commonly encountered in primary care. Prerequisites: GRNU 305,333,351. (Prerequisites: GRNU 308 & 350 for FNP students). Pre/corequisites: GRNU 307, 352/353. Credits: 5.00

GRNU 355 - Th/Prac Prim Care Fam II (FNP)

Focus is on refinement of diagnostic and ethical judgements and therapeutic interventions used by FNPs in the provision of primary health care. Prerequisite: GRNU 354.

Credits: 8.00

GRNU 356 - Th/Prac Prim Care Fam II (ANP)

Focus is on refinement of diagnostic and ethical judgements and therapeutic interventions used by ANPs in the provision of primary health care. Prerequisite: GRNU 354.

Credits: 6.00

GRNU 357 - Adv Nursing Pract Older Adults

Focus on health and disease and associated care and treatment of older persons by the advanced practice nurse. Prerequisite: GRNU 310. Credits: 3.00

GRNU 358 - Prac Prim Care Adult(Spec Pop)

Students refine their assessment, diagnostic and management skills for a specific clinical specialty. Prerequisites: GRNU 353, 354, 307. Credits: 2.00

GRNU 359 - Prim Care Fam Prac:Clin Integr

Integration of the multidimensional aspects of the FNP role is the focus of this course. Prerequisites: GRNU 350, 352. Credits: 2.00

GRNU 362 - Thry & Pract in Nurs Admin

Credits: 6.00

GRNU 372 - Thry & Pract in Nurs Educ

Credits: 6.00

GRNU 390 - Master's Project

Self-designed clinical paper or innovative production pertinent to advanced nursing practice. Prerequisites: 331, 335 or 341 and permission of academic advisor.

Credits: 3.00

GRNU 391 - Master's Thesis Research

Prerequisites: 331, 335 or 341 and approval of Studies Committee. Credits: 1.00 to 6.00

GRNU 395 - Independent Study

Individual work in graduate nursing with a base of theory, research, or advanced practice. Student in consultation with faculty sponsor devises objectives, plan of work, and evaluation for designated credit hours. Prerequisites: Permission of academic advisor and sponsoring faculty. Graduate nursing faculty as selected by student.

Credits: 4.00

GRNU 396 - Special Topics

Topics of interest to graduate nursing which are based on theory, research or advanced practice. Course content will deal with topics beyond the scope of existing formal courses or thesis research. Prerequisite: Instructor permission. Credits: 6.00

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Catalogue 2002-03	Courses in Greek (GRK)
Courses • About Catalogue Courses	GRK 201 - Greek Orators Selected speeches of Lysias and Demosthenes. B. Saylor Rodgers. Alternate years, as needed. Credits: 3.00
 Browse Courses by Subject 	GRK 202 - Greek Comedy Two plays of Aristophanes. Alternate years, as needed. Credits: 3.00
Course Search	GRK 203 - Greek Historians
Academic Offerings	Thucydides, Books I and II; selections from Herodotus and Xenophon's Hellenica. Alternate years, as needed. Credits: 3.00
Colleges & Schools	GRK 204 - Greek Tragedy
Faculty	Sophocles' Antigone, and Euripides' Medea, or two equivalent plays. Alternate years, as needed.
Policies & General Information	Credits: 3.00
mornation	GRK 205 - Greek Philosophers
Catalogue Archives	Dialogues of Plato with attention to language and dialectical method; Aristotle, Xenophon or Presocratic philosophers may be read. Alternate years, as needed. Credits: 3.00
	GRK 206 - Greek Epic Reading in the Iliad and Odyssey. Problems of epic composition and language together with mythological and historical background. Alternate years, as needed. Credits: 3.00
	GRK 227 - Greek Lyric Poetry A study of early Greek personal, elegiac, and choral poetry from Archilochus to Pindar, including Sappho and Alcaeus, Simonides and Bacchylides. Prerequisites: Two years of college Greek or equivalent. Alternate years, as needed. Credits: 3.00

GRK 295 - Special Topics

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Credits: 3.00

GRK 296 - Advanced Special Topics

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Credits: 3.00

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:: Academics	
::Catalogue 2002-03	Courses in Greek & Latin (GKLT)
Courses	GKLT 300 - Proseminar
About Catalogue Courses	Introduction to philology. Students will normally take this their first semester. Credits: 3.00
Courses	GKLT 381 - Seminar
 Browse Courses by Subject 	Intensive study at the graduate level of Greek and Latin authors not read in the candidate's undergraduate program. Credits: 3.00
Course Search	GKLT 391 - Master's Thesis Research
Academic Offerings	Credits: 5.00
Colleges & Schools	
Faculty	
Policies & General Information	
Catalogue Archives	

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:: Academics			
Catalogue 2002-03	Courses in Health Education (EDHE)		
Courses • About Catalogue Courses	EDHE 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in Education and related areas.		
Design Operation	Credits: 3.00		
 Browse Courses by Subject 	EDHE 208 - School Health Programs Organization of the total school health program. Problems and administration in the area of school environment, health services, health education, and school- community relationship. Prerequisite: EDHE 046 or equivalent.		
Course Search			
Academic Offerings	Credits: 3.00		
Colleges & Schools	EDHE 211 - Community Health Ed Government and voluntary agencies' sociological, historical, educational,		
Faculty	environmental, and medical influences. Role of community health educator in these influences and major American health concerns. Prerequisite: EDHE 046 or		
Policies & General Information	equivalent. Credits: 3.00		
Catalogue Archives	EDHE 220 - Stress Mgmt HIth Professionals Physiological, psychological, and sociological aspects of stress. Theory, practices, teaching techniques, and application relevant to teaching students and/or clients. Prerequisite: EDHE 046 or equivalent. Credits: 3.00		
	EDHE 295 - Lab Experience in Educ Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 3.00		
	EDHE 391 - Master's Thesis Research Thesis topic must be approved by a faculty committee. Credits: 1.00 to 12.00		

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Academics	
Catalogue 2002-03	Courses in Higher Education (EDHI)
Courses About Catalogue 	EDHI 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite:
Courses	Twelve hours in Education and related areas. Credits: 3.00
 Browse Courses by Subject 	EDHI 297 - Special Topics Learning modules may vary each semester as the need to address topics arises.
Course Search	Learning modules are five week classes. Credits: 1.00
Academic Offerings	EDHI 319 - Internship
Colleges & Schools	Students will undertake an approved internship in an institution which reflects the particular area of interest and needs of the student. Prerequisite: Instructor
Faculty	permission. Credits: 1.00 to 6.00
Policies & General Information	EDHI 332 - Adult Development & Education Critical examination of research on adult learners in higher education,
Catalogue Archives	development theory, and reentry issues facing older students. Analysis and application of proposals for new adult-oriented educational programs. Credits: 3.00
	EDHI 360 - Higher Education in America Critical, contemporary overview of the American university. Implications of conflicting value philosophies for theory, practice of higher education. Credits: 3.00
	EDHI 361 - The (Un)Changing Academy This course examines the historical trends that have shaped higher education and the tensions around stability and change affecting colleges and universities. Prerequisite: Graduate standing. Credits: 3.00

EDHI 362 - The American College Student

Examination of the diversity of college students today, and the developmental issues arising during the college experience. Credits: 3.00

EDHI 375 - Cultural Pluralism Higher Ed

This course explores cultural pluralism philosophies, racial identity development, racial incidences, and educational practices related to racism and diversity for implementation in higher education. Prerequisite: Graduate standing. Credits: 3.00

EDHI 380 - Professional Problems in Educ

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDHI 383 - Higher Ed Admin & Organization

Introduction to concepts of administration and organization as applied to contemporary higher education setting. Characteristics of organizations, dynamic elements of administration, and theories and processes of change. Credits: 3.00

EDHI 385 - Student Affairs Profession

Overview of the work of the student affairs profession, including philosophical base, historical development, current practices, and future trends. Prerequisite: Enrollment open only to Higher Education and Student Affairs students. Credits: 3.00

EDHI 387 - Seminar in Higher Education

Designed for graduate students concentrating in programs in Higher Education. Analysis and discussion of current issues and problems in higher education. Credits: 3.00

EDHI 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 3.00

EDHI 395 - Lab Experience in Education

Practica internships, offered in various University departments and offices, enable students to integrate conceptual knowledge with professional practices. Prerequisite: Graduate standing in HESA. Credits: 2.00

EDHI 396 - Capstone:Eth,Val&Mean/High Ed

An applied student affairs seminar featuring ethical problem-solving, appreciation of religious pluralism, and approaches to facilitating the search for moral and spiritual meaning in the American university. Credits: 3.00

EDHI 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

EDHI 491 - Doctoral Dissertation Research

Credits: 1.00 to 12.00

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:: Academics			
Catalogue 2002-03	Courses in Historic Preservation (HP)		
Courses	HP 200 - History American Architecture Study of architectural history to gain fluency in the stylistic terms so essential to historic preservation and to public support for conserving our architectural heritage. Prerequisite: Open to non-HP majors by permission. Credits: 3.00		
About Catalogue Courses			
 Browse Courses by Subject 	HP 201 - History on the Land Identifying and interpreting evidence of the cultural forces - early settlement		
Course Search	patterns, transportation, industry, agriculture, planning, conservation - that have shaped our land, buildings, towns and cities. Cross-listed with: HST 201.		
Academic Offerings	Credits: 3.00		
Colleges & Schools	IP 202 - Special Topics Courses are offered under this number in specialized areas of historic preservation		
Faculty	through Continuing Education. Credits: 3.00		
Policies & General Information	HP 204 - Historic Pres: DevIpmnt Econ Survey of economic, financial aspects of real estate development pertaining to		
Catalogue Archives	preservation and adaptive use of historic buildings (market studies, pro-formas). Field trips. Actual proposal development for underutilized properties. Prerequisite: HP 201. Credits: 3.00		
	HP 205 - Historic Preservation Law Legal issues in conservation of the built environment. Basic legal techniques for protection of historic structures (historic districts, protective legislation, easements, covenants). Study of significant court decisions. Prerequisite: HP 201. Credits: 3.00		
	HP 206 - Rschg Historic Structure/Sites Methods for researching historic structures and sites using archival and physical evidence, deciphering archaic building technologies, and documenting structures through professional reports, architectural photography, measured drawings. Prerequisite: HP majors or by permission.		

Credits: 3.00

HP 302 - Community Preservation Project

Third-semester graduate students apply developed professionals skills to actual community preservation problems. Projects include strategy development, securing and allocating funds, research, advocacy, and implementation. Prerequisite: HP 301; Historic Preservation majors. Credits: 3.00

HP 303 - Grad Internship

Participants will devote a semester to preservation within an appropriate institution or agency. Prerequisite: Historic Preservation majors only. Credits: 3.00

HP 304 - Contemp Preservation Plan&Pol

This introduction to the professional practice of preservation planning traces the evolution of the historic preservation movement and examines contemporary preservation policy-making issues. Prerequisites: Historic Preservation Graduate majors only.

Credits: 3.00

HP 305 - Hst Preservation Pract Methods

This course introduces students to professional practice methods for conducting historic site and structures surveys. National Register nominations, and rehabilitation investment tax credit application projects. Prerequisites: Historic Preservation Graduate majors only. Credits: 3.00

HP 306 - Architectural Conservation I

An examination of the physical properties of historic building materials, their deterioration mechanisms, and strategies for assessing conditions, conserving and rehabilitating historic resources. Lecture and lab. Prerequisites: Historic Preservation majors or by Instructor permission. Credits: 3.00

HP 307 - Architectural Conservation II

A continuation of Architectural Conservation I, emphasizing an integrated examination of historic preservation through lectures, seminars, and field and laboratory research projects. Prerequisite: HP 306. Credits: 3.00

HP 391 - Master's Thesis Research

Total of six hours required. Credits: 6.00

HP 395 - Advanced Special Topics

Credit as arranged. Credits: 3.00

HP 397 - Special Readings & Research

Credit as arranged. Credits: 3.00

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Courses in History (HST)

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Courses • About Catalogue Courses • Browse Courses by Subject • Course Search	 HST 201 - History on the Land (Same as Historic Preservation 201; Art 201.) Credits: 3.00 HST 209 - Seminar in Global History Selected topics on the nature and results of interactions among the world's peoples. HST 209: to 1500. HST 210: since 1500. Prerequisite: Minimum Junior standing; twelve hours of History including HST 009 or HST 010. Credits: 3.00 			
Academic Offerings	HST 210 - Seminar in Global History Selected topics on the nature and results of interactions among the world's			
Colleges & Schools	peoples. HST 209: to 1500. HST 210: since 1500. Prerequisite: Minimum Junior standing; twelve hours of History including HST 009 or HST 010.			
Faculty	Credits: 3.00			
Policies & General Information	HST 221 - Seminar in Ancient History (See Classics 221, 222.) Credits: 3.00			
Catalogue Archives	HST 222 - Seminar in Ancient History (See Classics 221, 222.) Credits: 3.00			
	HST 224 - Seminar in Medieval Europe Selected topics on Europe from the Fall of Rome to the Renaissance. Prerequisites: Twelve hours of history including 23 or 24; junior, senior, or graduate standing. Credits: 3.00			

HST 225 - Seminar in Early Modern Europe

Selected topics on European history from the Renaissance to the French Revolution. Prerequisite: Junior/Senior/Graduate standing and twelve hours of History.

Credits: 3.00

HST 226 - Seminar in Modern Europe

Selected topics on European history from 1815 to present. Prerequisites: Junior, senior, or graduate standing; 12 hours history. Credits: 3.00

HST 227 - Seminar in Modern Europe

Selected topics on European history from 1815 to present. Prerequisites: Junior, senior, or graduate standing; 12 hours history. Credits: 3.00

HST 237 - Seminar in Russia before 1917

Selected topics in Russian intellectual, social, and cultural history focusing on the period 1825-1917. Prerequisites: Junior, senior, or graduate standing, 12 hours of history including 137.

Credits: 3.00

HST 238 - Seminar in Soviet History

Selected topics in Soviet social and cultural history from the Bolshevik Revolution to the death of Stalin (1917-53). Prerequisite: Junior/Senior/Graduate standing; twelve hours of History including HST 138. Credits: 3.00

HST 240 - Comparative Slavery: Hist Persp

History of slavery from a comparative perspective, including Classical Antiquity, Islam and the Middle East, Africa, Latin America, and the Southern United States. Prerequisite: Minimum Junior standing. Credits: 3.00

HST 241 - Seminar in African History

Topics in African history. Generally, the seminar will focus on one of three themes: Islam, slavery or urbanism. Prerequisite: Junior/Senior/Graduate standing; twelve hours History.

Credits: 3.00

HST 250 - Seminar in East Asian History

Topics in the history of East Asia. Prerequisite: Junior/ Senior/Graduate standing; twelve hours of History. Credits: 3.00

HST 252 - Seminar on China

Selected topics on the history of China. Prerequisite: Junior/Senior/Graduate standing; twelve hours of History, including HST 150 or equivalent. Credits: 3.00

HST 262 - Sem Caribbean & Latin Amer Hst

Selected topics in Caribbean and Latin American history. Prerequisite: Junior/Senior/Graduate standing; HST 062 or HST 063, or permission. Credits: 3.00

HST 265 - Seminar in Canadian History

Topics in 19th and 20th century Canadian history; national development, regionalism, multiculturism, and international relations. Prerequisite: Junior/Senior/Graduate standing; twelve hours of History. Credits: 3.00

HST 271 - Seminar in US Social History

Topics in U.S. Social History. HST 271: to the Civil War; HST 272: Civil War to the present. Prerequisite: Junior/ Prerequisite: Minimum Junior standing; twelve hours of History.

Credits: 3.00

HST 272 - Seminar in US Social History

Topics in U.S. Social History. HST 271: to the Civil War; HST 272: Civil War to the present. Prerequisite: Junior/Senior/ Graduate standing; twelve hours of History. Credits: 3.00

HST 273 - Seminar in Modern U.S. History

Selected topics in U.S. history, among them foreign relations, the role of the presidency, World War II, and the Cold War. Prerequisite: Junior/Senior/Graduate standing; twelve hours of History. Credits: 3.00

HST 274 - Seminar in Modern U.S. History

Selected topics in U.S. history, among them foreign relations, the role of the presidency, World War II, and the Cold War. Prerequisite: Junior/Senior/Graduate standing; twelve hours of History. Credits: 3.00

HST 284 - Seminar in Vermont History

Topical approach to Vermont history through original research utilizing primary sources available at UVM, the Vermont Historical Society, and the Vermont State Archives. Prerequisite: Junior/Senior/Graduate standing; twelve hours History, including HST 184 or permission. Credits: 3.00

HST 285 - Seminar in History of Science

Selected topics in the history of science. Prerequisite: Junior/Senior/Graduate standing;12 hours of History. Credits: 3.00

HST 287 - Seminar in Historiography

Topics and methods in contemporary historical writing. Prerequisite: Junior/Senior/Graduate standing: twelve hours of History. Credits: 3.00

HST 295 - Special Topics Seminar

See Schedule of Courses for specific titles. Prerequisite: Junior/Senior/Graduate standing; twelve hours of History. Credits: 3.00

HST 296 - Special Topics Seminar

See Schedule of Courses for specific titles. Prerequisite: Junior/Senior/Graduate standing; twelve hours of History.

Credits: 3.00

HST 300 - Graduate Tutorial

Readings and research in a specific area; topics to be individually arranged; attendance in appropriate undergraduate courses may be required (see undergraduate catalogue). Prerequisite: Instructor Permission. Variable credit. Credits: 3.00

HST 301 - Intro to Grad Study in History

Historical methods, philosophy of history, and the history of history writing. Credits: 3.00

HST 351 - American Cultural History

Intended primarily for students in Historic Preservation, but open to other Graduate students.

Credits: 3.00

HST 391 - Master's Thesis Research

Required of all candidates for the M.A. Normally arranged for two semesters at three hours each. Credits: 6.00

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HST 397 - Special Readings and Research

Directed individual study of areas not appropriately covered by existing courses. Variable credit. Credits: 3.00

2002-03 Online Catalogue

:: Academics			
Catalogue 2002-03	Courses in Human Development & Fam Stdies (HDFS)		
Courses	HDFS 260 - Family Ecosystem Family viewed in and as an environment for human development. The family		
 About Catalogue Courses 	ecological approach applied to practical family concerns. Prerequisites: Senior standing or instructor's permission. Credits: 3.00		
Browse Courses by Subject	HDFS 263 - Advanced Child Development Survey of professional literature in child development with special emphasis on influence of early life experiences throughout the life cycle.		
 Course Search 	Credits: 3.00		
Academic Offerings	HDFS 264 - Contemporary Issues Parenting Contemporary cultural factors that influence adult lifestyles and their relationship to		
Colleges & Schools	successful parenting. Prerequisites: Nine hours in Human Development or instructor's permission. May be taken more than once.		
Faculty	Credits: 3.00		
Policies & General Information	HDFS 266 - Seminar in Human Development Intensive study of issues in human development and their application in a wide variety of professional areas. May be taken more than once up to a maximum of		
Catalogue Archives	12 hours. Prerequisite: Junior standing; nine hours in Human Development & Family Studies or Instructor permission. Credits: 3.00		
	HDFS 267 - Adv Seminar Sexual Identities		
	Intensive study of lesbian, gay, bisexual, and/or transgender identities, families, and communities in diverse individual, social, political, and cultural contexts. Prerequisite: Junior standing; nine hours in Human Development & Family Studies or Instructor permission. Credits: 3.00		
	HDFS 268 - Sem In Close Relationships		
	Causal conditions influencing formation, maintenance, and dissolution of intimate adult relationships. Draws on theory and students' personal experiences to explicate the nature of close relationships in contemporary American society. Prerequisite: Junior standing; nine hours in Human Development & Family Studies or Instructor permission. Offered in alternate years. Credits: 3.00		

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HDFS 281 - Infancy

Credits: 3.00

HDFS 291 - Special Problems

Reading, discussion, and special field and/or laboratory investigations. Prerequisite: Department permission. Students may enroll more than once up to twelve hours. Credits: 1.00 to 6.00

HDFS 295 - Special Topics

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Enrollment may be more than once, accumulation up to 12 hours. Prerequisite: Departmental permission. Credits: 3.00

HDFS 296 - Field Experience

Professionally-oriented field experience under joint supervision by faculty and community representative, credit arranged up to 15 hours. Prerequisite: Department permission. Credits: 6.00

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:: Academics	
::Catalogue 2002-03	Courses in Humanities (HUMN)
Courses	HUMN 300 - Modern Literary Theory A survey of modern literary theory, including Slavic and Anglo-American
About Catalogue Courses	formalism, marxism, feminism, structuralism, hermeneutics, deconstruction, and new historicism. Prerequisites: Graduate standing at UVM; or an A.B. in some humanities discipline; Insturctor permission. Alternate years.
 Browse Courses by Subject 	Credits: 3.00
by Subject	HUMN 301 - Humanities Graduate Seminar
Course Search	Varying interdisciplinary topics for humanities graduate students. Prerequisites: Graduate standing at UVM; or an A.B. in some humanities discipline; Instructor
Academic Offerings	permission. Credits: 3.00
Colleges & Schools	
Faculty	
Policies & General Information	
Catalogue Archives	

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Catalogue 2002-03	Courses in Latin (LAT)		
Courses About Catalogue Courses 	LAT 203 - Republican Prose Extensive reading in Caesar and Sallust, and in the speeches of Cicero. Alternate years, as needed. Credits: 3.00		
 Browse Courses by Subject Course Search 	LAT 204 - Epic Poets Extensive reading in Lucretius, Vergil, Ovid, and others. Alternate years, as needed. Credits: 3.00		
Academic Offerings Colleges & Schools	LAT 227 - Roman Lyric Poets Selections from the works of Catullus, Horace, Propertius, and Tibullus. Alternate years, as needed. Credits: 3.00		
Faculty Policies & General	LAT 251 - Roman Letters Letters of Cicero, Horace, and Pliny. Alternate years, as needed. Credits: 3.00		
Information Catalogue Archives	LAT 252 - Comedy Two plays of Plautus and Terence. Study of the precursors of this literary form. Alternate years, as needed. Credits: 3.00		
	 LAT 253 - Roman Oratory Selections from Cicero's De Oratore, Orator, Brutus, and from his speeches. Historical development of forensic and other rhetorical canons. Alternate years, as needed. Credits: 3.00 		
	LAT 255 - Historians of the Empire Historians of the Empire. Augustus, Res Gestae; Tacitus, Annals, I-IV; selections from Suetonius and Ammianus Marcellinus. Alternate years, as needed. Credits: 3.00		

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LAT 256 - Satire

Selections from Horace, Persius, Juvenal, Petronius. Study of the development of this literary form. Alternate years, as needed. Credits: 3.00

LAT 271 - Silver Latin

Extensive reading of post-Augustan authors not included in other advanced courses. Alternate years, as needed. Credits: 3.00

LAT 295 - Special Topics

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Credits: 3.00

LAT 296 - Special Topics

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Credits: 6.00

2002-03 Online Catalogue

:: Academics	
Catalogue 2002-03	Courses in Leadership and Policy Studies (EDLP)
Courses	EDLP 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not
About Catalogue Courses	especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in education and related areas. Credits: 6.00
Browse Courses by Subject	EDLP 264 - Evaluation in Ed & Soc Srvcs For educational and social service personnel. Overview of the state-of-the-art of
Course Search	evaluation, emerging concepts, related models. Potential applications to settings; systematic data analysis. Prerequisite: Twelve hours in education or Instructor
Academic Offerings	permission. Credits: 3.00
Colleges & Schools	EDLP 266 - Educational Finance
Faculty	National, state, and local practices in educational financing and taxation; educational policies and incentives in funding; other revenue sources; financial
Policies & General Information	expenditure procedures. Prerequisite: Twelve hours in education or Instructor permission. Credits: 3.00
Catalogue Archives	EDLP 268 - Educational Law Legal basis for education. State and Federal statutes; related court cases; Attorney General opinions; Special Education procedures; Vermont State Board and State Education Department policies; regulations. Prerequisite: Twelve hours in education or Instructor permission. Credits: 3.00
	EDLP 280 - Schl Business Mgmt Analysis of basic management concepts applied to administering schools. Topics include leadership/management trends, types of budgets, risk management, planning, and other personnel and business operations issues. Prerequisite: Twelve hours in education. Credits: 3.00
	EDLP 291 - Spec Tpcs in Org&Hum Res Dev Special issues in counseling, administration and planning, social work, or higher

education not appropriate to content of existing courses. Courses will reflect the social services orientation of the Department of Education. Credits: 3.00

EDLP 295 - Lab Experience

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 3.00

EDLP 319 - Internship

Students will undertake an approved internship in an institution which reflects the particular area of interest and needs of the student. Prerequisite: Instructor permission.

Credits: 3.00

EDLP 334 - Effecting & Managing Change

Change processes and models, the dynamics of change within the organization, and external factors affecting change. Managerial, leadership, and organizational factors and conditions impacting on innovations; change phases of initiation, implementation, and institutionalization. Prerequisite: Twelve hours of Graduate study.

Credits: 3.00

EDLP 335 - Staff Evaluation & Development

Supervisory roles, behavior, responsibilities, and relationships in educational and social service organizations; processes for evaluating the performance, promoting the development of staff, and increasing organization effectiveness. Credits: 3.00

EDLP 336 - Curr Mgmt in Ed & Soc Srv Org

Approaches to coordinating and managing curriculum or programs at the classroom, department, or organizational level; examination of factors effecting design and delivery of curriculum; developing curriculum guides and assessment methods. Prerequisite: Eighteen hours of education and related areas or appropriate professional certification. Credits: 3.00

EDLP 337 - Political Proc in Ed & Soc Srv

Political and operational relationships between schools, agencies, and other organizations at all governmental levels. Policy development, working with policy boards, and coordinating organizational and community activities. Credits: 3.00

EDLP 352 - Analysis of Educ & Soc Srv Org

Organizations as open or closed systems; examinations of goals, power, conflict, leadership, decision-making roles, communication; diagnosing causes of organizational problems; factors aiding, impeding organizational change. Credits: 3.00

EDLP 353 - Sem:Organizational Leadership

Roles, functions, relationships and responsibilities in maintaining and changing organizations; leadership styles and behavior; trends and issues impacting on organizations.

Credits: 3.00

EDLP 355 - System Analysis & Planning

An analysis of and experience with planning theories and techniques that derive from General Systems Theory. Credits: 3.00

EDLP 356 - Sem in Futurism & Planning

Knowledge, values, attitudes relating to concepts about the future; alternative futures, trend analysis, goal setting; planning processes applied to educational and social service organizations. Credits: 3.00

Credits: 3.00

EDLP 358 - Sem in Community Education

The seminar participants will analyze the Community Education process, relate the process to community development, and develop strategies for the planning and implementation of Communication Education. Credits: 3.00

EDLP 372 - Leadership&Creative Imaginatn

Leadership in societal organizations as presented in literature, other media. Students will demonstrate abilities to integrate leadership theory, principles, personal beliefs, practices with literary and other media models. Prerequisite: Ed.D. students have priority. Credits: 3.00

EDLP 380 - Professional Problems in Educ

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDLP 386 - Org & Human Resource Dev

The concept and practice of organization development, analysis of and laboratory experience in the utilization of intervention methodologies. Prerequisite: One course relating to human relations; one course relating to organizations or equivalent, or Instructor permission. Credits: 3.00

EDLP 387 - Collaborative Consultation

Cross-listed with: EDSP 387. Credits: 3.00

EDLP 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 3.00

EDLP 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with

a staff member. Prerequisites: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

EDLP 409 - Applied Educational Research

Introduction to philosophical and methodological foundations of interpretive and empirical-analytic research with emphasis on systems change. Preparation of critical readers and synthesizers of research studies. Prerequisite: Doctoral level standing.

Credits: 3.00

EDLP 431 - Adv Sem Organizational Ldrshp

Students inquire into new theories on leadership and the cognitive processes that define the intentions, values, beliefs, and future perspectives of themselves as leaders. Prerequisite: Doctoral level standing. Credits: 3.00

EDLP 432 - Adv Sem:Org Chng&Hum Res Dev

Students inquire into new theories, themes, and multicultural dimensions of organizations. Strategies for managing human resources, structural issues, and future trends in organizations are analyzed. Prerequisite:Doctoral level standing. Credits: 3.00

EDLP 437 - Sem on Educational Policy

An examination of the nature and function of education policy, emphasizing the structure and processes in education policy formulation and implementation. Prerequisite: Doctoral level standing. Credits: 3.00

EDLP 491 - Doctoral Dissertation Research

Credits: 6.00

2002-03 Online Catalogue

:: Academics	
::Catalogue 2002-03	Courses in Library Science (EDLI)
Courses • About Catalogue Courses	 EDLI 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in education and related areas. Credits: 3.00
 Browse Courses by Subject Course Search 	EDLI 272 - Manage Schl Library Media Ctrs Overview of administrative issues, including development of policies and procedures, budget preparation, personnel administration, and public relations.
Academic Offerings	Focus on information technology and literacy. Prerequisites: Twelve hours in education and related areas, or Instructor permission. Credits: 3.00
Colleges & Schools	EDLI 273 - Organizing Schl Libr Media Ctr
Faculty	Introduction to cataloging of print and non-print materials, Dewey Decimal Classification, application of microcomputers to catalog and circulation services.
Policies & General Information	Prerequisite: EDLI 272 or equivalent. Credits: 3.00
Catalogue Archives	 EDLI 274 - Design Instr Sch Lbr Media Ctr Designing library instruction for integration with curricula and collaborating to create effective lessons. Issues surrounding active learning, critical thinking, learning styles, and assessment are examined. Prerequisite: EDLI 272 or equivalent. Credits: 3.00
	 EDLI 275 - Dev Sch Libr Media Ctr Collect Evaluating and selecting books, periodicals, audiovisuals, software, and other materials for full range of student ages and ability levels. Maintaining collection, weeding, using interlibrary loan, and dealing with censorship. Prerequisite: EDLI 272 or equivalent. Credits: 3.00
	EDLI 276 - Information Sources & Services Helping students and teachers find information using print, online, CD-ROM and

 $http://www.uvm.edu/academics/catalogue2002-03/?Page=CatalogueCourses \& subject=EDLI \& term=200209 \& SM=coursemenu.html [9/21/2018 3:13:17 PM] \\ = 0.0000 \times 10^{-10} \times 10^{-10}$

other resources. Developing interview skills and selecting materials for elementary

and secondary core collections. Prerequisite: EDLI 272 or equivalent. Credits: 3.00

EDLI 277 - Info Tech Schl Libr Media Ctrs

Selecting, using, and maintaining full range of media equipment, including audiovisual and computer based systems. Designing and improving presentation facilities for media. Prerequisite: EDLI 272 or equivalent. Credits: 3.00

EDLI 295 - Lab Experience in Educ

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 3.00

EDLI 391 - Master Thesis Rsch

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 12.00

EDLI 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

2002-03 Online Catalogue

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	Courses in Materials Science (MATS)
Catalogue 2002-03	Courses in Materials Science (MATS)
Courses	MATS 391 - Master's Thesis Research Credits: 1.00 to 18.00
About Catalogue Courses Browse Courses	MATS 491 - Doctoral Dissertation Research Credits: 1.00 to 18.00
by Subject	
Course Search	
Academic Offerings	
Colleges & Schools	
Faculty	
Policies & General Information	
Catalogue Archives	

2002-03 Online Catalogue

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Courses in Mathematics (MATH) Catalogue 2002-03 MATH 207 - Probability Theory Courses (Same as Statistics 251.) Credits: 3.00 About Catalogue Courses MATH 221 - Deterministic Modls Oper Rsch The linear programming problem. Simplex algorithm, dual problem, sensitivity Browse Courses analysis, goal programming. Dynamic programming and network problems. by Subject Prerequisites: 124; 121 desirable. Credits: 3.00 Course Search MATH 222 - Stochastic Models in Oper Rsch Academic Offerings Development and solution of some typical stochastic models. Markov chains, queueing problems, inventory models, and dynamic programming under Colleges & Schools uncertainty. Prerequisite: MATH 207, STAT 151, or Instructor permission. Credits: 3.00 Faculty MATH 224 - Analysis of Algorithms (Same as Computer Science 224.) Policies & General Credits: 3.00 Information MATH 230 - Ordinary Differential Equation Catalogue Archives Solutions of linear ordinary differential equations, the Laplace transformation, and series solutions of differential equations. Prerequisite: MATH 121. Corequisite: MATH 124 or Instructor permission. Credit not granted for more than one of the courses MATH 230 or MATH 271. Credits: 3.00 MATH 236 - Calculus of Variations Necessary conditions of Euler, Legendre, Weierstrass, and Jacobi for minimizing integrals. Sufficiency proofs. Variation and eigenvalue problems. Hamilton-Jacobi equations. Prerequisite: 230. Alternate years, 1997-98. Credits: 3.00

MATH 237 - Intro to Numerical Analysis

Error analysis, root-finding, interpolation, least squares, quadrature, linear equations, numerical solution of ordinary differential equations. Prerequisite: MATH 121, MATH 124 or MATH 271; Knowledge of computer programming. Credits: 3.00

MATH 238 - Numerical Diff Equations

Numerical solution of differential equations: initial-value and boundary-value problems; finite difference and finite element methods. Prerequisite: 237, either 230 or 271 recommended.

Credits: 3.00

MATH 240 - Fourier Series&Integral Trans

Fourier series, orthogonal functions, integral transforms and boundary value problems. Prerequisite: MATH 230 or MATH 271. Credits: 3.00

MATH 241 - Anyl in Several Real Vars I

Properties of the real numbers, metric spaces, infinite sequences and series, continuity. Prerequisites: 52, 121, 124 or instructor's permission. Credits: 3.00

MATH 242 - Anyl Several Real Variables II

Differentiation in Rn, Riemann-Stieltjes integral, uniform convergence of functions, Inverse and Implicit Function Theorems. Prerequisite: 241. Credits: 3.00

MATH 243 - Theory of Computation

(Same as Computer Science 243.) Credits: 3.00

MATH 251 - Abstract Algebra I

Basic theory of groups, rings, fields, homomorphisms, and isomorphisms. Prerequisite: MATH 052, MATH 124, or Instructor permission. Credits: 3.00

MATH 252 - Abstract Algebra II

Modules, vector spaces, linear transformations, rational and Jordan canonical forms. Finite fields, field extensions, and Galois theory leading to the insolvability of quintic equations. Prerequisite: MATH 251. Credits: 3.00

MATH 255 - Elementary Number Theory

Divisibility, prime numbers, Diophantine equations, congruence of numbers, and methods of solving congruences. Prerequisite: MATH 052 or MATH 054. Credits: 3.00

MATH 257 - Topics in Group Theory

Topics may include abstract group theory, representation theory, classical groups, Lie groups. Prerequisite: 251. Alternate years, 2000-01. Credits: 3.00

MATH 260 - Foundations of Geometry

Geometry as an axiomatic science; various non-Euclidean geometries; relationships existing between Euclidean plane geometry and other geometries; invariant properties. Prerequisite: MATH 052 or MATH 054. Credits: 3.00

MATH 264 - Vector Analysis

Gradient, curl and divergence, Green, Gauss, and Stokes Theorems, applications to physics, tensor analysis. Prerequisite: MATH 121, MATH 124, or MATH 271. Credits: 3.00

MATH 266 - Chaos, Fractals & Dynamical Syst

Discrete and continuous dynamical systems, Julia sets, the Mandelbrot set, period doubling, renormalization, Henon map, phase plane analysis and Lorenz equations. Corequisite: 271 or 230 or instructor's permission. Credits: 3.00

MATH 268 - Mathematical Biology&Ecology

Mathematical modeling in the life sciences. Topics include population modeling, dynamics of infectious diseases, reaction kinetics, wave phenomena in biology, and biological pattern formation. Prerequisites: 124, 230; or instructor's permission.

Credits: 3.00

MATH 271 - Appl Math for Engr&Scientists

Matrix theory, linear ordinary differential equations. Emphasis on methods of solution, including numerical methods. Co-requisite: 121. No credit for mathematics majors. Credit not granted for more than one of the courses Math. 230 and Math. 271.

Credits: 3.00

MATH 272 - Applied Analysis

Partial Differential Equations of Mathematical Physics, Calculus of Variations, Functions of a Complex Variable, Cauchy's Theorem, integral formula. Conformal mapping. Prerequisite: 230 or 271. Credits: 3.00

MATH 273 - Combinatorial Graph Theory

Paths and trees, connectivity, Eulerian and Hamiltonian cycles, matchings, edge and vertex colorings, planar graphs, Euler's formula and the Four Color Theorem, networks. Prerequisite: MATH 052 or MATH 054, or Instructor permission. Credits: 3.00

MATH 274 - Numerical Linear Algebra

Direct and iterative methods for solving linear equations, least square factorization methods, eigenvalue computations, ill-conditioning and stability. Prerequisite: MATH 237. Credits: 3.00

MATH 275 - Advanced Engineer Analysis I

(Same as Mechanical Engineering 304, 305; Civil Engineering 304, 305.) Prerequisites: 271 or 230; 275 for 276. Credits: 3.00

MATH 276 - Adv Engineering Analysis II

(Same as Mechanical Engineering 304, 305; Civil Engineering 304, 305.) Prerequisites: 271 or 230; 275 for 276. Credits: 3.00

MATH 295 - Special Topics

For advanced students in the indicated fields. Lectures, reports, and directed readings on advanced topics. Prerequisite: Instructor permission. Credit as arranged. Offered as occasion warrants. Credits: 4.00

MATH 330 - Adv Ordinary Diff Equations

Linear and nonlinear systems, approximate solutions, existence, uniqueness, dependence on initial conditions, stability, asymptotic behavior, singularities, selfadjoint problems. Prerequisite: MATH 230. Credits: 3.00

MATH 331 - Theory of Func of Complex Var

Differentiation, integration, Cauchy-Riemann equations, infinite series, properties of analytic continuation, Laurent series, calculus of residues, contour integration, meromorphic functions, conformal mappings, Riemann surfaces. Prerequisite: MATH 242.

Credits: 4.00

MATH 332 - Approximation Theory

Interpolation and approximation by interpolation, uniform approximation in normed linear spaces, spline functions, orthogonal polynomials. Least square, and Chebychev approximations, rational functions. Prerequisite: MATH 124, MATH 237.

Credits: 3.00

MATH 333 - Thry Functions Real Variables

The theory of Lebesgue integration, Lebesgue measure, sequences of functions, absolute continuity, properties of LP-spaces. Prerequisite: MATH 242. Credits: 4.00

MATH 335 - Advanced Real Analysis

L2-spaces, LP-spaces; Hilbert, Banach spaces; linear functionals, linear operators; completely continuous operators (including symmetric); Fredholm alternative; Hilbert-Schmidt theory; unitary operators; Bochner's Theorem; Fourier-Plancherel, Watson transforms. Prerequisites: MATH 333. Credits: 3.00

MATH 339 - Partial Differential Equations

Classification of equations, linear equations, first order equations, second order elliptic, parabolic, and hyperbolic equations, uniqueness and existence of solutions. Prerequisite: MATH 230; MATH 242. Credits: 3.00

MATH 351 - Topics in Algebra

Topics will vary each semester and may include algebraic number theory, algebraic geometry, and the arithmetic of elliptic curves. Repeatable for credit with Instructor permission. Prerequisite: MATH 252. Credits: 3.00

MATH 353 - Point-Set Topology

Topological spaces, closed and open sets, closure operators, separation axioms, continuity, connectedness, compactness, metrization, uniform spaces. Prerequisite: MATH 241. Credits: 3.00

MATH 354 - Algebraic Topology

Homotopy, Seifert-van Kampen Theorem; simplicial, singular, and Cech homology. Prerequisite: MATH 353. Credits: 3.00

MATH 373 - Topics in Combinatorics

Topics will vary each semester and may include combinatorial designs, coding theory, topological graph theory, cryptography. Prerequisite: MATH 251 or MATH 273; or Instructor permission. Credits: 3.00

Credits: 3.00

MATH 382 - Seminar

Topical discussions with assigned reading. Required of M.S. degree candidates. Credits: 1.00

MATH 391 - Master's Thesis Research

Credits: 5.00

MATH 395 - Special Topics

Subject will vary from year to year. May be repeated for credit. Credits: 6.00

MATH 491 - Doctoral Dissertation Research

Credits: 12.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Mechanical Engineering (ME)
Courses	ME 203 - Machinery Analysis & Synthesis Kinematic and kinetic analysis of two- and three-dimensional machines; kinematic
 About Catalogue Courses 	synthesis, electromechanical and servo mechanisms; application to robotic mechanisms. Prerequisite: Senior standing in ME. Credits: 3.00
 Browse Courses by Subject 	ME 207 - Biomechanics I Introduction to the structure and mechanics of the musculoskeletal system.
Course Search	Application of mechanics to bone, tendon, ligaments, and other biological materials. Prerequisite: Senior or graduate standing in ME, or instructor
Academic Offerings	permission. Credits: 3.00
Colleges & Schools	ME 208 - Biomechanics II
Faculty	Introduction to biomaterials and the mechanical behavior of bioviscoelastic fluids or solids. Prerequisite: 207 or instructor permission.
Policies & General Information Catalogue Archives	Credits: 3.00
	ME 209 - Biofluid Dynamics
	Fluid dynamics of human physiology. Circulatory and respiratory mechanics, steady and unsteady laminar flow, pulse wave reflections, curved and collapsible tube flow, turbulence. Prerequisite: 143 or equivalent. Credits: 3.00
	ME 234 - Mechanical Vibrations
	Analysis, measurement, and control of mechanical vibrations; SDOF, MDOF, and rotating systems, forced, free, and random vibrations. Prerequisite: ME 111 or Senior/ Graduate standing in engineering or physical sciences. Credits: 3.00
	ME 241 - Combustion Processes
	Combustion thermodynamics; chemical kinetics; laminar flames, premixed and diffusion; turbulent flames; ignition, explosion, and detonation; droplet combustion; flame spread; large scale fires; rocket combustion. Prerequisite: Senior/Graduate standing.
	Credits: 3.00

ME 242 - Adv Engr Thermodynamics I

Foundations of statistical mechanics. Gases and crystals. Chemical equilibrium. Irreversible processes. Prerequisite: Senior/Graduate standing or permission. Credits: 3.00

ME 243 - Inviscid Flow

Eulerian and Lagrangian descriptions of motion. Potential flow. Thin-airfoil theory and numerical methods. Linear wave theory. Flow stability. Linearized subsonic and supersonic flow. Prerequisite: 143. Credits: 3.00

ME 244 - Intro to Turbomachinery Anyl

Fundamental turbomachinery principles of fluid mechanics, thermodynamics, and structural analysis; basic equations and computational techniques for analysis and design to model and evaluate turbomachinery. Prerequisite: ME 243, MATH 271. Credits: 2.00

ME 245 - Advanced Heat Transfer I

Transient heat conduction; integral methods; convection; formulation and solution; boiling, condensation; radiant heat exchange in enclosures and with emittingabsorbing gases, advanced view factors. Prerequisite: Senior standing in ME or instructor's permission.

Credits: 3.00

ME 246 - Centrifugal Compressors

Fluid dynamic and thermodynamic principles of centrifugal compressor design and design practice; limits of stable operation and instability prediction and control. Prerequisite: ME 244. Credits: 2.00

ME 247 - Centrifugal Pumps

Centrifugal pump design principles and practice; performance limits; cavitation; design tools and pump design optimization. Prerequisite: ME 244. Credits: 2.00

ME 248 - Turbomachinery Special Topics

Content in axial fans/compressors; axial, radial, or steam turbines; CFD, dynamics/rotordynamics, or materials for turbo-machinery; power plant or refrigeration cycle developments; turbocharged and compound IC-engines. Prerequisite: ME 244. Credits: 2.00

ME 249 - Computational Fluids Engr

Computational methods for solving the Navier-Stokes equations and combined thermo-fluid flows; finite- differences and finite-volume techniques; use of standard commercial CFD software. Prerequisites: 143 or equivalent. Undergraduate/graduate credit. Credits: 3.00

ME 252 - Mechanical Behavior Materials

Elastic and plastic behavior of single crystals; dislocations; approximate plastic analysis; anisotropic materials; hardness; fractures; fatigue; damping; creep and surface phenomena. Prerequisite: 101, permission. Credit given for 252 or 272, not both.

Credits: 3.00

ME 255 - Adv Engineering Materials

Phase diagrams. Thermodynamics of crystals, alloys. Defects. Phase transformations. Heat treatment of steels. Prerequisites: Senior or graduate standing, or instructor's permission. Credits: 3.00

ME 257 - Composite Materials

Fibers, matrices. Unidirectional and short fiber composites. Experimental characterization. Prerequisite: 101. Credit given for 257 or 277, not both. Credits: 3.00

ME 265 - Integrated Product Developmnt

(See Business Administration 293.) Prerequisite: Senior standing. Credits: 3.00

ME 270 - Structural Dynamics

Virbrations, matrices, earthquake engineering, stability and wave propagation. Prerequisites: Senior or graduate standing in engineering or physical sciences, or instructor permission. Cross-listed with CE 272. Credits: 3.00

ME 281 - Seminar

Presentation and discussion of advanced mechanical engineering problems and current developments. Prerequisite: Senior/Graduate engineering enrollment. Credits: 1.00

ME 282 - Seminar

Presentation and discussion of advanced mechanical engineering problems and current developments. Prerequisite: Senior/Graduate engineering enrollment. Credits: 1.00

ME 283 - Lab Techniques Turbomach Dev

Instruments and transducers for performance, flow, and structural measurements in turbo-machinery; the role of test data in design and development; experimental data acquisition and processing. Prerequisite: ME 244. Credits: 2.00

ME 295 - Special Topics

Content is dictated by expanding professional interest in newly developing, or recently developed, technical areas in which there is particular need or opportunity. Prerequisite: Senior/Graduate standing. Credits: 6.00

ME 301 - Intro Biomedical Engineering

Introduction to basic biomedical engineering science; biomedical computing and pattern recognition, biomedical instrumentation and signal analysis, biomechanics, biomaterials, rehabilitation engineering, physiological transport phenomena, intelligent systems.

Credits: 3.00

ME 304 - Adv Engineering Analysis I

Problems in analysis in engineering, including ordinary and partial differential equations, special functions, matrices, tensor analysis, variational calculus, complex variables, perturbation methods. Prerequisites: Math. 271 or Math. 230; ME 304 for ME 305. Cross-listings: CE 304, 305; Math 275, 276. Credits: 3.00

ME 305 - Adv Engineering Analysis II

Problems in analysis in engineering, including ordinary and partial differential equations, special functions, matrices, tensor analysis, variational calculus, complex variables, perturbation methods. Prerequisites: Math. 271 or Math. 230; ME 304 for ME 305. Cross-listings: CE 304, 305; Math 275, 276. Credits: 3.00

ME 321 - Special Problems in Fluid Mech

Advanced topics in fluid mechanics in which there is a particular student and staff interest.

Credits: 3.00

ME 323 - Special Prob in Thermodynamics

Advanced topics in thermodynamics in which there is a particular student and staff interest.

Credits: 3.00

ME 325 - Special Problems in Materials

Advanced topics in behavior of materials in which there is a particular student and staff interest.

Credits: 3.00

ME 330 - Matrix Meth in Struct Dynamics

Matrices, eigenvalue problems, forced vibration, wave propagation. Credits: 3.00

ME 333 - Stress Analysis

Theory and experimental method of measuring static and dynamic stress and strain.

Credits: 3.00

ME 336 - Continuum Mechanics

Tensors, conservation laws, field equations for solids and fluids. Credits: 3.00

ME 338 - Advanced Dynamics

Application of Lagrange's equation, Hamilton's principle to mechanical systems. Systems with constraints. Matrix formulation of problems in kinematics, dynamics. Stability of linear, nonlinear systems.

Credits: 3.00

ME 343 - Advanced Fluid Dynamics

Stress in continuum; kinematics, dynamics; potential fields; Wing theory; Navier-Stokes equation; hydrodynamic stability; turbulence; laminar, turbulent boundary layer theory; transient flows; free laminar, turbulent flows; mixing. Credits: 3.00

ME 344 - Adv Eng Thermodynamics II

Microscopic thermodynamics; Maxwell-Boltzmann, Bose-Einstein, Fermi-Dirac statistics; kinetic theory of gases; transport properties, compressed gases, liquids, solid states; chemical systems; irreversible processes; fluctuations. Credits: 3.00

ME 345 - Advanced Heat Transfer II

Generalized equation of heat conduction; classical integral transforms, approximate solutions; thermal boundary layers; forced and free convection; condensation, boiling, ablative cooling; radiation, statistical theory; mass transfer. Credits: 3.00

ME 346 - Advanced Gas Dynamics

Compressible flow in ducts; friction, heat transfer; shock waves; small perturbation theory; high speed flows; transonic, supersonic, hypersonic flows; methods of characteristics. Aerodynamic heating; rarified gas flows. Credits: 3.00

ME 371 - Adv Engr Des Anyl&Synthesis I

Application of fundamental concepts, principles of advanced mathematics, physics, mechanics, electricity, thermodynamics, fluid dynamics, heat transfer, and decision-making processes to design, analysis, synthesis of complex engineering systems.

Credits: 4.00

ME 372 - Systems Engineering

Advanced course in systems engineering, reliability, maintainability, safety, and human factors engineering. Case studies. Prerequisites: ME 371 or Instructor permission.

Credits: 3.00

ME 373 - Integr Mechanism Design Anyl

Application of system analysis, rigid body dynamics, finite elements, fatigue analysis and structural dynamics to an integrated approach to mechanisms design. Prerequisites: ME 371 or Instructor permission. Credits: 3.00

ME 391 - Master's Thesis Research

Credits: 3.00

ME 395 - Advanced Special Topics

Advanced topics in recently developed technical areas. Prerequisites: three hours with Instructor permission.

Credits: 3.00

ME 491 - Doctoral Dissertation Research

Credits: 0.00 to 18.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Micr & Molecular Genetics (MMG)
Courses • About Catalogue Courses	MMG 201 - Molecular Cloning Lab Intensive advanced laboratory course in the fundamentals of recombinant DNA technology through the isolation and characterization of a unique gene. Prerequisite: 102 or equivalent. Fall. Credits: 4.00
 Browse Courses by Subject 	MMG 203 - Mamm Cell Cult:Molecular Biol The basic principles and techniques of mammalian cell culture, as well as cell and
Course Search Academic Offerings	mammalian molecular genetics. Prerequisite: Permission of coordinator. Alternate years, Spring. Credits: 4.00
Colleges & Schools	MMG 211 - Prokaryotic Molecular Genetics The organization, replication, and expression of genes in prokaryotes, focusing on
Faculty	the genetics of Escherichia coli and its viruses. Prerequisite: Introductory microbiology, biochemistry, genetics, and/or cell biology courses. Fall.
Policies & General Information	Credits: 3.00 MMG 220 - Environmental Microbiology
Catalogue Archives	The activities of microorganisms, primarily bacteria, in air, soil, and water. Prerequisite: A previous course in microbiology. Alternate years. Credits: 3.00
	MMG 222 - Clinical Microbiology Comprehensive study of human pathogenic microorganisms and their disease states in humans, which includes pathogenic bacteriology, medical mycology, and virology. Laboratory sessions provide practical experience in handling and identifying these pathogens. Prerequisite: 65 or 101 or equivalent. Spring. Credits: 4.00
	MMG 223 - Immunology Analysis of the immune response with respect to structure and function of immunoglobulins and the T-cell receptor, tolerance, innate and adaptive immunity, the Major Histocompatibility Complex, hypersensitivity states, transplantation, cancer, and AIDS. Prerequisite: Instructor's permission. Alternate years. Fall. Credits: 3.00

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MMG 225 - Eukaryotic Virology

An in-depth analysis of eukaryotic virus-mammalian cell interactions emphasizing mechanisms by which viruses modulate gene expression in infected cells. Prerequisite: 101 or 102 or equivalent. Alternate years. Fall. Credits: 3.00

MMG 231 - Bioinformatics

Introduction to current topics in bioinformatics. Applications may include sequence alignment, dynamic programming, hidden Markov models, phylogenetics trees, microarray data analysis, genomics, and proteomics. Prerequisites: Instructor's permission; STAT 151, CS 26, and MMG 102 desirable. (Cross-listed with CS 231). Fall.

Credits: 3.00

MMG 295 - Special Topics

Supervised investigations in microbiology or molecular genetics. Prerequisite: Instructor permission. Credit as arranged. Credits: 3.00

MMG 302 - Medical Microbiology

Fundamentals of pathogenic microbiology emphasizing mechanisms of disease production and mechanisms of resistance to infection. The ecologic rather than taxonomic approach is stressed. Primarily for Medical students. Prerequisite: Department permission. Spring. Credits: 8.00

MMG 310 - Current Topics in MMG

Seminar to focus on specific issues at the forefront of current research in molecular genetics. Meetings will involve student presentation and discussion of research articles. Prerequisite: Permission of Coordinator. Credits: 2.00

MMG 312 - Yeast Molecular Genetics

The use of lower eukaryotes, such as the yeasts Saccharomyces cerevisiae and Schizosaccharomyces pombe, as model genetic systems to answer questions of basic biological importance. Prerequisites: Instructor permission; MMG 233 and CLBI 301, or equivalent. Credits: 3.00

MMG 320 - Cellular Microbiology

Utilizes primary literature to explore the cellular and molecular basis of microbial pathogenesis caused by viruses, pathogenic bacteria and protozoan parasites. Alternate years. Spring. Credits: 4.00

Credits: 4.00

MMG 332 - Critical Reading

Students will participate in group discussions to critically evaluate and interpret the experimental data from one assigned paper from the scientific literature per week. Prerequisite: Permission of Coordinator. Fall. Credits: 1.00

MMG 352 - Protein:Nucleic Acid Interact

Structure of DNA and RNA, and the structure and assembly of nucleoprotein complexes will be described using examples from prokaryotes, yeast, viruses, and mammalian cells in culture. Prerequisite: MMG 211 or equivalent; AGBI 201 or BIOC 301; BIOC 302 or equivalent. Cross-listed with: BIOC 352. Alternate years. Spring.

Credits: 3.00

MMG 391 - Master's Thesis Research Credits: 1.00 to 18.00

MMG 491 - Doctoral Dissertation Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

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	Courses in Molecular Physiology & Biophys (MPBP)		
Catalogue 2002-03			
Courses	MPBP 301 - Medical Physiology Function in the whole human organism, and at the cellular, tissue, and organ		
 About Catalogue Courses 	levels, considered biologically and physically. Prerequisite: Permission of department chair. Credits: 8.00		
Browse Courses	MPBP 302 - Neuroscience		
by Subject	A correlated presentation of the neuroanatomy and neurophysiology of		
Course Search	mammalian CNS. Same course as Anatomy 302. Prerequisite: Permission. Anatomy and Physiology staff.		
Academic Offerings	Credits: 4.00		
Colleges & Schools	 MPBP 303 - Special Topics Topics of current interest to the individual faculty will be covered in depth during 		
Faculty	individual, 6-week long minicourses of one credit hour each, offered in succession throughout the calendar year. Each topic will be repeated approximately every two		
Policies & General Information	years. Format will include lectures, reports, and directed readings. Prerequisites: 301; permission of individual faculty. Credits: 1.00		
Catalogue Archives	MPBP 308 - Biometrics & Applied Statistic		
	Introduction to the rational use and evaluation of statistical methods in planning experiments and interpreting biological data. Biometrics laboratory included. Course limited to 12 students. Prerequisites: Math. 110 or equivalent, and permission. Fall. Credits: 5.00		
	MPBP 310 - Molecular Basis Biol Motility		
	Molecular basis of muscle contraction, and cellular motility. Topics include: muscle energetics and mechanics, biochemistry of motility, and regulation of contractile proteins. Lectures and conferences. Prerequisites: MPBP 301; BIOC 301, BIOC 302; Instructor permission. Alternate years. Credits: 3.00		

MPBP 323 - Prin&Elem Biomed Instrumntatn

Laboratory skills for modern molecular physiology. Topics: basic electrophysics; transducers; molecular concepts and manipulation; the computer as a laboratory instrument. Lectures and laboratory. Prerequisite: Permission. Alternate years. Credits: 4.00

MPBP 381 - Seminar

Presentation and discussion by advanced students, staff, and invited speakers, of current topics in physiology. No credit will be given, but students are expected to participate.

Credits: 1.00

MPBP 391 - Master's Thesis Research

Credits: 1.00 to 18.00

MPBP 491 - Doctoral Dissertation Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

: Academics		
Catalogue 2002-03	Courses in Movement Science & Rehab (MVSR)	
Courses	MVSR 300 - Research Tutorial Through seminars, actual research participation, informal discussions, and	
About Catalogue Courses	individual advisement, the student will develop a proposal for thesis research. Explore instrumentation, experimental design, and logistics of research. Credits: 1.00 to 3.00	
 Browse Courses by Subject 	MVSR 304 - Prof Practice Practicum Practicum experience in a clinical specialty, teaching, management or	
Course Search	consultation. Companion seminar to analyze and assess practicum experience. Prerequisite: PA 312, PA 315 or PA 395.	
Academic Offerings	Credits: 2.00	
Colleges & Schools	MVSR 311 - Motor Funct&Dysfunction Muscle Structure, function, biomechanics, plasticity, measurement of muscle	
Faculty	characterisftics, muscle performance in relation to development, aging, nutrition, activity, pathology, elasticity, viscosity and responses to therapeutic interventions.	
Policies & General Information	Credits: 3.00 MVSR 381 - Special Topics Seminar	
Catalogue Archives	Topics of interest to graduate physical therapists based on theory, research or advanced practice. Content will go beyond the scope of existing courses or thesis research. May be repeated for credit. Prerequisite: Advisor and Instructor permission. Credits: 3.00	
	MVSR 391 - Master's Thesis Research Credits: 1.00 to 12.00	
	MVSR 397 - Special Readings & Research Directed individual study of areas not appropriately covered by existing courses. Prerequisite: Advisor and sponsoring faculty permission. Credits: 1.00 to 3.00	

2002-03 Online Catalogue

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	Courses in Music (MUS)		
Catalogue 2002-03			
Courses About Catalogue Courses Browse Courses 	MUS 214 - Seminar in Music Literature Seminars will treat in detail topics surveyed in intermediate level music literature sequence. Subject matter determined by instructor. Prerequisites: 11, 12; 111 for 211, 112 for 212, 113 for 213, 114 for 214; 115 for 215. Offered on irregular basis as required by major enrollment. Credits: 3.00		
by Subject	MUS 215 - Seminar in Music Literature		
Course Search	Seminars will treat in detail topics surveyed in intermediate level music literature sequence. Subject matter determined by instructor. Prerequisites: 11, 12; 111 for		
Academic Offerings	211, 112 for 212, 113 for 213, 114 for 214; 115 for 215. Offered on irregular basis as required by major enrollment.		
Colleges & Schools	Credits: 3.00		
Faculty	MUS 231 - Adv Theory:20th Century Music Techniques and form analysis of post-tonal contemporary music. Prerequisites:		
Policies & General Information	132, 134, or instructor's permission. Credits: 3.00		
Catalogue Archives	MUS 232 - Adv Theory: Counterpoint Analysis of contrapuntal forms and techniques. Music principally of 16th-18th centuries. Prerequisites: 132, 134, or instructor's permission. Credits: 3.00		
	MUS 233 - Arranging Characteristics of instruments; arranging for ensembles. Prerequisite: 132 or instructor's permission. Credits: 3.00		
	MUS 234 - Orchestration Studies in orchestral scoring. Prerequisite: 233 or instructor's permission. Credits: 3.00		
	MUS 235 - Fugal Composition Study of representative baroque, classical, and contemporary fugal procedures through analysis and composition. Prerequisites: 231 or instructor's permission. Credits: 3.00		

 $http://www.uvm.edu/academics/catalogue2002-03/?Page=CatalogueCourses \& subject=MUS \& term=200209 \& SM=coursemenu.html [9/24/2018 2:11:36 PM] \\ = 0.0000 \times 10^{-10} \times 10^{-10}$

MUS 237 - Composition

Creative work in free composition with instruction according to needs and capabilities of individual student. Prerequisite: 231, 235, or instructor's permission. May be repeated for credit.

Credits: 3.00

MUS 238 - Composition

Creative work in free composition with instruction according to needs and capabilities of individual student. Prerequisite: 231, 235, or instructor's permission. May be repeated for credit. Credits: 3.00

MUS 240 - Seminar: Musical Analysis

Advanced study of musical forms. Comparison of standard approaches to harmonic, motivic, and rhythmic analysis. Prerequisites: 235, instructor's permission.

Credits: 3.00

MUS 259 - Conducting

Technique of the baton, score reading, laboratory practice. Preparation and performance of selected scores, including rehearsal procedures. Selected students may conduct University major ensembles. Prerequisites: 132, 134. Credits: 3.00

MUS 265 - Vermont Wind Ensemble

Study and performance of masterworks for wind ensemble and concert band. Attendance at all rehearsals and concerts required. Prerequisite: Audition. May be repeated for credit. Credits: 1.00

MUS 281 - Elem Music Ed Methods

(Same as Education EDMU 281). Prerequisite: Junior standing in Music Education. Credits: 3.00

MUS 297 - Advanced Readings & Research

Studies in comparison or related special topic under direction of assigned staff member.

Credits: 3.00

2002-03 Online Catalogue

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	Courses in Natural Decourses (ND)	
Catalogue 2002-03	Courses in Natural Resources (NR)	
Courses	NR 220 - Landscape Ecology Study of pattern, process, and dynamics in the landscape. Considers the role of landscape pattern in determining habitat quality and ecosystem function.	
About Catalogue Courses	Prerequisites: One biology, one ecology course; senior standing. Alternate years, 2002-03.	
 Browse Courses 	Credits: 3.00	
by Subject	NR 235 - Legal Aspects of Plng & Zoning	
Course Search	Comparison of Vermont planning and zoning law with that of other states. Case studies in planning, zoning, and land use controls. Prerequisite: Senior standing.	
Academic Offerings	Not offered 2002-03. Credits: 3.00	
Colleges & Schools	NR 250 - Limnology Ecology of lakes and reservoirs, including their origin, physics, chemistry and biology, and the effects of anthropogenic perturbations. Field and laboratory	
Faculty		
Policies & General Information	experience. Prerequisites: One year Biology; one year Chemistry; ecology course. Credits: 4.00	
	NR 254 - Adv Natural Resource Policy	
Catalogue Archives	Advanced seminar in natural resource policy, emphasizing current issues in forest policy. Prerequisite: Graduate or advanced undergraduate standing; Instructor permission. Credits: 3.00	
	NR 255 - Field Mthds in Water Resources	
	Techniques used in field assessment of water quality in rivers and lakes. Case studies on the LaPlatte River and Lake Champlain. Sampling strategies, field	
	measurements, and data evaluation. Extensive field work. Prerequisite: NR 102 or equivalent basic course in water.	

Credits: 3.00

NR 256 - Ecology of a Large Lake

A field exploration of the littoral zone and deep lake environments and human impacts on large lakes using Lake Champlain as the class laboratory. Prerequisite: 100-level ecology course. Credits: 4.00

NR 260 - Wetlands Ecology & Mgmt

Structure, dynamics and values of natural and artificial wetlands; wetlands management and issues. Prerequisite: BIOL 001 and BIOL 002; an upper-level ecology course.

Credits: 3.00

NR 262 - Int'l Problems in NR Mgmt

Discussion of problems associated with the management of natural resources which have international implications. Topics may include deforestation, desertification, fisheries, wildlife, refuges, fuelwood, pollution. Prerequisite: Senior standing; permission.

Credits: 3.00

NR 270 - Toxic&Hzrds Subst in Srf Water

The fate of toxic and hazardous pollutants, including trace elements and organics, in surface waters; effects on human health and aquatic biota. Prerequisite: BIOL 001, CHEM 023, CHEM 042; CHEM 102 or equivalent; Senior standing. Credits: 3.00

NR 275 - NR Planning: Theory & Methods

Investigates theoretical development of natural resource planning. Studies planning methods appropriate to protection and use of scenic, recreational, forest, agriculture, and historic resources and ecologically sensitive areas. Prerequisite: Senior standing.

Credits: 3.00

NR 278 - Principles of Aquatic Systems

Study of physical, chemical and biological principles as related to natural aquatic systems. Modeling dynamic behavior of aquatic systems using system simulation techniques. Prerequisite: MATH 019, PHYS 011, CHEM 023, CHEM 026 or equivalent; NR 170 or equivalent or as a co-requisite; Senior standing. Lecture and three hours laboratory per week. Credits: 3.00

NR 279 - Watershed Management Hydrology

Fundamental elements of hydrology and contaminant transport in watersheds. Application of dynamic simulation techniques. Discussion of new technologies for watershed management. Prerequisite: NR 170 or equivalent or as a co-requisite; NR 020, PHYS 011, CHEM 023, CHEM 026 or equivalent; Senior standing. Credits: 3.00

NR 280 - Stream Ecology

Ecology of streams including hydrodynamics, morphology, sediment transport, chemistry, biology and human impacts. Field and laboratory experience. ecology course. Prerequisites: One year Biology; one year Chemistry; Credits: 4.00

NR 285 - Advanced Special Topics

Advanced special topics in natural resource planning beyond the scope of existing formal courses. Prerequisite: Graduate/Senior standing; Instructor permission. Credits: 6.00

NR 360 - Environmental Sociology

An in-depth exploration of how sociologists understand the relationship between a) the physical environment's effects on society, and b) society's effects on the natural environment. Prerequisite: Graduate standing; or Insturctor permission. Fall. Alternate years.

Credits: 3.00

NR 361 - Politic:Landscape,Place,Nature

Seminar exploring the social and political construction of nature, emphasizing how natural resources and environment are defined through social relationships in particular landscapes and places.

Credits: 2.00

NR 370 - Sp Tpcs in Aquatic Toxicology

Discussions of the current literature in aquatic toxicology. Concurrent enrollment in NR 270. Prerequisite: Graduate student standing. Credits: 1.00

NR 375 - NR Planning: Laboratory

Experiential laboratory applying natural resource planning theory and methods to local or regional issues. Students conduct a planning exercise for a town or region. Co-requisite: Concurrent enrollment in NR 275. Credits: 1.00

NR 378 - Integrating Analyses NR Issues

Resource Issues. Seminar contrasting epistemologies and ontologies of natural resource disciplines. Applications from fields such as ecology, policy, sociology, engineering, and ethics. Prerequisite: Graduate standing. Credits: 3.00

NR 380 - Seminar in Natural Resources

Presentation and discussion of advanced problems, research, and current topics in natural resources by faculty, graduate students, and outside guest speakers. Credits: 2.00

NR 382 - Seminar in Research Planning

Discussions of the planning and activities associated with Graduate student projects and research. Prerequisite: Instructor permission. Cross-listed with: FOR 382.

Credits: 1.00

NR 384 - Independent Study in NR

Readings, with conferences, to provide graduate students with backgrounds and specialized knowledge relating to an area in which an appropriate course is not offered.

Credits: 3.00

NR 385 - Special Topics in NR

Graduate topics and material that may eventually develop into a regular course offering; in addition, it may include topics and material presented only once. Credits: 3.00

NR 391 - Master's Thesis Research

Credits: 1.00 to 18.00

NR 392 - Master's Project Research

Credits: 1.00 to 12.00

NR 491 - Doctoral Dissertation Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Nutrition and Food Sciences (NFS)
Courses • About Catalogue Courses	NFS 201 - Fermented Dairy Foods Fundamental processes involved in the manufacture of domestic and imported cheese varieties and other cultured dairy foods. Acquired knowledge of manufacturing procedures applied at pilot plant level. Prerequisite: A course in organic chemistry; AGBI 201, or permission. Alternate years. Credits: 4.00
 Browse Courses by Subject 	NFS 203 - Food Microbiology
Course Search	Desirable and undesirable activities of bacteria in foods. Mechanisms of food- borne infection and intoxication. Laboratory methods to enumerate and identify microorganisms associated with food. Prerequisite: A course in Biochemistry. Fall.
Academic Offerings	Credits: 4.00
Colleges & Schools	NFS 206 - Principles of Food Engineering Credits: 4.00
Faculty	
Policies & General Information	NFS 208 - Sensory Evaluation of Foods Nature of sensory responses to aroma, taste, and texture of foods; relation of sensory data to instrumental measurements; statistical analysis and interpretation of sensory data. Prerequisite: a course in Statistics. Alternate years.
Catalogue Archives	Credits: 4.00
	NFS 223 - Meth Education Human Sciences Credits: 3.00
	NFS 243 - Advanced Nutrition Study of nutrients and their specific functions in metabolic process integrating cellular physiology, biochemistry, and nutrition. Prerequisites: 43, AGBI 201 or equivalent, ANPS 19 or equivalent; Junior standing. Spring. Credits: 3.00
	NFS 253 - Food Safety & Regulation Comprehensive study of the relationships between food processing and preservation, food toxicology, and the scope, applicability, and limitations of U.S. food laws. Prerequisite: AGBI 201 or equivalent. Spring. Credits: 3.00

NFS 260 - Diet and Disease

Examination of the physiologic, biochemical, and psychosocial basis of several disease states with application of the normal and therapeutic food and nutrition principles associated with treatment. Prerequisites: 53, 123, 143, 243. Fall. Credits: 3.00

NFS 261 - Clinical Nutrition

Applications of clinical nutrition including practice experiences in interviewing, nutritional assessment and counseling, case studies, and in-depth discussions of current controversies in the dietary management of specific diseases. Prerequisite: NFS 260 or concurrently enrolled. Fall. Credits: 3.00

NFS 262 - Community Nutrition

Study of U.S. public health nutrition policies, programs and practices. Emphasis on community nutrition program planning including needs assessment, intervention development and evaluation. Prerequisite:NFS 260; Senior standing. Spring.

Credits: 3.00

NFS 263 - Nutritional Biochemistry

Comprehensive study of metabolism of carbohydrates, lipids, and protein emphasizing diet induced, hormone mediated alterations in metabolism (e.g. starvation and obesity). Prerequisite: NFS 243 or Instructor permission. Spring. Credits: 3.00

NFS 295 - Special Topics

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Credits negotiable. Enrollment may be more than once, maxi-mum of 12 hours in 195 and 295 combined. Prerequisite: Departmental permission. Credits: 5.00

NFS 296 - Field Experience

Professionally-oriented field experience under joint supervision of faculty and business or community representative. Credit negotiable. Maxi-mum of 15 hours in 196 and 296 combined. Prerequisite: Departmental permission. Credits: 4.00

NFS 350 - Nutrition&Food Science Seminar

Credits: 1.00

NFS 360 - Rsch Meth Nutr & Food Sciences

Credits: 3.00

NFS 391 - Master's Thesis Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

Academics				
Catalogue 2002-03	Courses in Obstetrics & Gynecology (OBGY)			
Courses	OBGY 295 - Special Topics Lectures, readings and discussion for advanced students within areas of expertise			
 About Catalogue Courses 	of faculty and staff. Prerequisite: Permission of the Instructor. Credits: 3.00			
 Browse Courses by Subject 				
Course Search				
Academic Offerings				
Colleges & Schools				
Faculty				
Policies & General Information				
Catalogue Archives				

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:: Academics	
Catalogue 2002-03	Courses in Orthopedic Surgery (ORTH)
Courses	ORTH 291 - Rsch in Orth & Rehab Work on research problem under the direction of a faculty member. Review of
About Catalogue Courses	literature, preparation of manuscript. Prerequisite: Instructor Permission. In collaboration with clinical faculty of the Department. Credits: 3.00
 Browse Courses by Subject 	ORTH 292 - Special Topics:Orthopaedics Work on research problem under the direction of a faculty member. Review of
Course Search	literature, preparation of manuscript. Prerequisite: Instructor Permission. In collaboration with clinical faculty of the Department.
Academic Offerings	Credits: 3.00
Colleges & Schools	ORTH 382 - Rdgs & Rsch:Musc Biomechanics Intended for Graduate Students doing thesis or dissertation work in biomechanics.
Faculty	Class will meet to discuss current journal articles and literature reviews prepared by students. Prerequisite: Instructor Permission.
Policies & General Information	Credits: 1.00
Catalogue Archives	

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::Catalogue 2002-03	Courses in Pathology (PATH)		
Courses	PATH 295 - Special Topics Credits: 3.00		
About Catalogue Courses	PATH 301 - General Pathology An introductory study of the basic mechanisms and principles of cell injury, inflammation and repair, neoplasia, aging, immunological, nutritional, genetic and environmental diseases, and coagulation disorders as they affect cells, tissues,		
Browse Courses			
by Subject Course Search 	and the human patient. Lecture and Lab (gross and microscopic). For Medical students. Prerequisite: Instructor Permission. Histology recommended. Credits: 3.00		
Academic Offerings	PATH 302 - Systematic Pathology		
Colleges & Schools	Introduction to diseases, and their effects on virtually all organ systems. Emphasis is on correlation of gross and microscopic pathology with clinical laboratory		
Faculty	medicine, and the patient's signs and symptoms. Prerequisites: PATH 301, Instructor permission.		
Policies & General Information	Credits: 8.00 PATH 305 - Molecular Mech Environ Disease		
Catalogue Archives	Introductory course on molecular and cellular pathways of disease induction and development. Emphasis on environmental diseases. For graduate students and		
	postdoctoral fellows and undergraduates with permission of course director. Alternate years. Credits: 3.00		
	PATH 306 - Pathobiology of Disease Computer-assisted basic pathology series with emphasis on skin, lung, brain, and digestive tract. Alternate years with PATH 305. Credits: 1.00		

PATH 375 - ST:Molecular Pathobiology

Five independent, rotating one-semester modules concerning: Atherosclerosis, DNA Replication, Human Genetics, Cell Imaging Techniques, Cell Signalling in Differentiation and Apoptosis, and Cancer Genetics. Each course based on critical review of the primary literature. Altrnate years. Prerequisites: Biochemistry 301, 302 or instructor's permission. Open to undergraduates with instructor's permission.

Credits: 3.00

PATH 391 - Master's Thesis Research

Credits: 1.00 to 18.00

PATH 395 - Spec Top:Immunopathology

In-depth analysis of the role of the immune system in disease processes. Discussions center on current and controversial areas of immunopathology. Prerequisites: Immunology (Microbiology 223) desirable. Alternate year course with 305.

Credits: 5.00

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:: Academics			
Catalogue 2002-03	Courses in Pharmacology (PHRM)		
Courses • About Catalogue Courses	PHRM 272 - Toxicology The biology of environmental intoxicants and of drug abuse. Ecologic and physiologic consequences of the dissemination of agricultural, industrial, and medicinal chemicals. Prerequisites: Organic chemistry, background in biology. Credits: 3.00		
 Browse Courses by Subject Course Search 	PHRM 290 - Topics Molecular&Cell Pharm Focuses on basic principles, drug interactions with receptors, membranes, synapses, neurotransmitters, macromoles, cytoskeleton, ion channels and pumps, and mechanisms of drug resistance. Prerequisite: Introductory course in organic		
Academic Offerings	chemistry, background in physiology or health sciences. Credits: 3.00		
Colleges & Schools	PHRM 301 - Medical Pharmacology		
Faculty	The chemical and biological properties of drugs. Prerequisite: Permission. Credits: 6.00		
Policies & General Information	PHRM 302 - Pharmacological Techniques Experiments conducted under supervision in the areas of drug metabolism, n of drug action, physicochemical properties of drugs, bioassay, and toxicology		
Catalogue Archives	Open to undergraduates with instructor's permission. Credits: 3.00		
	PHRM 303 - Pharmacological Techniques Experiments conducted under supervision in the areas of drug metabolism, modes of drug action, physicochemical properties of drugs, bioassay, and toxicology. Open to undergraduates with instructor's permission. Credits: 2.00		
	PHRM 328 - Intro to Medicinal Chemistry Important classes of drugs are surveyed. Emphasis on relationships between physicochemical properties and pharmacologic activity; synthetic aspects considered. Prerequisites: Chemistry 131-132. Open to undergraduates with instructor's permission. Credits: 3.00		

PHRM 372 - Special Topics

Topics of current interest and importance in pharmacology are considered in depth through presentations by staff, students, and visiting scientists. Prerequisite: Instructor Permission. Credit variable. Credits: 3.00

PHRM 373 - Readings in Pharmacology

Intensive directed reading in one area of pharmacology. Pharmacology students must choose a topic outside thesis research area. Term paper and seminar on selected topic required. Prerequisite: Instructor Permission. Credits: 2.00

PHRM 381 - Seminar

Current developments in pharmacology are presented for discussion by students. Prerequisite: Instructor Permission. Credits: 1.00

PHRM 391 - Master's Thesis Research

Credits: 1.00 to 12.00

PHRM 491 - Doctoral Dissertation Research

Credits: 1.00 to 12.00

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Catalogue 2002-03	Courses in Philosophy (PHIL)		
Courses • About Catalogue Courses	PHIL 201 - Theory of Knowledge Critical examination of nature and sources of knowledge; belief, truth, evidence, perception, memory, and induction. Prerequisite: PHIL 102 or PHIL 112. Offered every Fall semester. Credits: 3.00		
Browse Courses by Subject Course Search Academic Offerings	PHIL 202 - Metaphysics Critical examination of such topics as the nature of space and time, the concept of change, the identity of the self, the nature of the world and man's place in it. Prerequisite: PHIL 101, PHIL 102 or PHIL 110. Offered every Spring semester. Credits: 3.00		
Colleges & Schools	 PHIL 210 - Philosophy of Mind Major philosophical theories of the mind and its relation to the physical world, the nature of sensation, desire, and belief, and the relation between thought and action. Prerequisite: PHIL 102 or PHIL 110. Alternate years. Kornblith, Pereboor Credits: 3.00 		
Faculty			
Policies & General Information Catalogue Archives	PHIL 217 - Philosophy of Language Philosophical study of the nature of language. Prerequisite: Linguistics 101, 102. Alternate years. Credits: 3.00		
	PHIL 221 - Topics in Chinese Philosophy Detailed examination of a classical Chinese philosophical text or school. Prerequisite: 121 or 122. Alternate years. Credits: 3.00		
	 PHIL 235 - Topics in Philosophy of Rel Advanced study of such issues as the metaphysics of religion, the epistemology of religious belief, philosophy and faith, religion and science, and religion and ethics. (May be repeated for credit when topic is significantly different and with departmental approval.) Prerequisites: 101, 102 or 135. Credits: 3.00 		

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PHIL 240 - Contemporary Ethical Theory

Analysis of the ideas of contemporary moral philosophers in normative ethics and metaethics. Prerequisite: 140, 142, 143 or 144. Alternate years. Credits: 3.00

PHIL 241 - Cont Social & Political Phil

An analysis of the ideas of contemporary philosophers in social and political philosophy. Prerequisite: 140, 142, 143, or 144. Alternate years. Credits: 3.00

PHIL 242 - Justice & Equality

(Same as Political Science 241.) An examination of contemporary normative theories of distributive justice and equality. Prerequisite: 140, 142, 143, or 144. Offered once a year. (Political Science). Credits: 3.00

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PHIL 260 - Topics in Continental Phil

Study of a central issue in current continental philosophy, e.g. social theory, psychoanalysis, or aesthetics. Readings from Nietzsche, Heidegger, Gadamer, Ricoeur, Habermas, Derrida, and Foucault. Prerequisites: Any course in philosophy at the 100 level or above, or instructor's permission. (May be repeated for credit when topic is significantly different.) Alternate years. Credits: 3.00

PHIL 271 - Seminar

Major Philosophical Author or School Study of major philosophical texts by a single author or school of thought. May be repeated for credit when different authors are studied. Prerequisite: An appropriate 100-level course in Philosophy. Credits: 3.00

PHIL 295 - Adv Special Topics

See Schedule of Courses for specific titles. Credits: 4.00

PHIL 296 - Adv Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

PHIL 297 - Adv Readings & Research

Independent study with an instructor on a specific philosopher or philosophical problem. Prerequisite: An appropriate 200-level course in philosophy. Credits: 3.00

PHIL 298 - Adv Readings & Research

Independent study with an instructor on a specific philosopher or philosophical problem. Prerequisite: An appropriate 200-level course in philosophy. Credits: 3.00

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Academics	
Catalogue 2002-03	Courses in Physical Education-Prof (EDPE)
Courses • About Catalogue Courses	EDPE 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in education and related areas. Credits: 3.00
 Browse Courses by Subject Course Search 	EDPE 220 - Sport in Society Examines sport as a social institution, emphasizing interrelationships between sport and the social context in which it exists; analyzes functions and dysfunctions of sport in contemporary society. Prerequisite: SOC 001, SOC 019, or equivalent.
Academic Offerings	Credits: 3.00
Colleges & Schools	EDPE 240 - Motor Skill Learning & Control Nature of motor learning; factors affecting motor learning (motivation, emotion,
Faculty	stress); concepts of transfer, retention; alternatives in teaching, coaching methodologies based upon applied principles in motor learning. Prerequisites:
Policies & General Information	166, ECHD 62 or 63, or equivalent. Credits: 3.00
Catalogue Archives	EDPE 241 - Sem in Phys Educ & Athletics Examination and analysis of contemporary issues and trends in physical education and athletics not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in physical education and related areas. Credits: 3.00
	EDPE 253 - Curriculum Dsgn Hlth & Phys Ed Philosophy, techniques of curriculum innovation in health and physical education. Inter-relationships between student needs and interests, teaching methodology, evaluative procedures, community involvement, administrative organization patterns. Prerequisite: EDPE 104, EDPE 105, EDPE 046, EDPE 155, or

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equivalent. Credits: 3.00

EDPE 260 - Adapted Physical Activity

Recognition, prevention, correction of functional, structural deviations from normal body mechanics. Organization of programs adapted to needs of handicapped individuals in both special class and mainstreamed settings. Prerequisite: 155, 104, 105 or equivalent teaching experience. Credits: 3.00

EDPE 295 - Lab Experience in Education

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences.

Credits: 12.00

EDPE 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 12.00

EDPE 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 1.00 to 6.00

OFFICIAL 2002/03 CATALOGUE SITE

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Catalogue 2002-03			
-	PT 201 - Clinical Science&Practice Sem		
Courses	A comprehensive in-depth presentation of the scientific basis of human function.		
About Catalogue Courses	Primarily for physical therapy students; a limited number of others may be admitted with permission. Prerequisite: CHEM 023 and CHEM 042 or equivalent; two semesters general Physics; one semester Mathematics; Instructor permission.		
Browse Courses	Co-requisite: PT 211, PT 221.		
by Subject	Credits: 2.00		
	PT 202 - Clinic Science&Practice Sem II		
Course Search	Forum to learn, analyze and discuss scientific , clinical and professional issues		
Academic Offerings	related to individuals with non-complex conditions involving the cardiopulmonary system and spinal musculoskeletal problems. Prerequiste: PT 201. Co-requisite		
Colleges & Schools	PT 212, PT 222, PT 232.		
	Credits: 2.00		
Faculty	PT 211 - Clinical Skills Laboratory I		
Policies & General Information	Laboratory experiences in which students will learn foundational biomechanical principles, kinesiology of joints and practice observational, verbal, written, manual and intellectual skills involved in PT examination, evaluation, and management of		
Catalogue Archives	patients with non-complex conditions of the peripheral joints of the musculoskeletal system. Co-requisite: PT 201, PT 221.		
	Credits: 3.00		
	PT 212 - Clinical Skills Labs II		
	Laboratory to practice skills in PT examination, evaluation, and management of patients with non-complex conditions involving the cardiopulmonary system and		

Courses in Physical Therapy (PT)

Imonary system and spinal musculoskeletal problems. Prerequisite 211. Co-requisites: 202, 222, 232. Credits: 3.00

PT 221 - Tutorial I-Clin Care Issues I

Tutorials to investigate, apply and integrate relevant basic and social sciences applied to persons with non-complex conditions involving primarily peripheral joint problems of the neuromusculo-skeletal system. Co-requisite: PT 201; PT 211. Credits: 2.00

PT 222 - Tutorials II

Tutorials where students investigate, apply and integrate foundational sciences as applied to patients with non-complex conditions involving the cardiopulmonary system and spinal musculoskeletal problems. Prerequisite: PT 221. Co-requisite: PT 202, PT 212, PT 232.

Credits: 2.00

PT 232 - Clinical Education I

Two week clinical experience to understand the role of the physical therapist. Exposure to comprehensive patient care; examinations, intervention, discharge planning, and outcome assessment. Prerequisites: 201, 211, 221. Co-requisites: 202, 212, 222.

Credits: 2.00

PT 255 - Prof Abilities Assessment

Assessment of students' professional behaviors by faculty, based upon generic abilities and the expected stage of development, examined within all courses during the semester.

Credits: 0.00

PT 315 - Clinical Skills Lab III

Students practice observational, verbal, written, manual, and intellectual skills in PT examination, evaluation, and management of peripheral neruo-musculoskeletal, metabolic and multiple systems impairments and disabilities. Prerequisites:211,212. Co-requisites:323, 341, 333, 355. Credits: 4.00

PT 316 - Clinical Skills Lab IV

Students practice observational, verbal, written, manual, and intellectual skills in PT examination, evaluation, and management of individuals with various neurological conditions. Prerequisite: PT 211, PT 212, PT 315. Co-requisite: PT 324, PT 342, PT 355. Credits: 4.00

PT 317 - Clinical Skills Laboratory V

Therapeutic approaches to pain, restoration of function and movement, assistive technology, training and education, patient advocacy, and coordination of care throughout the life span. Prerequisite: PT 211, PT 212, PT 315, PT 316. Co-requisite: PT 325, PT 334, PT 343. Credits: 3.00

PT 323 - Tutorial III

Small group tutorials to investigate, apply and integrate the relevant foundational sciences pertaining to persons with peripheral neuro-musculo-skeletal, metabolic and multiple systems impairments and disabilities. Prerequisite: PT 221, PT 222. Credits: 4.00

PT 324 - Tutorial IV

Small group tutorials to investigate, apply and integrate the relevant foundational sciences pertaining to persons with various neurological conditions. Prerequisite: PT 221, PT 222, PT 323. Co-requisite: PT 316, PT 342, PT 355.

PT 325 - Tutorials V

Explore inter-relationships between clinical conditions, health, politics, culture, ethics and professionalism, focusing on role of physical therapists as consultant, patient advocate and health team member. Prerequisite: PT 221, PT 222, PT 323, PT 326. Co-requisite: PT 316, PT 334, PT 343. Credits: 3.00

PT 333 - Clinical Education II

4-week clinical experience providing opportunities for integration of didactic information and clinical skills and involvement and responsibility for safe, effective, comprehensive patient care. Prerequisites: 232. Co-requisites: 315, 323, 341, 355. Credits: 3.00

PT 334 - Clinical Education III

A 8-week full-time experience integrating didactic information with clinical skills in one of three treatment settings. Focus: critical thinking, problem solving, and application of skills. Prerequisite: PT 232, PT 333. Credits: 6.00

PT 335 - Clinical Education IV

Two 8-week, full-time clinical experiences integrating didactic information and clinical skills. Practice and refine skills, attitudes and behaviors. A variety of clinical settings is required. Prerequisite: PT 232, PT 333, PT 334. Credits: 6.00

PT 336 - Clinical Education V

Two 8-week, full-time clinical experiences integrating didactic information and clinical skills. Practice and refine skills, attitudes and behaviors. A variety of clinical settings is required.Prerequisites:232,333,334,335. Credits: 6.00

PT 341 - Clin Science&Practice Sem III

Large group forum to learn, analyze, and discuss scientific, clinical, and professional practice issues related to peripheral neurologic, metabolic, and multiple systems impairment and disabilities. Prerequisite: PT 201, PT 202. Correquisite: PT 315, PT 323, PT 333, PT 355. Credits: 4.00

PT 342 - Clin Science&Practice Sem IV

Learn analyze and discuss scientific, clinical and professional practice issues regarding individuals with systems problems, using patient/family centered approach. Prerequisite: PT 201, PT 202, PT 341. Co-requisite: PT 316, PT 324, PT 355.

Credits: 4.00

PT 343 - Clin Science & Practice Sem V

Explore global/societal aspects of health care delivery, focusing on role of physical therapist as consultant, interdisciplinary health team member, and advocate in health care. Prerequisite: PT 201, PT 202, PT 341, PT 342. Co-requisite: PT 316, PT 325, PT 334. Credits: 4.00

2002-03 Online Catalogue

	-	Academi	rs:
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Catalogue 2002-03	Courses in Physics (PHYS)
Courses • About Catalogue Courses	 PHYS 201 - Experimental Physics Experiments in classical and modern physics. May be entered at beginning of either semester and repeated for credit up to a maximum of four semesters. Prerequisites: 42 or 128, Math. 121, junior standing. Credits: 3.00
Browse Courses by Subject	PHYS 202 - Experimental Physics Experiments in classical and modern physics. May be entered at beginning of either semester and repeated for credit up to a maximum of four semesters.
Course Search	Prerequisites: 42 or 128, Math. 121, junior standing.
Academic Offerings	Credits: 3.00 PHYS 211 - Mechanics
Colleges & Schools	Newtonian dynamics of particles and systems of particles, with applications to problems of special importance, such as driven and coupled harmonic oscillators
Faculty	and central field trajectories. Prerequisites: 42, Math. 121.
Policies & General Information	Credits: 3.00 PHYS 213 - Electricity & Magnetism Fundamental principles of electricity and magnetism; electrostatic fields, and
Catalogue Archives	magnetic fields of steady currents. Electric and magnetic properties of matter and electromagnetic energy. Prerequisites: 42, Math. 121. Credit not given for more than one of 213 or Electrical Engineering 141. Credits: 3.00
	PHYS 214 - Electromagnetism Introduction to time dependent electromagnetic fields. Maxwell's equations in vacuum and in matter. Electromagnetic waves and radiation. Prerequisite: 213. Credit not given for more than one of 214 or Electrical Engineering 142. Credits: 3.00
	PHYS 222 - Biological Physics Physical laws, processes, and interactions pertaining to biological systems. Prerequisites: 12 or 42, Math. 121.

Credits: 3.00

PHYS 242 - Intro to Solid State Physics

Introduction to crystal structures, reciprocal lattices, lattice vibrations. Thermal properties of solids and free electron theory of metals and semiconductors. Elementary band theory and introduction to electronic transport theory. Prerequisite: PHYS 128. Credits: 3.00

PHYS 257 - Modern Astrophysics

Stellar structure and evolution, compact objects, the interstellar medium, galactic structure, gravitational theory, and cosmology, the formation of our solar system and terrestrial life. Prerequisite: One 100-level course in physical science or engineering. Cross-listed with: ASTR 257. Credits: 3.00

PHYS 258 - Relativity

Development of Einstein's theory of special relativity. Lorentz transformation, time dilation, length contraction, mass variation, relative velocities. Introduction to fourdimensional space. Concepts of general relativity. Applications selected from astrophysics, elementary particles, etc. Prerequisite: PHYS 128. Credits: 3.00

PHYS 264 - Nuclear & Elem Particle Physic

Introduction to theoretical and experimental aspects of nuclear and elementary particle physics. Prerequisite: PHYS 128; Junior standing. Credits: 3.00

PHYS 265 - Thermal Physics

Thermodynamics, kinetic theory, statistical mechanics. Prerequisites: 42; Math. 121.

Credits: 3.00

PHYS 273 - Quantum Mechanics I

Introduction to nonrelativistic quantum mechanics. Schrodinger equation and applications to simple systems. Prerequisite: PHYS 128, PHYS 211. Credits: 3.00

PHYS 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

PHYS 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

PHYS 301 - Mathematical Physics

Introduction to basic mathematical methods of theoretical physics; vector and tensor analysis, partial differential equations, orthogonal functions, complex variables and variational techniques. Prerequisites: PHYS 211, PHYS 214. Alternate years. Credits: 3.00

PHYS 305 - Teaching of College Physics

Instructional strategies and techniques with application to the teaching of laboratories and recitations. Prerequisites: Undergraduate degree in Physics; Instructor permission. Credits: 1.00

PHYS 311 - Advanced Dynamics

Classical mechanics presented as the basis of the concepts and methods of modern physics. Variational, Lagrangian, and Hamiltonian formulations, canonical transformations, continuous systems. Prerequisite: PHYS 211. Alternate years. Credits: 3.00

PHYS 313 - Electromagnetic Theory

Development of Maxwell's theory of electromagnetism emphasizing its physical basis and the modes of mathematical description. Prerequisite: PHYS 214. Alternate years.

Credits: 3.00

PHYS 321 - Theoretical Physics

For research students interested in pursuing topics of general and departmental research interest in theoretical physics. Prerequisite: Instructor Permission. Offered as occasion warrants.

Credits: 3.00

PHYS 323 - Contemporary Physics

Topics of current interest in physics to be offered as student and faculty interest warrants. May be repeated for credit with department approval. Prerequisite: Instructor Permission.

Credits: 3.00

PHYS 341 - Solid State Physics

Introduction to crystal symmetry and the reciprocal lattice. Crystal binding and lattice vibrations. Thermal, electrical, and magnetic properties of solids, free electron theory of metals, and band theory. Prerequisites: PHYS 214, PHYS 265, PHYS 273 or their equivalents; Instructor permission. Credits: 3.00

PHYS 351 - Seminar: Physics of Materials

For research students in the field of the physics of materials. Lectures, reports, and directed readings related to the research for the department and the field generally. May be repeated for credit with departmental approval. Prerequisite: Instructor Permission. Offered as occasion warrants. Credits: 3.00

PHYS 362 - Quantum Mechanics II

Mathematical and physical foundations of nonrelativistic quantum mechanics from the unifying point of view of Dirac. Symmetry operations and the algebraic structure of quantum mechanics are emphasized. Prerequisite: PHYS 273. Alternate years. Credits: 3.00 Courses : Catalogue 2002-03 : University of Vermont

PHYS 391 - Master's Thesis Research

Credits: 1.00 to 12.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Plant & Soil Science (PSS)
Courses	PSS 210 - Ecological Soil Management Applying basic ecological concepts and principles to practical soil management.
About Catalogue Courses	Will cover integrated strategies for building healthy soils, including management of biological, physical, and chemical properties. Alternate years. Prerequisite: PSS 161 or permission.
Browse Courses	Credits: 3.00
by Subject	PSS 215 - Weed/Crop Ecology
Course Search	Weed identification, reproduction, ecological relationships with crops, and integrated management. Prerequisites: PSS 11, 161 or permission. Alternate
Academic Offerings	years. Credits: 3.00
Colleges & Schools	PSS 217 - Pasture Production & Mgmt
Faculty	Physiological and ecological relationships of pasture plants, effects of grazing livestock on them; grazing management effects on livestock and pastures;
Policies & General Information	emphasis on French Voisin system. Prerequisites: PSS 11 or 161 or permission. Alternate years. Credits: 2.00
Catalogue Archives	PSS 221 - Tree Fruit Culture Theory and practice of modern commercial fruit science. Nutrition and cultural responses to various management practices. Prerequisite: PSS 011, PSS 161, or permission. Alternate years, 2002-03. Credits: 3.00
	 PSS 232 - Biological Control Describes the role of biological control agents in the regulation of insects, related arthropods and weeds, and their application and limitations. Prerequisite: Intermediate course in entomology or relevant experience. Alternate years, 2002-03. Credits: 3.00

PSS 261 - Soil Morph Class & Land Use

Field techniques that describe soil properties, formation, and classification. The principles and processes of soil genesis, land use classification systems, and land use challenges. Prerequisite: PSS 161 or permission. Alternate years. Credits: 3.00

PSS 264 - Chemistry of Soil & Water

An environmentally oriented study of the colloidal chemistry of soil and its interfaces with roots, water, and air. Prerequisites: PSS 161, two semesters chemistry or permission. Ross. Alternate years. Credits: 4.00

PSS 266 - Soil Water Movement

Mathematical modeling and physical principles of the soil-water-plant interaction and its relationship to environmental and agricultural issues. Prerequisites: PSS 161, one semester of physics or permission. Alternate years. Credits: 3.00

PSS 269 - Soil/Water Pollution/Bioremed

Examines key issues in pollution of soil and water. Topics include type of pollutants, their reactions in soil and water, pollution prevention and bioremediation. Alternate years. Credits: 3.00

PSS 281 - Senior Seminar

Presentation and discussion of papers on selected topics of current interest by students and staff. Spring semester. Prerequisite: Senior standing. Credits: 3.00

PSS 297 - Special Topics

Lectures, laboratories, readings, field projects, surveys, or research designed to provide specialized experience in horticulture, agronomy, soils, entomology, and integrated pest management. Prerequisite: Senior standing and/or permission. Credits: 4.00

PSS 301 - Plant Science Colloquium

Graduate student and faculty discussion of current research topics in plant science.

Credits: 1.00

PSS 302 - Soil Science Colloquium

Graduate student and faculty discussion of current research topics in soil science. Credits: 1.00

PSS 381 - Graduate Special Topics

Advanced readings and discussion of horticulture, crops, or soils research literature.

Credits: 3.00

Courses : Catalogue 2002-03 : University of Vermont

PSS 391 - Master's Thesis Research

Credits: 3.00

PSS 491 - Doctoral Dissertation Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

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	Courses in Develology (DSVC)			
Catalogue 2002-03	Courses in Psychology (PSYC)			
Courses • About Catalogue Courses	PSYC 205 - Learning Analysis of theory and research on the basic learning process and behavior. Prerequisite: PSYC 109. Credits: 3.00			
0001303	PSYC 206 - Motivation			
Browse Courses by Subject	Theory and research on motives, including hunger, fear, sex drive, and addiction, their influence on behavior, relationship to other psychological processes, and biological correlates. Prerequisite: PSYC 109.			
Course Search	Credits: 3.00			
Academic Offerings	PSYC 207 - Thinking Survey of cognitive psychology, examining theory and research on perception,			
Colleges & Schools	memory, language, cognition, and their interactions. Prerequisites: 109. Credits: 3.00			
Faculty	PSYC 208 - Cognition & Language			
Policies & General Information	(See Communication Sciences 208.) Credits: 3.00			
Catalogue Archives	PSYC 215 - Cognition & Aging (See Communication Sciences 215.) Credits: 3.00			
	 PSYC 220 - Animal Behavior Behavior of animals under controlled experimental conditions and in their natural environments. Consideration of evolution, development, function, and control of behavior. Prerequisite: 109 or Biology 102. Credits: 3.00 			
	 PSYC 221 - Physiological Psychology I Structure and function of mammalian nervous system, emphasizing neurological correlates of sensory experience and perception. Individual laboratory experience. Prerequisite: 109. Credits: 4.00 			

 $http://www.uvm.edu/academics/catalogue2002-03/?Page=CatalogueCourses \& subject=PSYC \& term=200209 \& SM=coursemenu.html [9/21/2018 4:02:37 PM] \\ = 0.0000 \times 10^{-10} \times 10^{-10}$

PSYC 222 - Sel Topics Behavioral Neurosci

Selected topics examining the role of the central nervous system in determining behavior, including innate behaviors, arousal, motivation, learning, and memory. Prerequisite: PSYC 121 or PSYC 221.

Credits: 3.00

PSYC 223 - Psychopharmacology

Effects of drugs (both medical and recreation) on behavior. Topics such as drug effects on learning, memory, motivation, perception, emotions, and aggression. Prerequisites: 109, 121 or 222. Credits: 3.00

PSYC 230 - Advanced Social Psychology

Advanced survey of current research on the behavior of individuals in social situations. Prerequisite: PSYC 109 or PSYC 130. Credits: 3.00

PSYC 231 - Psychology of Women

Psychological theories about women and research on women's roles. Biological, personality, cognitive, and developmental factors considered. Prerequisite: One Psychology course at the 100 level. Credits: 3.00

PSYC 233 - Experience & Creativity

Explores psychological processes for developing creative thinking and for enhancing the quality of conscious experience. Emphasizes personal growth as well as theoretical understanding. Prerequisite: Advanced background in at least one relevant field, such as Psychology, Environmental Studies, Studio Art, or education.

Credits: 3.00

PSYC 234 - Social & Environmental Change

Examines psychological foundations for beneficial changes in social and physical environments. Emphasizes action strategies and projects as well as utopian visions. Prerequisite: Advanced background in Psychology or in Environmental Studies or a social science. Credits: 3.00

PSYC 236 - Theories of Human Comm

Study of the role of perception, human information processing, language, nonverbal codes, meaning, cognition, and interpersonal and sociocultural context in human communication process. Prerequisite: PSYC 109 or PSYC 130. Credits: 3.00

PSYC 237 - Cross-Cultural Communication

Study of cultural factors, cognitive processes, communication patterns, and problems in cross-cultural communication; role of communication in development and social change in third world countries. Prerequisite: PSYC 109 or PSYC 130 or PSYC 230; other advanced background in education or a social science. Credits: 3.00

PSYC 240 - Organizational Psychology

Study of the psychological impact of macro and micro features of organizations upon leadership, decision making, workforce diversity, group process, conflict, and organizational performances. Prerequisite: PSYC 109, or Instructor permission. Credits: 3.00

PSYC 241 - Org Psyc:Glob/Cultrl/Loc Force

Study of global, cultural, and local dynamics upon organizational culture, leadership, workforce diversity, ethics and justice at work, and conflict resolution. Conduct applied organizational cultural analysis. Prerequisite: PSYC 109 or Instructor permission. Credits: 3.00

PSYC 250 - Intro to Clinical Psychology

Study of basic principles of interviewing, testing, assessment from life situations, and report writing. Examination of the most common approaches to psychotherapy. Prerequisite: PSYC 109, PSYC 152. Credits: 3.00

PSYC 251 - Behav Disorders of Childhood

An overview of theory, research, and practice in developmental psychopathology from infancy through adolescence. The major disorders of social and emotional development reviewed. Prerequisite: PSYC 109 or PSYC 161. PSYC 109 may be taken concurrently.

Credits: 3.00

PSYC 252 - Psychology Group Interaction

Participants meet as an interactive group that examines its own dynamics and relationships through discussion, readings, and written assignments. Prerequisites: PSYC 152 or PSYC 250, Junior/Senior standing, and Instructor permission. Undergraduate only. Credits: 3.00

Credits: 3.00

PSYC 253 - Advanced Behavior Modification

Application of techniques for the modification of human behavior in a variety of educational and social situations involving the collection and analysis of behavioral data. Prerequisite: PSYC 109, PSYC 152. Credits: 3.00

PSYC 257 - Personality

The understanding of personality development and human behavior from a psychoanalytic, humanistic, trait measurement, and sociocultural perspective. Prerequisite: PSYC 109.

Credits: 3.00

PSYC 261 - Cognitive Development

Examination of research and theory concerning developmental changes in the human processing of information from infancy to adulthood centered around the work of Piaget. Prerequisite: PSYC 109 or PSYC 161. PSYC 109 may be taken concurrently. Credits: 3.00

PSYC 262 - Social Development

Examination of theory and research concerning interpersonal development in humans from infancy through adulthood. Relationships between language, cognition, and social development emphasized. Prerequisite: PSYC 109 or PSYC 161. 109 may be taken concurrently. Credits: 3.00

PSYC 263 - Disabilities of Learning & Dev

Seminar in etiology, treatments, prevention of developmental and learning disabilities within framework of current service and educational practices. Effectiveness, ethical, legal, psychological issues examined. Prerequisite: One 100-level Psychology course or advanced standing in Psychology, Education, or Physical Therapy.

Credits: 3.00

PSYC 265 - Infant Development

Biological, cognitive, and social aspects of infant development in context; opportunities to evaluate and design research and apply knowledge to parenting, prevention, and social policy. Prerequisite: PSYC 109, PSYC 161 which may be taken concurrently or comparable. Credits: 3.00

PSYC 266 - Communication & Children

Study of the role of communication, especially television, in cognitive and social development from preschool to adolescence. Relationship between television violence and abnormal behavior examined. Prerequisite: PSYC 109 or PSYC 161 or PSYC 163.

Credits: 3.00

PSYC 268 - Psychology Adult Dev & Aging

Psychological development in the final third of the life span emphasizing theory and research concerning social, cognitive, perceptual, and mental health transitions and support interventions. Prerequisites: 1, and Sociology/Nursing/Early Childhood and Human Dev. 20 or Early Childhood and Human Dev. 195/295 or permission. Credits: 3.00

PSYC 269 - Cross-Cultural Psyc:Clin Persp

Introduction to issues posed for psychologists in their work with ALANA (African, Latino/a, Native and Asian American) and international populations. Critical appraisal of readings, research and case studies. Prerequisites: PSYC 1,109. (Same as ALANA 269). Credits: 3.00

PSYC 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

PSYC 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Credits: 3.00

PSYC 301 - Faculty Seminar

Introduction to specialized areas of psychology. Credits: 0.00

PSYC 302 - Faculty Seminar

Introduction to specialized areas of psychology. Credits: 0.00

PSYC 305 - Seminar in Learning Theory

Credits: 3.00

PSYC 340 - Adv Statistical Methods I

Statistical methods for evaluating psychological data. Emphasizes exploring data with respect to research hypotheses. Critical study of hypothesis tests on means, chi-square, and correlational techniques.

Credits: 3.00

PSYC 341 - Adv Statistical Methods II

Continuation of PSYC 340. In-depth study of the analysis of variance and multiple regression. Further study of analysis and interpretation of data from the behavioral sciences. Prerequisite: PSYC 340. Credits: 3.00

PSYC 349 - Seminar in Psyc Research Meth

For advanced psychology Graduate students. Topics may include but are not limited to: factor analysis, discriminant function analysis, multivariate analysis of variance, advanced experimental design, computer application in data collection and analysis. Prerequisite: PSYC 341; or Instructor permission. Credits: 3.00

PSYC 350 - Family Therapy

An exploration of current theories and techniques in family therapy, through readings and discussion, as well as observation of taped and live family therapy sessions. Prerequisite: Graduate standing in Clinical Psychology; or Instructor Permission.

Credits: 3.00

PSYC 351 - Behavior Therapy: Adults

Review of literature relating to theory, practice, research. Emphasis on the evaluation of a variety of procedures applied to behavior disorders in adults. Prerequisite: Instructor Permission.

Credits: 3.00

PSYC 352 - Behavior Therapy: Children

Review of literature relating to theory, practice, research. Emphasis on the evaluation of a variety of procedures applied to behavior disorders in children. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 353 - Clinical Human Neuropsychology

Clinical seminar on effects on human behavior of neocortical dysfunction. Review of theoretical, clinical approaches to brain function, emphasis on recent developments in diagnostic techniques, ensuing theoretical developments. Prerequisite: PSYC 221, PSYC 222, or equivalent. Credits: 3.00

PSYC 354 - Psychopathology I

An advanced course dealing with models of classification, diagnosis, epidemiology of behavior disorders in children. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 355 - Psychopathology II

An advanced course dealing with models of classification, diagnosis, epidemiology of behavior disorders in adults. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 357 - Cross Culture Clin Interv&Rsch

Issues for psychologists regarding clinical intervention and research with Black, Latino/a, Native and Asian Americans and international populations of color with an eye towards cultural competence. Prerequisites: Graduate standing. Credits: 3.00

PSYC 358 - Feminist Therapy

Combines feminist theory with practice of psychotherapy. Uses feminist process in course organization and content. Focuses on issues in feminist therapy and feminist supervision. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 359 - Interpersonal Psychotherapy

An examination of psychotherapy as an interpersonal process. Resistance, transference, and counter-transference examined as interpersonal interactions and related to interpersonal personality theory. Prerequisites: Advanced Graduate standing; Instructor permission. Credits: 3.00

PSYC 361 - Advanced Personality Theory

Personality development from a psychoanalytic, humanistic, trait, and sociocultural perspective. Also, methods of personality measurement, such as scale construction and the analysis of fantasy and projective material. Prerequisite: Permission. Credits: 3.00

PSYC 362 - Community Clinical Psychology

Seminar examining community intervention strategies for psychological problems and health risk behaviors. Topics: history of community psychology, discussion of intervention programs, consultation issues, research. Prerequisite: Isntructor Permission. Credits: 3.00

PSYC 363 - Advanced Primary Prevention

Review of research literature on prevention of psychopathology and promotion of competence; development of model prevention programs; evaluation, ethical issues, and political issues. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 364 - Professional Affairs & Ethics

The origins of professions and of psychology in particular. Accreditation, laws affecting psychology, organization of the profession, licensing certification, and the code of ethics for psychology. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 365 - Group Therapy

An exploration of psychotherapy and training group issues, focusing on leadership styles, group roles and stages, and research. Course will include an observation/experiential component. Prerequisite: Permission. Credits: 3.00

PSYC 366 - Advanced Developmental Psyc

Critical Analysis of selected topics in developmental psychology. Research, theory, applied, professional issues including, for example, moral development, infancy, early conceptual development, professional writing. Prerequisite: Graduate standing in Psychology. Repeatable course. Credits: 3.00

PSYC 367 - Human Sexual Behavior

An exploration of various topics in human sexuality including sexual behavior through the life span, sexual preference, and treatment of sexual dysfunction and deviation. Prerequisite: Graduate standing in Psychology or permission. Credits: 3.00

PSYC 369 - Health Psychology

Psychological aspects of the etiology, treatment, prevention of physical illness. Topics include: stress and disease, compliance, health care systems, coping with illness, positive health behavior. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 370 - Adult Psychological Assessment

Intelligence, neuropsychology, interviewing, psychodiagnosis, objective and projective personality methods, behavioral assessment, report writing. Supervised assessment practicum (100 hours) in university and in-patient mental health settings. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 371 - Child & Adolescent Psyc Assess

Interviewing, intelligence testing, behavioral assessment, social cognition, family environments, specific disorders of childhood. Supervised assessment practicum (100 hours) in in-patient and out-patient mental health settings and schools. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 372 - Psychological Intervention I

Introduction to psychotherapy, theories, and strategies. Skill building in case formulation, therapeutic goals, and effective intervention techniques. Supervised therapy practicum (100 hours) in university setting. Prerequisite: Instructor Permission.

Credits: 3.00

PSYC 373 - Psychological Intervention II

Theories and strategies of psychological intervention. Supervised service delivery (150 hours) at University Counseling and Testing Center including individual and group therapy and crisis intervention. Prerequisite: Instructor Permission. Credits: 0.00

PSYC 374 - Advanced Clinical Practicum

Year-long, 20 hours/week supervised service delivery (1,000 hours) involving psychological intervention and consultation. Training takes place in a variety of mental health agencies. Prerequisites: Second-year student or above (or equivalent) in Ph.D. program in Clinical Psychology and permission. (May be taken more than once.) Credits: 1.00

PSYC 375 - Internship in Clinical Psyc

Credits: 0.00

PSYC 380 - Contemporary Topics

Selected topics in depth, emphasis on critical analysis of original literature. Recent topics: anxiety, behavioral pharmacology, biological bases of memory, depression, organizational behavior, psychotherapy research, primate behavior, skilled performance.

Credits: 3.00

PSYC 381 - Clinical Research Seminar

Year-long seminar on methods and design in clinical research. Oral and written presentation of a research proposal and results. Required twice for clinical students. Prerequisite: Instructor Permission. Credits: 3.00

PSYC 382 - Adv Professional/Research Sem

Discussion of current research and student research presentation in areas of concentration ("clusters"). Prerequisite: Graduate standing in General/Experimental Program. Credits: 1.00

PSYC 385 - Advanced Readings & Research

Readings, with conferences, to provide graduate students with backgrounds and specialized knowledge relating to an area in which an appropriate course is not offered.

Credits: 3.00

PSYC 391 - Master's Thesis Rsch

Credits: 1.00 to 18.00

PSYC 395 - Special Topics

Credits: 3.00

PSYC 491 - Doctoral Dissertation Research

Credits: 1.00 to 18.00

2002-03 Online Catalogue

Academics	
Catalogue 2002-03	Courses in Public Administration (PA)
Courses	PA 206 - Intro Cont Public Affairs Contemporary policy issues including government and the economy, the role of
About Catalogue Courses	leadership, ethical and moral issues in public policy, and other contemporary issues impacting society. Prerequisites: Economics 11, 12, or equivalent recommended.
 Browse Courses 	Credits: 3.00
by Subject	PA 295 - Special Topics
Course Search	Current issues and new developments in public policy and public administration. Prerequisite: Permission.
Academic Offerings	Credits: 3.00
Colleges & Schools	PA 301 - Fundamentals of Public Admin Analysis of major elements of management in the public sector (organization,
Faculty	personnel, budgeting) with special attention to problems arising from political imperatives generated by a democratic society.
Policies & General Information	Credits: 3.00 PA 302 - Public Sector Organizations
Catalogue Archives	Examination of basic classical and contemporary theory, research on human relations, internal structures, environments, types, general properties of complex organizations and bureaucracies. (Summer cross-listing: Psychology 240). Credits: 3.00
	PA 303 - Research Methods Data analyses and communication of statistical information for management decision making. Methods of modeling relationships, comparing strategies, and assessing probabilities. Instruction in computer use. Additional lab required. Credits: 3.00
	PA 305 - Public Budgeting&Pub Finance A focus on the budget as the primary policy and planning document in public organizations. Credits: 3.00

PA 306 - Introduction to Public Policy

Study of stages in the policy process; development of public policy in the federal system; and policy analysis and evaluation at each stage in the policy process. Credits: 3.00

PA 307 - Administrative Ethics

Administrative behavior with a focus on ethical dilemmas that arise in the bureaucracy. An examination of a number of moral issues and ways to resolve them.

Credits: 3.00

PA 308 - Decision Making Models

Credits: 3.00

PA 311 - Policy Analysis&Program Eval

A seminar providing hands-on knowledge in policy analysis and program evaluation using case studies of current analysis projects and problems. Specific techniques include planning, survey administration, forecasting, cost benefit analysis, and impact assessment. Credits: 3.00

PA 312 - Mgmt in HIth Services&Med Care

Addresses major issues and challenges faced by health services managers relating to established and evolving social, economic, and professional policies in a context of practical problem assessment and appropriate resolution. Credits: 3.00

PA 313 - Public Policy Implementation

A seminar considering aspects of the public policy implementation process from initiation to completion and evaluation with regards to system design, policy goals, communication, compliance, and political environment. Credits: 3.00

PA 314 - Administrative Law

Examines legal foundations of public administration focusing on legal issues of most importance to present or future administrators. Credits: 3.00

PA 315 - HIth Srvc & Med Care in US

Defines the milieu of issues and challenges faced by managers in the health services setting.

Credits: 3.00

PA 316 - Effective Mgmt Techniques

Concentration on leadership, the role of managers, and essential components of well-managed organizations in the public, nonprofit, and private sector. Credits: 3.00

PA 317 - Systems Anly & Strategic Mgmt

Students will be introduced to systems thinking and network dynamics with a particular focus on managing across organizational and sectoral boundaries, including public-private partnerships, intergovernmental arrangements, and strategic alliances. Tools to undertake strategic analysis and planning will be explored.

Credits: 3.00

PA 318 - Admin Theory & Practice

Extensive examination of literature pertaining to the practice and theory of public administration. Explores public/private partnerships, intergovernmental management, ethics, and administrators as agents for organizational change. Credits: 3.00

PA 319 - State Administration

Elements of public management at the state level i.e. the state/federal relationship regarding control; management within the force field of local conflict and cooperation; and management within the context of inter-agency conflict and cooperation. Cross-listed with: POLS 224. Credits: 3.00

PA 321 - Negotiation & Mediation

Explores the principles of today's negotiations and mediations through readings, heavy emphasis on practical exercises between students, and case analyses of actual negotiations. Prerequisite: Graduate standing. Credits: 3.00

PA 334 - Organizational Behav&Cultures

Credits: 3.00

PA 380 - Internship

Supervised administrative experience culminating in a written report. Credits: 3.00

PA 391 - Master's Thesis Research

Thesis topic must be approved by faculty advisor. Credits: 6.00

PA 395 - Special Topics

For advanced students within areas of expertise of the faculty. Varied course offerings. Contemporary topics. Instructor Permission. Credits: 6.00

PA 397 - Readings & Research

Readings, with conferences, term paper, to provide graduate students with specialized knowledge in an area in which an appropriate course is not offered. Credits: 6.00

2002-03 Online Catalogue

:: Academics	
Catalogue 2002-03	Courses in Recreation Management (RM)
	RM 235 - Outdoor Recreation Planning
Courses	Planning large land areas for outdoor recreation use. Emphasis on the planning
About Catalogue Courses	process relative to the leisure time use of natural resources. Prerequisites: Advanced standing in Recreation Management or permission. UG only. Credits: 4.00
 Browse Courses 	RM 240 - Park and Wilderness Management
by Subject	History, philosophy, and management of wilderness, national parks, and related areas. Prerequisite: Junior or senior standing in Recreation Management.
Course Search	Credits: 3.00
Academic Offerings	RM 255 - Environmental Interpretation Philosophy, principles, and techniques of communicating environmental values, natural history processes, and cultural features to recreation visitors through the use of interpretive media. Prerequisite: Advanced standing in Recreation Management or permission. Credits: 4.00
Colleges & Schools	
Faculty	
Policies & General Information	
Catalogue Archives	

2002-03 Online Catalogue

Academics	Courses in Religion (REL)
Catalogue 2002-03	
Courses	REL 291 - Tpcs in Hist & Phenom of Rel Prerequisite: Nine hours in Religion, with six hours at the intermediate level; Junior
About Catalogue Courses	standing. May be repeated up to six hours. Credits: 3.00
	REL 292 - Tpcs in Hist & Phenom of Rel
 Browse Courses by Subject 	Prerequisite: Nine hours in Religion, with six hours at the intermediate level; Junior standing. May be repeated up to six hours.
Course Search	Credits: 3.00
Academic Offerings	
Colleges & Schools	
Faculty	
Policies & General Information	
Catalogue Archives	

2002-03 Online Catalogue

Academics		
::Catalogue 2002-03	 Courses in Secondary Education (EDSC) EDSC 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: 	
Courses • About Catalogue Courses		
Browse Courses by Subject Course Search Academic Offerings		
Colleges & Schools	 EDSC 209 - Practicum in Teaching Working with teachers and students in a secondary school, licensing candidates will assess the needs of students, document effects of direct service and the need for new curriculum. Prerequisites: 203, 207 or concurrent enrollment. Credits: 4.00 EDSC 215 - Reading in Secondary Schools Design of methods and materials for integrating reading and learning skills in content instruction. Focus on learning support for at risk learners. Prerequisites: 203, 207, 209 or concurrent enrollment. Credits: 4.00 	
Faculty		
Policies & General Information		
Catalogue Archives		
	EDSC 216 - General Methods for Sec Tchrs Development of teaching methods for secondary instruction, adaptation to learning styles, models of teaching with design, lesson planning and assessment, with focus on cross-disciplinary collaboration. Prerequisites: 203, 207, 209 or concurrent enrollment. Credits: 3.00	
	EDSC 217 - Secondary School Curriculum Principles and problems in curriculum development. An analysis of recent curricular innovations in American secondary schools. Prerequisite: Twelve hours of education and related areas. Credits: 3.00	

EDSC 225 - Tchg Soc Studies in Sec Schls

Includes multiple teaching modes, questioning techniques, micro-teaching laboratory, analysis of historical content to determine students' prerequisite cognitive skills and processes for construction of historical scenarios. Prerequisite: Twelve hours of education and related areas. Credits: 3.00

EDSC 226 - Teaching Internship

Collaboration with professional teachers in design and implementation of effective instruction, with special focus on developing programs in a high school setting. Prerequisite: EDSC 203, EDSC 207, EDSC 209, EDSC 215, EDSC 216, and Special Methods.

Credits: 12.00

EDSC 227 - Tchng Science in Sec Schls

Consideration of science curricula and instructional strategies for grades 7-12. Topics may include: teaching science as problem solving, research in science teaching, affective education through science. Prerequisite: Twelve hours in education and related areas or Instructor permission. Credits: 3.00

EDSC 230 - Teaching for Results

Analysis of planning, curriculum, design, teaching, evaluation and classroom management from the perspective of research and practice. Special focus on the student with special needs. Prerequisites: Concurrent enrollment in 226. Credits: 3.00

EDSC 240 - Teach English:Secondary School

Approaches to teaching composition, literature, and the English language in secondary school. Prerequisite: Acceptance into licensure program. Credits: 3.00

EDSC 257 - Tchg Math in Secondary Schools

Contemporary secondary school mathematics curricula and instructional strategies for grades 7-12. Topics may include problem solving, research in mathematics education, use of calculators and computers, manipulatives, and evaluation. Prerequisite: Twelve hours in education and related areas or permission. Credits: 3.00

EDSC 259 - Tchg Foreign Lang in Sec Schls

An overview of language teaching methodology. The learning/ teaching process as it relates to language learning; techniques used in the teaching and testing of second language skills and culture. Prerequisite: Acceptance into licensure program.

Credits: 3.00

EDSC 295 - Lab Experience

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 5.00

EDSC 380 - Professional Problems in Ed

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDSC 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 1.00 to 6.00

2002-03 Online Catalogue

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Catalogue 2002-03	Courses in Social Work (SWSS)
Courses	SWSS 200 - Contemporary Issues Content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Instructor Permission. Credits: 3.00
 About Catalogue Courses Browse Courses by Subject 	SWSS 212 - Social Work Practice I A comprehensive introduction to concepts and skills employed by social workers in interactions and interventions with individuals, families, and groups is provided. Prerequisite: MSW standing; or Instructor permission.
Course Search Academic Offerings	Credits: 3.00 SWSS 213 - Social Work Practice II Knowledge and skills of social work practice with organizations and communities is emphasized. Prerequisite: Completion of SWSS 212; MSW advanced standing; or Instructor permission.
Colleges & Schools	
Faculty	Credits: 3.00
Policies & General Information	SWSS 216 - Th Found of Hum Beh&Soc Envr I This course introduces students to the biological, psychological, cultural/social, and economic forces that influence human behavior and their implication for social work practice. Prerequisite: MSW standing; or Instructor permission. Credits: 3.00
Catalogue Archives	
	SWSS 217 - Th Found Hum Beh&Soc Envr II Focus is on theories regarding the nature and functioning of human service organizations and communities in relation to meeting human needs. Prerequisite: SWSS 216 or Instructor permission. Credits: 3.00
	SWSS 220 - Soc Welfare Pol & Services I An introduction to history and philosophy of social work and social welfare and the structure of service programs is provided. Prerequisite: MSW standing or Instructor permission. Credits: 3.00
	SWSS 221 - Soc Welfare Pol & Services II Focus is on the analysis of the economic, political, and social forces that influence the development and implementation of social welfare policy. Prerequisite: SWSS 220; or Instructor permission. Credits: 3.00

SWSS 224 - Child Abuse & Neglect

An MSW foundation elective that considers child abuse and neglect from historical, cultural, sociopolitical and psychological perspectives and examines professional social work responses to them. Prerequisite: Matriculation in the foundation year of Graduate study in Social Work; or Instructor permission. Credits: 3.00

SWSS 225 - Transf Ourselves&Comm:SW Persp

An MSW foundation elective that examines systems of oppression and social work strategies to decrease biased practices and create more equitable communities and institutions. Prerequisite: Matriculation in the foundation year of graduate study in Social Work; or Instructor permission. Credits: 3.00

SWSS 226 - Assessment Theory Social Work

An MSW foundation elective analyzing competing and complementary assessment theories and their implications in social work in health/mental health and with children and families. Prerequisite: MSW standing or Instructor permission.

Credits: 3.00

SWSS 227 - Found of Social Work Research

An introduction to qualitative and quantitative methods of applied social research including program evaluation and the evaluation of practice and application to social work is taught. Prerequisite: MSW standing or Instructor permission. Credits: 3.00

SWSS 290 - Foundation Yr Field Practicum

Supervised field-based learning of 15-20 hours per week at non-profit agencies. Students learn the purposeful application of theory, ethics and skills of generalist social work. Prerequisite: Permission of Coordinator of Field Education. Credits: 3.00 to 4.00

SWSS 296 - Social Work in Global Context

Study of social work issues in different parts of the world. Located at the University of Lapland in Finland. Prerequisite: Background in human services or social work major; or MSW standing; permission of the Instructor. Credits: 3.00

SWSS 301 - Social Work in Health

Based on examinations of current trends with clients of multiple ages, needs, and cultural perspectives, this course examines social work roles in delivering health services. Prerequisites: Completion of foundation coursework; MSW advanced standing; or Instructor permission. Credits: 3.00

SWSS 302 - Social Work in Mental Health

Advanced knowledge and skills in working with children with severe emotional disturbances and adults with persistent mental illness. Community-based services are emphasized. Prerequisites: Completion of foundation coursework; MSW advanced standing; or Instructor permission. Credits: 3.00

SWSS 310 - Soc Work W/ Children & Fam I

Focus is on families whose major task is child rearing and child caring. Covers advanced knowledge, concepts, and methods of contemporary child/family services within a family-centered approach. Prerequisites: Completion of foundation course work; MSW advanced standing; or Instructor permission. Credits: 3.00

SWSS 311 - Soc Work W/Children & Fam II

Focus is on families with adolescents, families with no children and families with dependent adults. Advanced analysis of families from an adult member perspective and from a critical view of family ideology and myth. Prerequisites: Completion of foundation coursework; MSW advanced standing; or Instructor permission.

Credits: 3.00

SWSS 316 - Crit Appl of Hum Beh&Soc Envr

This course emphasizes advanced analyses of behavioral and social theories as related to social work practice in health and mental health and/or with children and families. Prerequisite: Completion of 216 and 217, MSW advanced standing or permission.

Credits: 3.00

SWSS 320 - Adv Soc Welf Policy Anyl&Prac

In depth analysis of social welfare policy with application to children and families or health and mental health is required. There is an emphasis on the skills of the policy practitioner. Prerequisite: Completion of SWSS 220 and SWSS 221; MSW advanced standing; or Instructor permission.

Credits: 3.00

SWSS 327 - Adv Social Work Research

An analysis of social work research from methodological and theoretical perspectives is emphasized. The application of research to the student's concentration area is required. Prerequisites: Completion of SWSS 227; a basic statistics course; MSW advanced standing; or Instructor permission. Credits: 3.00

SWSS 330 - Assessment in Social Work

An advanced MSW concentration elective that analyzes competing and complementary assessment strategies and their implications in social work in health/mental health and with children and families. Prerequisite: Completion of MSW foundation course work; or Instructor permission. Credits: 3.00

SWSS 331 - Feminist Social Work Practice

An advanced MSW concentration elective that analyzes practice conceptions and dilemmas of feminist social work in a global context and emphasizes professional activism and leadership. Prerequisite: Completion of MSW foundation course work; or Instructor permission. Credits: 3.00

Credits: 3.00

SWSS 332 - SW w/Battered Women&Children

An advanced MSW concentration elective that investigates theoretical and practical issues of social work practice with battered women and their children and develops related recommendations. Prerequisite: Completion of MSW foundation course work; or Instructor permission. Credits: 3.00

SWSS 333 - Social Work with Groups

An advanced MSW concentration elective that integrates professional history, conceptual overviews and direct experience with methods for group work distinctive to social work practice. Prerequisite: Completion of MSW foundation course work or Instructor permission. Credits: 3.00

SWSS 380 - Prof Issues in Social Work

Designed to cover selected social work issues in depth. Major emphasis on intensive and critical analysis of the literature and practice in a given area. Prerequisite: Instructor Permission.

Credits: 4.00

SWSS 390 - Concentration Year Field Pract

Supervised field-based learning of 15-20 hours per week. Students are placed in agencies to apply advanced social work practice related to their concentration. Prerequisite: Permission of Coordinator of Field Education. Credits: 3.00

SWSS 395 - Field Practicum

Prerequisite: Permission of Instructor. Variable credits. Credits: 3.00 to 4.00

SWSS 397 - Independent Study

Individual work on Social Work issue(s) selected by the student in consultation with a faculty member. Prerequisite: Instructor permission required. Credits: 3.00

SWSS 398 - Final Project

A written identification and analysis of a social work issue related to the student's concentration is prepared and presented. Prerequisite: Successful completion of foundation coursework and Instructor permission. Variable three credits. Total of three credits required. Fulfills Graduate College comprehensive examination requirement. Credits: 1.00

2002-03 Online Catalogue

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Catalogue 2002-03	Courses in Sociology (SOC)
Courses About Catalogue Courses • Browse Courses	SOC 205 - Rural Communities in Mod Soc The changing structure and dynamics of rural social organization in context of modernization and urbanization. Emphasis on rural communities in the U.S. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Cross-listed with:CDAE 205 Credits: 3.00
by Subject	SOC 206 - Urban Communities in Mod Soc
Course Search	The changing structure and dynamics of urban social organization in context of modernization and urbanization. Emphasis on cities and metropolitan areas in the
Academic Offerings	U.S. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.
Colleges & Schools	Credits: 3.00
Faculty	SOC 207 - Community Org & Development Communities as changing sociocultural organizational complexes within modern
Policies & General Information	society. Special attention given to problems of formulation and implementation of alternative change strategies. Prerequisite: Six hours of Sociology including 1 and 100, or 1 and 101, or instructor permission.
Catalogue Archives	Credits: 3.00
	 SOC 209 - Small Groups Examination of the structure and dynamics of small groups and the interpersonal, informal network of relations that characterize the interaction of members. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00
	SOC 211 - Soc Movements&Collective Behav Examination of origins, development, structure, and consequences of crowds, riots, crazes, rumors, panics, and political and religious movements and their relationships to cultural and social change. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

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SOC 213 - Women in Dev in 3rd World

An examination of the meaning and measurement of development, sociodemographic characteristics, sex stratification, and effects of Colonialism and Westernization on women's issues in the third world. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Cross-listed with: WGST 205. Credits: 3.00

SOC 214 - Delinquency

Analysis of the nature and type of juvenile behavior that violates law, the mechanisms for defining such behaviors as delinquent, and their causes and consequences. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 216 - Criminal Justice

Analysis of the social structures and processes involved in the identification and labeling of individuals as criminal offenders: criminal law, its enforcement and the courts. Prerequisite: Six hours of Sociology including 1 and 100, or 1 and 101, or instructor permission.

Credits: 3.00

SOC 217 - Corrections

Analysis of the social structures and processes involved with individuals designated as offenders of criminal law: probation, prison, parole, and programs of prevention and rehabilitation. Prerequisite: Six hours of Sociology. Credits: 3.00

SOC 219 - Race Relations

Examination of American racial subordination in social and historical perspective. Analysis of interracial contacts, racial subcultures and social structures, and responses to racial prejudice and discrimination. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 3.00

SOC 220 - Internship in Gerontology

Supervised service or research internship integrating theoretical and practical gerontological issues. Prerequisites: 6 hours of Sociology including 1 and 100, or 1 and 101 or instructor permission or 20, 120; 221 or 222; or equivalent gerontological preparation (Not offered for graduate credit.) Credits: 3.00

SOC 221 - Aging & Social Change

Examines effects of social changes on older persons on the aging process. Also analyzes how an increasing proportion of older persons in the population leads to social change. Prerequisite: Six hours of Sociology including 1 and 100, or 1 and 101, or instructor permission. Credits: 3.00

SOC 222 - Aging & Ethical Issues

Analysis of selected ethical issues posed by an aging society and faced by older persons, their families, health care and service providers, and researchers. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 225 - Organizations in Mod Society

Examination of basic classical and contemporary theory and research on the human relations, internal structures, environments, types, and general properties of complex organizations and bureaucracies. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 3.00

SOC 229 - Family as Social Institution

Examination of the institution of the American family in cross-cultural and historical perspective. Theories and research on family continuity, change, and institutional relationships explored. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 232 - Social Class & Mobility

Comparative and historical analysis of causes, forms, and consequences of structured social inequality in societies. Examination of selected problems in contemporary stratification theory and research. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 3.00

SOC 239 - Women & Public Policy in Vt

A detailed analysis of the social processes involved in public policy formation in Vermont, and the consequences for women. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 3.00

SOC 240 - Political Sociology

Examination of the social organizations of power and authority in modern societies and the dynamics and institutional relationships of political institutions, interest groups, parties, and publics. Prerequisite: Six hours of Sociology including 1 and 100, or 1 and 101, or instructor permission. Credits: 3.00

SOC 243 - Mass Media in Modern Society

Intensive examination of selected topics in the structure of media organizations and their relationships to and impacts upon the major institutions and publics of contemporary issues. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 250 - Sociology of Culture

The relations of cultural forms and subjective experience to social structure and power; in-depth applications of interpretive approaches in contemporary sociology. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 254 - Sociology of Health & Medicine

The social organization and institutional relationships of medicine in society and the role of sociocultural factors in the etiology, definition, identification, and treatment of illness. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 255 - Soc Mental Health

Analysis of the social structures and processes involved in the identification, definition, and treatment of mental illness and its sociocultural etiology and consequences. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 258 - Sociology of Law

Analysis of the sociocultural structure of the legal institution and its relationships to other institutions: the social organization of the legal profession, lawmaking, and the courts. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

SOC 272 - Soc of African Societies

Current social, cultural, political, and economic changes occurring in African societies, including issues of development, the state and civil society, social class, ethnonationalism, and democratization. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 3.00

SOC 274 - Research Seminar

Principles of research design, data gathering, ethics, measurement, data analysis, and data presentation. Students will complete a research project. Prerequisites: 6 hours of Sociology including 1 and 100, or 1 and 101, or instructor permission. Credits: 3.00

SOC 275 - Meth of Data Anyl in Soc Rsch

Quantitative analysis of sociological data; includes table, regression, and path analysis, scaling and factor analysis, and the analysis of variance emphasizing multivariate techniques. Prerequisite: 6 hours of Sociology including 1 and 100, or 1 and 101, or instructor permission. Credits: 3.00

SOC 279 - Contemporary Sociological Thry

Critical examination of contemporary functional, conflict, exchange, interactionist, and structural theoretical approaches. A number of other theoretical approaches selected by seminar participants also examined. Prerequisite: 6 hours of Sociology including 1 and 100, or 1 and 101, or instructor permission. Credits: 3.00

SOC 281 - Seminar

Presentation and discussion of advanced problems in sociological analysis. Prerequisite: Twelve hours of Sociology; Instructor permission. Credits: 3.00

SOC 282 - Seminar

Presentation and discussion of advanced problems in sociological analysis. Prerequisite: Twelve hours of Sociology; Instructor permission. Credits: 3.00

SOC 288 - Rsch Meth Teaching Sociology

The development and evaluation of the teaching of sociology. Prerequisite: Twelve hours of Sociology; permission of Department. Open only to students who serve concurrently as teaching assistants in the Department. Credits: 3.00

SOC 289 - Rsch Meth Teaching Sociology

The development and evaluation of the teaching of sociology. Prerequisite: Twelve hours of Sociology; permission of Department. Open only to students who serve concurrently as teaching assistants in the Department. Credits: 3.00

SOC 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 100, or Instructor permission. Credits: 4.00

Credits: 4.00

SOC 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 3.00

SOC 297 - Readings & Research

Prerequisite: Six hours of Sociology including SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission.

Credits: 1.00

SOC 298 - Readings & Research

Prerequisite: Six hours of Sociology included SOC 001 and SOC 100, or SOC 001 and SOC 101, or Instructor permission. Credits: 3.00

2002-03 Online Catalogue

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Catalogue 2002-03	Courses in Spanish (SPAN)
Courses • About Catalogue Courses	SPAN 235 - Perform Early Cult'l Identity A study of the most popular entertainment in Spain before 1700: theater. Classic plays explore cultural and personal identities in times of conflict and change. Prerequisite: SPAN 140. Credits: 3.00
Browse Courses by Subject Course Search	SPAN 236 - Poetic Voices/Cultural Change A topical approach to exploration of self and society in Spain's poetic voices before 1700. Verses range from humorous to amorous, from satirical to political. Prerequisite: SPAN 140. Credits: 3.00
Academic Offerings Colleges & Schools Faculty	SPAN 245 - Cervante's Voices & Portraits Cervantes' innovative short fiction and theater are the media for exploring cultural change and the literary legacies of 16th-century Spain. Prerequisite: SPAN 140. Credits: 3.00
Policies & General Information Catalogue Archives	SPAN 246 - Cervante's Don Quixote Study of the world's most widely published novel. Don Quixote's crazy adventures with the sword and the pen explore fiction, reality, and life itself." Prerequisite: 140. Credits: 3.00
	SPAN 281 - Contemp Spanish-Amer Fiction A study of representative works by major authors tracing the development of narrative forms from their roots in the last century to the present. Prerequisite: SPAN 140. Credits: 3.00
	SPAN 286 - Span-Am Lit of Social Protest Readings of major texts. Topics might range from early protests against Spain, to resistance by repressed groups, to contemporary protests against imperialism. Prerequisite: 140. Credits: 3.00

SPAN 291 - Early Cultures of Spain

A study of the Spanish cultures from earliest times through 1700, emphasizing major intellectual, political, and artistic developments. Prerequisite: SPAN 140. Credits: 3.00

SPAN 292 - Modern Cultures of Spain

A study of the cultures of Spain from the Enlightenment to the present, emphasizing the major intellectual, political, and artistic developments. Prerequisite: SPAN 140. Credits: 3.00

SPAN 293 - Early Latin-American Cultures

A study of colonial Latin American cultures from pre-Hispanic times through Independence. Emphasis on major intellectual, artistic, and cultural developments. Prerequisite: SPAN 140.

Credits: 3.00

SPAN 295 - Advanced Special Topics

See Schedule of Courses for specific titles. Prerequisite: SPAN 140. Credits: 4.00

SPAN 296 - Advanced Special Topics

See Schedule of Courses for specific titles. Prerequisite: SPAN 140. Credits: 3.00

SPAN 297 - Advanced Readings & Research

Permission of Chair required. Prerequisite: SPAN 140. Credits: 3.00

SPAN 298 - Advanced Readings & Research

Permission of Chair required. Prerequisite: SPAN 140. Credits: 3.00

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Catalogue 2002-03	Courses in Special Education (EDSP)	
Courses • About Catalogue Courses	EDSP 200 - Contemporary Issues Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in education and related areas. Credits: 3.00	
Browse Courses by Subject Course Search Academic Offerings	EDSP 201 - Foundations of Special Ed Examination of historical, current trends in the treatment of individuals with disabilities, including the effects of litigation, legislation, and economic considerations on educational and residential service delivery systems. Prerequisite: Twelve hours in education and related areas, or permission. Credits: 3.00	
Colleges & Schools Faculty	EDSP 216 - Curr&Instr Needs/All Students Introduction to curriculum and instruction for all students with a focus on individuals who present academic and behavioral challenges. Emphasis on	
Policies & General Information	assessment, evaluation, curriculum, instruction, theories of learning and social development. Prerequisite: Permission. Credits: 3.00	
Catalogue Archives	EDSP 217 - Instr Indiv/Significant Disab Individualized instruction for learners with significant disabilities emphasizing objectives, assessment, task analysis, and behavior analysis. Prerequisite: Permission. Credits: 3.00	
	EDSP 224 - Meeting Inst Needs/All Stdnts Students apply principles of learning and social development to improve academic and social skills of all individuals with a focus on those who present academic and behavioral challenges. Prerequisite: Instructor permission. Credits: 3.00	

EDSP 228 - Instr for Severely Handicapped

Students apply advanced principles of behavior analysis in the development and implementation of instructional programs for learners with moderate and severe disabilities. Prerequisite: Instructor permission and introductory behavior analysis course.

Credits: 3.00

EDSP 280 - Assessment in Special Ed

Course covers assessment knowledge and skills essential for special educators, including test selection, administration and scoring, and legal issues related to special education assessment. Prerequisite: Admission to Graduate Program in Special Education or permission of the Instructor. Credits: 3.00

EDSP 290 - Meeting Curr Needs of Students

Study of curriculum and technology areas related to the development, adaptation, and assessment of all students focusing on students with academic and behavioral challenges. Prerequisite: Permission. Credits: 3.00

EDSP 295 - Laboratory Exp in Education

Supervised field work designed to give students experience in specialized areas for their professional development. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences. Credits: 6.00

EDSP 296 - Laboratory Exp in Education

Credit as arranged. Credits: 6.00

EDSP 297 - Curr for Indvdls W/Handicaps

Students develop and implement an objectives-based curriculum for learners with learning disabilities, mental retardation, behavior disorders, and/or multidisabilities. Prerequisite: Permission.

Credits: 3.00

EDSP 298 - Special Educ Practicum

Students provide direct instruction for six learners with learning disabilities, mental retardation, behavior disorders, and/or multidisabilities. Prerequisite: Instructor permission.

Credits: 3.00

EDSP 301 - Hst of Serv/Hndicapped Individ

Historical and current trends in treatment of individuals with disabilities, including effects of litigation, legislation, economic consideration in education, vocational, residential service delivery systems. Prerequisite: Acceptance as candidate for M.Ed. degree in special education, or permission. Credits: 3.00

EDSP 302 - Stdnt w/Signif Dis:Char&Ed Int

Normal development - birth through six years, developmental disorders, disabilities, medical/health considerations. Management of significant disabilities through the employment of such procedures as handling, positioning, and feeding. Prerequisite: Instructor permission. Credits: 3.00

EDSP 305 - Res Dev&Coll:Fam/Sch/Com/Agncy

An overview of collaborative teaming, function assessment and Vermont's System of Care for students with emotional and behavioral disabilities. A practicum experience is included. Prerequisite: BA. Credits: 3.00

EDSP 306 - Emot&Behav Dis/Child&Adolesc

This course provides an overview of emotional disorders (e.g., depression, anxiety, ADHD, conduct disorder) experienced by youth and relevant assessment tools for an educational setting. Prerequisite: BA. Credits: 3.00

EDSP 307 - Prev&Interv Strategy:Students

This course covers effective prevention and intervention strategies with, or at-risk, for emotional and behavioral disorders. It covers such topics as classroom management, social skills training, anger management, internalizing disorders. Prerequisite: BA in Education/related field. Credits: 3.00

EDSP 310 - Curr & Tech in Spec Education

Curricular and assessment areas essential to education of students with disabilities. Development, adaptation of curricula and assessment in early education, elementary and secondary and adult levels for mild, moderate, and severe disabilities. Prerequisite: Instructor permission. Credits: 3.00

EDSP 311 - Curr & Tech in Spec Education

Curricular and assessment areas essential to education of students with disabilities. Development, adaptation of curricula and assessment in early education, elementary and secondary and adult levels for mild, moderate, and severe disabilities. Prerequisite: Instructor permission. Credits: 3.00

EDSP 312 - Adv Behavior Prin in Spec Ed

A survey on behavior theory and research applications for learners with learning disabilities, mental retardation, behavior disorders, and multidisabilities. Prerequisite: Acceptance to M.Ed. program or Instructor permission. Credits: 3.00

EDSP 313 - Adv Behavior Prin in Spec Ed

A survey on behavior theory and research applications for learners with learning disabilities, mental retardation, behavior disorders, and multidisabilities. Prerequisite: Acceptance to M.Ed. program or Instructor permission. Credits: 3.00

EDSP 319 - Intern Sp Personnel in Spec Ed

Students will undertake an approved internship in an institution which reflects the particular area of interest and needs of the student. Prerequisite: Permission. for special education services. Prerequisite: Instructor permission. Credits: 6.00

EDSP 322 - Intern: Triadic Model Consult

Competency-based instruction in oral and written communication, consultation, and workshop level training is provided. Students apply the consultation model in an educational setting. Prerequisite: EDSP 310, EDSP 312, or Instructor permission.

Credits: 3.00

EDSP 323 - Intern: Systems Development

Competency-based instruction in planning for system level development and change. Students apply systems theory in an educational setting. Prerequisite: EDSP 310, EDSP 312, or Instructor permission. Credits: 3.00

EDSP 380 - Professional Problems in Educ

Designed to cover selected educational problems in depth. The major emphasis will be on intensive and critical analysis of the literature and practice in a given area.

Credits: 3.00

EDSP 386 - Intern:Mgmt Lrng Env for Hdcpd

Implementation of data-based individualized education in one-to-one, small group, and large group instruction for severely disabled student(s) in special or regular classrooms. Prerequisite: EDSP 217, EDSP 290, EDSP 228 or Instructor permission.

Credits: 3.00

EDSP 387 - Collaborative Consultation

Adult development and group dynamics theory provide the knowledge base for collaborating with parents and teachers to meet the diverse needs of students with disabilities. Cross-listed with: EDLP 387, EDSS 387. Credits: 3.00

EDSP 391 - Master's Thesis Research

Thesis topic must be approved by a faculty committee. Credits: 1.00 to 6.00

EDSP 397 - Problems in Education

Individual work on a research problem selected by the student in consultation with a staff member. Prerequisite: Twelve hours in education and related areas; endorsement by a sponsoring faculty member. Credits: 3.00

2002-03 Online Catalogue

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	Courses in Statistics (STAT)
Catalogue 2002-03	STAT 200 - Med Biostatistics&Epidemiology
• About Catalogue Courses	(Same as Biostatistics 200.) Introductory design and analysis of medical studies. Epidemiological concepts, case-control and cohort studies. Clinical trials. Students evaluate statistical aspects of published health science studies. Prerequisite: 141
	or 143; or 211. Credits: 3.00
Browse Courses	STAT 201 - Stat Analysis Via Computers
by Subject	(Same as Biostatistics 201.) Intensive coverage of computer-based data
Course Search	processing and analysis using statistical packages, subroutine libraries, and user-
Academic Offerings	supplied programs. Students analyze real data and prepare a comprehensive report. Prerequisites: 111 with instructor's permission, or 141, or corequisite 211.
Colleges & Schools	Credits: 3.00 STAT 211 - Statistical Methods I
Faculty	(Same as Biostatistics 211.) Fundamental concepts for data analysis and
Policies & General Information	experimental design. Descriptive and inferential statistics, including classical and nonparametric methods, regression, correlation, and analysis of variance. Statistical software. Prerequisite: Junior standing.
Catalogue Archives	Credits: 3.00 STAT 221 - Statistical Methods II
	(Same as Biostatistics 221.) Multiple regression and correlation. Basic experimental design. Analysis of variance (fixed, random, and mixed models). Analysis of covariance. Computer software usage. Prerequisites: 141 or 143; or 211. Credits: 3.00
	 STAT 223 - Applied Multivariate Analysis (Same as Biostatistics 223.) Multivariate normal distribution. Inference for mean vectors and covariance matrices. Multivariate analysis of variance (MANOVA), discrimination and classification, principal components, factor analysis. Prerequisites: Any 200-level Statistics course, 221 or 225 recommended, matrix algebra recommended. Credits: 3.00

STAT 224 - Stats for Quality&Productivity

(Same as Biostatistics 224.) Statistical process control; Shewhart, cusum and other control charts; process capability studies. Total Quality Management. Acceptance, continuous, sequential sampling. Process design and improvement. Case studies. Prerequisites: 141 or 143; or 211. Credits: 3.00

STAT 225 - Applied Regression Analysis

(Same as Biostatistics 225.) Simple linear and multiple regression models; least squares estimates, correlation, prediction, forecasting. Problems of multicollinearity and influential data (outliers). Credits: 3.00

STAT 227 - Adv Statistical Methods II

(Same as Psychology 341.) Prerequisite: 211 with computer experience or Psychology 340. Credits: 3.00

STAT 229 - Survival Analysis

(Same as Biostatistics 229.) Probabilistic models and inference for time-to-event data. Censored data, life tables, Kaplan-Meier estimation, logrank tests, proportional hazards regression. Specialized applications (e.g. clinical trials, reliability). Prerequisites: Any 200-level Statistics course, one year of calculus. Credits: 3.00

STAT 231 - Experimental Design

(Same as Biostatistics 231.) Randomization, complete and incomplete blocks, cross-overs, Latin squares, covariance analysis, factorial experiments, confounding, fractional factorials, nesting, split plots, repeated measures, mixed models, response surface optimization. Prerequisites: 211; 221 recommended. Credits: 3.00

STAT 233 - Survey Sampling

(Same as Biostatistics 233.) Design and data analysis for sample surveys. Simple random, stratified, systematic, cluster, multistage sampling. Practical issues in planning and conducting surveys. Prerequisites: 211; or 141 or 143 with instructor's permission. Credits: 3.00

STAT 235 - Categorical Data Analysis

(Same as Biostatistics 235.) Measures of association and inference for categorical and ordinal data in multiway contingency tables. Log linear and logistic regression models. Prerequisite: 211. Credits: 3.00

STAT 237 - Nonparametric Statistical Mthd

(Same as Biostatistics 237.) Nonparametric and distribution free methods; categorical, ordinal, and quantitative data; confidence intervals; rank and chisquare hypothesis tests; computer-intensive procedures (bootstrap, exact tests). Prerequisites: 211; or 141 or 143 with instructor's permission. Credits: 3.00

STAT 241 - Statistical Inference

(Same as Biostatistics 241.) Introduction to statistical theory: related probability fundamentals, derivation of statistical principles, and methodology for parameter estimation and hypothesis testing. Prerequisites: 151 or 251; 141 or equivalent; Math. 121.

Credits: 3.00

STAT 251 - Probability Theory

(Same as Math. 207.) Distributions of random variables and functions of random variables. Expectations, stochastic independence, sampling and limiting distributions (central limit theorems). Concepts of random number generation. Prerequisite: Math. 121, Statistics 151 recommended. Credits: 3.00

STAT 252 - Appl Models

Markov chain models for biological, social, and behavioral systems models. Random walks, transition and steady-state probabilities, passage and recurrence times. Prerequisite: 151 or 251.

Credits: 1.00

STAT 253 - Appl Time Series & Forecasting

(Same as Biostatistics 253.) Autoregressive moving average (Box-Jenkins) models, autocorrelation, partial correlation, differencing for nonstationarity, computer modeling. Forecasting, seasonal or cyclic variation, transfer function and intervention analysis, spectral analysis. Prerequisite: 211 or 225; or 141 or 143 with instructor's permission.

Credits: 3.00

STAT 256 - Neural Computation

(See Computer Science 256.) Credits: 3.00

STAT 261 - Statistical Theory I

(Same as Biostatistics 261, 262.) Point and interval estimation, hypothesis testing, and decision theory. Application of general statistical principles to areas such as nonparametric tests, sequential analysis, and linear models. Prerequisites: For 261: 151 with instructor permission or 251; for 262: 241 with instructor permission or 261.

Credits: 3.00

STAT 265 - Integrated Product Development

(Same as Business Administration 293.) Credits: 3.00

STAT 270 - Stochastic Thry in Elec Eng

(See Electrical Engineering 270.) Credits: 3.00

STAT 281 - Statistics Practicum

Intensive experience in carrying out a complete statistical analysis for a research project in substantive area with close consultation with a project investigator. Prerequisites: Any one of 200, 201, 221 through 237; or 253; some statistical software experience. No credit for graduate students in Statistics or Biostatistics. Credits: 3.00

STAT 295 - Special Topics

For advanced students. Lectures, reports, and directed readings on advanced topics. Prerequisite: As listed in course schedule. Credits: 4.00

STAT 308 - Applied Biostatistics

Intensive introduction to the rationale for and application of biostatistical methods in planning experiments and interpreting data in the biological, health and life sciences. Cross-listings: Molecular Physiology and Biophysics 308, Biostatistics 308.

Credits: 5.00

STAT 321 - Seminar in Advanced Statistics

Seminar presentations and discussions of statistical literature pertaining to the theoretical aspects of methods studied in STAT 221, STAT 223, STAT 224, STAT 225, and STAT 229, respectively. Corequisites: STAT 221 for STAT 321; STAT 223 for STAT 323; STAT 224 for STAT 324; STAT 225 or STAT 221 for STAT 325, STAT 229 for STAT 329. STAT 241 or STAT 261 recommended. Credits: 1.00

STAT 323 - Seminar in Advanced Statistics

Seminar presentations and discussions of statisfical literature pertaining to the theoretical aspects of methods studied in STAT 221, STAT 223, STAT 224, STAT 225, and STAT 229, respectively. Co-requisites: STAT 221 for STAT 321; STAT 223 for STAT 323; STAT 224 for STAT 324; STAT 225 or STAT 221 for STAT 325, STAT 229 for STAT 329. STAT 241 or STAT 261 recommended. Credits: 1.00

STAT 324 - Seminar in Advanced Statistics

Seminar presentations and discussions of statisfical literature pertaining to the theoretical aspects of methods studied in STAT 221, STAT 223, STAT 224, STAT 225, and STAT 229, respectively Co-requisites: STAT 221 for STAT 321; STAT 223 for STAT 323; STAT 224 for STAT 324; STAT 225 or STAT 221 for STAT 325, STAT 229 for STAT 329. STAT 241 or STAT 261 recommended. Credits: 1.00

STAT 325 - Seminar in Advanced Statistics

Seminar presentations and discussions of statistical literature pertaining to the theoretical aspects of methods studied in STAT 221, STAT 223, STAT 224, STAT 225, and STAT 229, respectively. Co-requisites: STAT 221 for STAT 321; STAT 223 for STAT 323; STAT 224 for STAT 324; STAT 225 or STAT 221 for STAT 325, STAT 229 for STAT 329. STAT 241 or STAT 261 recommended. Credits: 1.00

STAT 329 - Seminar in Advanced Statistics

Seminar presentations and discussions of statistical literature pertaining to the theoretical aspects of methods studied in STAT 221, STAT 223, STAT 224, STAT 225, and STAT 229, respectively. Co-requisite: STAT 221 for STAT 321; STAT 223 for STAT 323; STAT 224 for STAT 324; STAT 225 or STAT 221 for STAT 325, STAT 229 for STAT 329. STAT 241 or STAT 261 recommended. Credits: 1.00

STAT 380 - Sem: Statistics & Biostatistics

Presentation and discussion of current topics, methodological research and applications in Statistics and Biostatistics by graduate students, faculty and guest speakers. Prerequisite: Instructor Permission. Credits: 0.50

STAT 381 - Statistical Research

Methodologic or data analytic research culminating in oral and written reports to the faculty. Prerequisite: Instructor Permission. Cross-listed with: BIOS 381. Credits: 3.00

STAT 385 - Consulting Practicum

Supervised field work in statisfical consulting. Experiences may include advising UVM faculty and students or clients in applied settings such as industry and government agencies. Prerequisites: Second year Graduate standing in Statisfics or Biostatisfics and permission of Statisfics Program Director. Credits: 3.00

STAT 391 - Master's Thesis Research

Credits: 3.00

STAT 395 - Advanced Special Topics

Lectures or directed readings on advanced and contemporary topics not presently included in other statisfics courses. Prerequisites: As listed in course schedule. Cross-listed with: BIOS 395. Credits: 3.00

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Courses in Water Resources (WR) Catalogue 2002-03 WR 391 - Master Thesis Rsch Courses Credit as arranged. Credits: 1.00 to 12.00 About Catalogue Courses Browse Courses by Subject Course Search Academic Offerings Colleges & Schools Faculty Policies & General Information Catalogue Archives

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Courses in Wildlife & Fisheries Biology (WFB)

WFB 232 - Ichthyology

Biology of fishes. Focus is on form and function, morphology, physiology, behavior, life history, and ecology of modern fishes. Prerequisites: Biology 1, 2 or equivalent; junior standing. Alternate years. Undergraduate/ graduate credit. Credits: 3.00

WFB 271 - Wetlands Wildlife

Breeding biology, behavior, habitat management, and population ecology of wetland wildlife with emphasis on waterfowl. Prerequisites: WFB 174, NR 103. Undergraduate/ graduate credit.

Credits: 4.00

WFB 272 - Wetlands Wildlife Laboratory

Laboratory and field assessment of the ecology and management of wetland habitats and their associated wildlife populations. Prerequisites: Previous or concurrent enrollment in WFB 271 or NR 260. Undergraduate/graduate credit. Credits: 1.00

WFB 273 - Terrestrial Wildlife

Integration of ecological principles, wildlife biology, land use, and human dimensions in wildlife. Emphasis on development and maintenance of terrestrial wildlife habitat, and population regulation of terrestrial species. Prerequisite: 174. Undergraduate/graduate credit. Credits: 3.00

WFB 274 - Terrestrial Wildlife Lab

Laboratory and field experience related to terrestrial species and management of their habitat. Field project required. Prerequisite: Previous or concurrent enrollment in 273. Credits: 1.00

WFB 275 - Wildlife Behavior

Behavior and social organization of game and nongame species as they pertain to population management. Prerequisites: One year of biology, an ecology course, 74 or 174 recommended. Undergraduate/graduate credit. Credits: 3.00

WFB 279 - Marine Ecology

Structure and function of major marine communities, including open ocean, benthos, coral reefs, and estuaries. Emphasis on unique ecological insights gained in the marine environment. Prerequisites: Biology 1 and 2, an ecology course, or instructor permission. Undergraduate/graduate credit. Credits: 3.00

WFB 287 - Advanced Special Projects

Advanced readings and discussions or special field and/or laboratory investigations dealing with a topic beyond the scope of existing formal courses. Prerequisite: Senior standing or permission. Credit arranged. (Not offered for graduate credit.)

Credits: 3.00

WFB 311 - Ecology of Fishes

Structure of fish assemblages, zoogeography, morphology, life history strategies, bioenergetics, competition, predation, and fish effect on ecosystems. Prerequisites: Graduate standing or Instructor permission; NR 140 or STAT 201; an ecology course. Credits: 3.00

WFB 352 - Population Dynamics & Modeling

Modeling and analysis of animal population dynamics, as influenced by environmental, ecological, and management factors; estimation of population size, density, survivorship, reproduction, and migration. Prerequisite: NR 140 or STAT 211; an ecology course. Credits: 4.00

WFB 387 - Graduate Special Problems

Advanced readings or special investigation dealing with a topic beyond the scope of existing formal courses or thesis research, culminating in an acceptable paper. Prerequisite: Instructor Permission. Credits: 3.00

WFB 388 - Graduate Special Problems

Advanced readings or special investigation dealing with a topic beyond the scope of existing formal courses or thesis research, culminating in an acceptable paper. Prerequisite: Instructor Permission. Credits: 3.00

Credits: 3.00

WFB 391 - Master's Thesis Research

Credit as arranged. Credits: 1.00 to 18.00

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Contact Information:

University of Vermont Graduate College 333 Waterman Building Burlington, VT 05405-0160

Graduate General Information Phone: (802) 656-3160 Graduate Admissions Phone: (802) 656-2699 Fax:(802) 656-0519 E-mail: graduate.admissions@uvm.edu Web Site: http://www.uvm.edu/~gradcoll

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Overview

The Graduate College of The University of Vermont is responsible for all advanced degree programs except the program leading to the degree of Doctor of Medicine. The Mission Statement for the Graduate College is as follows: The mission of the Graduate College is

to provide the environment for high quality graduateeducation by stimulating and supporting the intellectual and professional developmentof a diverse faculty and student body; by promoting interdisciplinary and innovativeforms of scholarship, research, and curricula; and by recognizing scholarly excellence.

Although the Graduate College was established formally in 1952, the University recognized early the value of graduate education, awarding its first master'sdegree in 1807. Today, the Graduate College offers 70 different master's programs of study and 20 doctoral programs. During the 1999-2000 academic year, 346 master'sand 59 doctoral degrees were awarded. The College enrolls approximately 1,200students, with about 350 of these pursuing the doctorate.

The combination of sound library holdings, laboratories, and computer facilities, along with the engaging size of the University, affords a unique opportunity to pursue high quality graduate programs in a challenging yet personable environment.

A variety of scholarships, fellowships, assistantships, and loan programs are available in limited numbers to students with solid and sustained records of academic performance.

The Graduate College is served by an Executive Committee comprised of ten facultyand a graduate student member. The Executive Committee works closely with the Dean of the Graduate College to insure comprehensive and outstanding programsof study.

Address requests for transcripts from The University of Vermont to the Registrar, University of Vermont, Office of the Registrar, 360 Waterman Building, 85 So.Prospect, Burlington, VT 05405-016; Phone: (802) 656-2045, FAX: 802-656-8230,E-mail: <u>Registrar@uvm.edu</u>, Web Site:<u>http://registrar.uvm.edu</u>

Address requests for Summer Session and Evening Divisionto the Office of Continuing Education, University of Vermont, Continuing Education, 322 South Prospect St., Burlington, VT 05401; Phone: (802) 656-2085 or (800)639-3210, Fax: (802) 656-0306, E-mail: learn@uvm.edu, Web Site: http://learn.uvm.edu

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Departments and Programs

Anatomy and Neurobiology Department

Colleges: Graduate College

Faculty: Anatomyand Neurobiology

Courses: Anatomyand Neurobiology (ANNB)

Contact Information:

University of Vermont Anatomy and Neurobiology Department C427 Given Building 89 Beaumont Ave. University of Vermont Burlington, VT 05405-0068

Phone: (802) 656-2230 Fax: (802) 656-8704 Email: Web Site: <u>http://www.uvm.edu/annb/?Page=graduateprogram.html</u>€

Degrees, Majors, Minors, and Concentrations

- Graduate Majors
 - Anatomy and Neurobiology (M.S.)*
 - Anatomy and Neurobiology (Ph.D.)

* Students are admitted to the Ph.D.program only, not to a M.S. program. Ph.D. students may subsequently completea M.S. degree with the permission of the Department.

Overview

Departmental research activities center around nervous systemstructure, function and

development. Specific areas of interest include: mechanismsregulating neuronal degeneration, regeneration and plasticity; role of extracellularmatrix in glial differentiation; development and pattern formation in the autonomicnervous system; organization of somatosensory and autonomic pathways; neurotransmitterand neuropeptide expression and secretion; specific synaptic actions of neuroactivecompounds; modification of calcium and other intracellular signaling pathwaysin excitable cells; cardiovascular, urinary and gastrointestinal functions innormal and diseased states; mechanisms of cell apoptosis; role of Notch signallingin neuronal development; mechanisms underlying neuronal cell death; use of mousemodels for studies of neural degenerative disease; and mechanisms of transductionin sensory cells.

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Anatomy and Neurobiology (M.S.)

College: Graduate College Department: Anatomy and Neurobiology

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Students are admitted to the Ph.D. program only, not to a M.S. program. Ph.D. students may subsequently complete a M.S. degree with the permission of the Department.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Satisfactory completion of required courses and research rotations. Acceptance of a written report and oral presentation on the proposed thesis as approved by the Research and Dissertation Committee.

Minimum Degree Requirements

Thirty credits of courses and research, including Anatomy and Neurobiology 301, 302, 311; comprehensive examination. Additional credits as arranged for laboratory research leading to a dissertation. A grade of B or better must be obtained in any course taken in Anatomy and Neurobiology.

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Anatomy and Neurobiology (Ph.D.)

College: Graduate College Department: Anatomy and Neurobiology

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Bachelor's degree; one year of organic chemistry/biochemistry; a year of advanced biology; one course in college physics. Additional courses in calculus, differential equations, statistics, computer science, and physical chemistry are recommended. A deficiency in one prerequisite course can be made up in the summer session before entry into the program. A master's degree is not a prerequisite for the Ph.D. degree. Satisfactory scores on the general (aptitude) Graduate Record Examination.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

Satisfactory completion of required courses and research rotations. Approval of the written and oral portions of the qualifying comprehensive examination.

Minimum Degree Requirements

Anatomy 301, 302, 306, 311, 395 or 396, and 491; Cell and Molecular Biology 301; Physiology and Biophysics 301; Biochemistry 301, 302. Additional elective courses and teaching assignments as arranged with the department; three reading courses; departmental research rotations; dissertation research; credits as required by the Graduate College. Candidacy examination; successful completion of dissertation. A grade of B or better must be obtained in any course taken in Anatomy and Neurobiology.

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Faculty: Animal Science

Courses: Animal Science (ASCI)

Contact Information:

University of Vermont Animal Science Department Terrill Hall 570 Main Street Burlington, VT 05405

Phone: (802) 656-2070 Fax: (802) 656-8196 Email: <u>ktatro@zoo.uvm.edu</u> Web Site: <u>http://asci.uvm.edu/</u> €

Affiliated Programs:

- <u>Preveterinary Honors Program</u>
- Accelerated B.S./M.S. Program

Graduate Degrees and Majors

- Graduate Majors
 - Animal Science (M.S., Ph.D.)

Overview

Domestic animals play a major role in our lives through agriculture, recreation, biomedical science, and companionship. The mission of the Department of Animal Science is to provide a high quality, broad-based education emphasizing domestic animals and their interactions with humans.

Our graduates enter the veterinary or other professions, biomedical science, the agribusiness industry, companion animal care and breeding, zoos and aquaria, or education. Additionally, many students use a B.S. in Animal Science as a stepping stone to careers in business and commerce. To provide the necessary flexibility to achieve this diversity students work closely with faculty advisors to individualize their programs.

To facilitate and reduce the costs of veterinary education of excellent students, the Department of Animal Science and the Tufts University School of Veterinary Medicine have established a highly competitive seven-year B.S./D.V.M. program. For further information on this highly competitive option contact the Department of Animal Science directly at (802) 656-2070. Some limited veterinary scholarships are also available for upper-level students.

For students interested in dairy production, the UVM/VTC Dairy Farm Management 2 + 2 Program provides Vermont residents with scholarships and the opportunity to earn a B.S. after a two-year Associate's Degree in Dairy Farm Management from the Vermont Technical College.

An option for the outstanding student with an interest in a graduate degree is the Accelerated Master's in which students commence study for their master's degree in their senior year and have the potential to obtain a B.S./M.S. in a five-year period.

The Department of Animal Science actively encourages participation in undergraduate research, internships, and study abroad. By combining classroom, laboratories, and practical experience students maximize their performance in a friendly environment and develop responsibility for and control over their education.

0 F F I C I A L 2002/03

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Catalogue 2002-03	Accelerated Master's Program in Animal Science (B.S./M.S.)
	College: Graduate College
Courses	Department: <u>Animal Science</u> Overview An option for the outstanding student with an interest in a graduate degreeis the Accelerated Master's in which students commence study for their master'sdegree in their
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Information	Further details about the Accelerated Master's Program (AMP), available for students
mornation	majoring in Animal Sciences or Biological Sciences, can be obtained from the
Catalogue Archives	Department of Animal Sciences, 102 Terrill Hall, (802) 656-2070.

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Animal Science (M.S.)

College: <u>Graduate College</u> Department: <u>Animal Science</u>

Overview

Research activities in basic and applied science encompass a broad range of interests. The areas of research include nutrition; physiology; diseases and microbiology as they relate to dairy cattle.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An acceptable undergraduate major in the animal sciences, chemistry, biology, or a related field. Satisfactory scores on the general (aptitude) Graduate Record Examination must be presented. In some of the animal health areas, a degree of Doctor of Veterinary Medicine may be helpful.

Requirements for Advancement to Candidacy for the Degree of Master of Science

The applicant must satisfy the requirements of the Graduate College and pass the general qualifying examination administered by the Department of Animal Sciences.

Minimum Degree Requirements

Option A: 30 credit hours of study with a minimum of 15 credit hoursin courses in Animal Sciences or related fields and a minimum of 9 credit hoursof thesis research. Students are required to attend and participate in JournalClub or Graduate seminar every semester

that they are enrolled for credits.

Option B: 30 credit hours of study with 24 credit hours in coursesin Animal Sciences or related fields and a minimum of 6 credit hours of literature research. Students are required to attend and participate in Journal Club or Graduate seminar every semester that they are enrolled for credits.

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Animal Science (Ph.D.)

College: <u>Graduate College</u> Department: <u>Animal Science</u>

Overview

Research activities in basic and applied science encompass a broad range of interests. The areas of research include nutrition; physiology; diseases and microbiology as they relate to dairy cattle.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Satisfactory scores on the general (aptitude) Graduate Record Examination must be presented.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

The applicant must satisfy the prerequisites of the Graduate College and pass the general qualifying examination administered by the Department of Animal Sciences.

Minimum Degree Requirements

The Department of Animal Sciences believes each graduate program has its individual needs and must be arranged accordingly. The candidate must meet all the requirements as prescribed by the Graduate College for the degree of Doctor of Philosophy. In addition, all courses and seminars as established by the Studies Committee must be satisfactorily met, doctoral research must be completed, and an acceptable dissertation

written and defended. In accord with the policy of the Animal Sciences Department, all doctoral students will be provided the opportunity to participate in the Department's undergraduate teaching program. Proficiency in a modern foreign language or computer language and programming is optional at the discretion of the Studies Committee.

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Departments and Programs

:: Catalogue 2002-03 **Biochemistry Department (Graduate)** Courses Colleges: Graduate College Academic Offerings Faculty: Biochemistry Colleges & Schools Courses: Biochemistry(BIOC) Faculty **Contact Information:** Policies & General University of Vermont Information **Biochemistry Department** C401 Given Building **Catalogue Archives** 89 Beaumont Ave. University of Vermont Burlington, VT 05405-0068 Phone: (802) 656-2220 Fax: (802) 862-8229 Email: Web Site: http://biochem.uvm.edu/ I

Affiliated Programs:

<u>Biochemistry Undergraduate Programs</u>

Degrees, Majors, Minors, and Concentrations

- Graduate Majors
 - Biochemistry (M.S.)
 - Biochemistry (Ph.D.)

Overview

Current research programs include protein structural dynamics during musclecontraction (Berger); synthesis of coagulation enzyme inhibitors (Butenas); regulation of gene expression in developing and neoplastic tissues (J-F. Chiu); physiologyand biochemistry of thrombosis (D. Collen); protein crystallography of plasmaproteins (S. Everse); thermodynamics of protein-protein and protein-nucleic acidinteractions in transcriptional assemblies (M. Daugherty); regulation of procollagensynthesis (K. Cutroneo); proteinnucleic acid recognition (C. Francklyn); environmental, nutritional, and hormonal modulators of pulmonary defense mechanisms (B. Hart);molecular biology, cloning and expression of blood coagulation proteins; site-specificmutagenesis (G. Long); protein structure by multi-dimensional high field NMRtechniques (B. Lyons); macromolecular assembly in blood coagulation and boneformation (K. Mann); transport of iron into cells by receptor mediated iron-bindingproteins (A. Mason); enzymology of DNA replication, recombination and repair(S. Morrical); thrombosis, thrombolysis, and coronary artery disease (B. Sobel); cellular interactions with coagulation proteins (P. Tracy); determination ofthrombosis related cardiovascular disease risk factors (R. Tracy); nature of the binding of metals to proteins, particularly the iron-binding proteins of bod plasma (R. Woodworth).

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Biochemistry (M.S.)

College: Graduate College Department: Biochemistry

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Satisfactory score on the Graduate Record Examination. Subject (advanced) portion not required but helpful. In addition: Year courses in organic chemistry, physical chemistry, and physics (equivalent to Chemistry 141, 142 or 143; 144, Chemistry 162 and Physics 15, 16); quantitative chemistry; mathematics through differential and integral calculus, a year course in a biological science.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Under most circumstances, meeting the requirements for admission as stated above will allow advancement to either degree program.

Minimum Degree Requirements

Thirty credit hours, 16 of which must be taken from graduate courses offered by the Department of Biochemistry, including Biochemistry 301, 302, 303, 381, and 391 or 392.

Thesis Option: Up to 14 credit hours of Master's Thesis Research(391).

Nonthesis Option: Up to eight credit hours of Independent LiteratureResearch (392).

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Biochemistry (Ph.D.)

College: <u>Graduate College</u> Department: <u>Biochemistry</u>

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Satisfactory score on the Graduate Record Examination. Subject (advanced) portion not required but helpful. In addition: Year courses in organic chemistry, physical chemistry, and physics (equivalent to Chemistry 141, 142 or 143; 144, Chemistry 162 and Physics 15, 16); quantitative chemistry; mathematics through differential and integral calculus, a year course in a biological science.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

Under most circumstances, meeting the requirements for admission as stated above will allow advancement to either degree program.

Minimum Degree Requirements

A total of 75 hours, including 20 hours from graduate courses offered by the Department of Biochemistry including Biochemistry 301, 302 or 305-306, 303 and participation throughout residence in Biochemistry Seminars; three hours from graduate courses offered by the Department of Chemistry; ten additional hours from courses in physical or biological sciences; 30 hours of Doctoral Dissertation Research.

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Colleges: Arts and Sciences, Graduate College

Faculty: Biology

Courses: Biology (BIOL)

Contact Information:

University of Vermont **Biology Department** Marsh Life Science Building, Room 120A 109 Carrigan Drive Burlington, VT 05405-0086

Phone: (802) 656-2922 Fax: (802) 656-2914 Email: Biology@uvm.edu Web Site: http://www.uvm.edu/~biology/ 🥹

Affiliated Programs:

Accelerated B.S./M.S. Program

Graduate Degrees and Majors

- Graduate Majors
 - Biology (<u>M.A.T.</u>, <u>M.S.</u>, <u>M.S.T.</u>, <u>Ph.D.</u>)

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Accelerated Master's Program in Biology (B.S./M.S.)

College: <u>Graduate College</u> Department: <u>Biology</u>

Overview

A master's degree in Biology can be earned in a shortened time by careful planning in the junior and senior years of Biology B.S. majors at UVM. Students' should discuss this possibility with the Department Graduate Program Director as soon as they think they might be interested in the program. The M.S. can typically be earned in one additional year. Up to six credits of undergraduate course work taken in the junior and senior year can be counted towards the M.S. degree requirement, including BIOL 202, 203, 205, 208, 209, 212, 217, 219, 223, 225, 238, 246, 254, 255, 263, 264, 265, 267, 270, and 276.

To be eligible for the AMP, a student must be a declared Biology B.S. major and have identified a faculty sponsor. Other requirements include a G.P.A. typically higher than 3.1 overall and 3.3 in biology courses. Following admission, students are required to take at least 3 credit hours of undergraduate research. After graduation with the B.S. degree, students are eligible to become candidates for the M.S. degree. Applications and further information may be obtained from the Department of Biology.

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Biology (M.A.T.)

College: <u>Graduate College</u> Department: <u>Biology</u>

Overview

Faculty research interests fall into two broad groupings: A) developmental biology/cell and molecular biology/physiology; and B) ecology/evolution/naturalhistory. Current ongoing research projects include: A) molecular biology of receptors; cell biology; signal transduction and development; identification of novel muscleproteins by means of biochemical and genetic approaches; how molecular interactionsdefine mechanical properties of muscles; genetics of chemoreception and chemotacticbehavior of protozoa; electrophysiological basis of signal transduction; analysisof G protein signaling in Drosophila using genetic, molecular and immunohistochemicalapproaches; B) taxonomy and natural history of insects, particularly Rhysodidbeetles; null models; community assembly; population and community ecology of carnivorous plants; parasite-host ecology; ecology and evolution of plant-animalinteractions; population and community ecology of lizards; behavioral ecology; population genetics and molecular systematics in taxa such as Himalayan rodents, Polynesian black flies, and neotropical mosquitoes; genetic differentiation and evolution in structured populations; population genetics; cytoplasmically inherited reproductive incompatibility; evolutionary consequences of parasite-host interactions; physiological energetics of insects.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts in Teaching

The department offers a program leading to the degree of Master of Arts in Teaching. Satisfactory scores on the Graduate Record Examination, general (aptitude) section, are requirements for acceptance for this degree.

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Biology (M.S.)

College: <u>Graduate College</u> Department: <u>Biology</u>

Overview

Faculty research interests fall into two broad groupings: A) developmental biology/cell and molecular biology/physiology; and B) ecology/evolution/naturalbistory. Current ongoing research projects include: A) molecular biology of receptors; cell biology; signal transduction and development; identification of novel muscleproteins by means of biochemical and genetic approaches; how molecular interactionsdefine mechanical properties of muscles; genetics of chemoreception and chemotacticbehavior of protozoa; electrophysiological basis of signal transduction; analysisof G protein signaling in Drosophila using genetic, molecular and immunohistochemicalapproaches; B) taxonomy and natural history of insects, particularly Rhysodidbeetles; null models; community assembly; population and community ecology of carnivorous plants; parasite-host ecology; ecology and evolution of plant-animalinteractions; population and community ecology of lizards; behavioral ecology; population genetics and molecular systematics in taxa such as Himalayan rodents, Polynesian black flies, and neotropical mosquitoes; genetic differentiation and evolution in structured populations; population genetics; cytoplasmically inherited reproductive incompatibility; evolutionary consequences of parasite-host interactions; physiological energetics of insects.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An undergraduate major in Biology or its equivalent. Satisfactory scores on the Graduate Record Examination, general (aptitude) section. Acceptability to the faculty member with

whom the candidate wishes to do thesis research.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Satisfactory completion of a qualifying examination.

Minimum Degree Requirements

Biology Graduate Colloquia, fours hours; 11 to 18 additional hours in biology and related fields; thesis research (eight to 15 hours). Each candidate must participate in the teaching of at least one undergraduate course.

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Biology (M.S.T.)

College: <u>Graduate College</u> Department: <u>Biology</u>

Overview

Faculty research interests fall into two broad groupings: A) developmental biology/cell and molecular biology/physiology; and B) ecology/evolution/naturalbistory. Current ongoing research projects include: A) molecular biology of receptors; cell biology; signal transduction and development; identification of novel muscleproteins by means of biochemical and genetic approaches; how molecular interactionsdefine mechanical properties of muscles; genetics of chemoreception and chemotacticbehavior of protozoa; electrophysiological basis of signal transduction; analysisof G protein signaling in Drosophila using genetic, molecular and immunohistochemicalapproaches; B) taxonomy and natural history of insects, particularly Rhysodidbeetles; null models; community assembly; population and community ecology of carnivorous plants; parasite-host ecology; ecology and evolution of plant-animalinteractions; population and community ecology of lizards; behavioral ecology; population genetics and molecular systematics in taxa such as Himalayan rodents, Polynesian black flies, and neotropical mosquitoes; genetic differentiation and evolution in structured populations; population genetics; cytoplasmically inherited reproductive incompatibility; evolutionary consequences of parasite-host interactions; physiological energetics of insects.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science in Teaching

A bachelor's degree from an accredited institution and certification as a teacher of biology or an associated field. At least three years of secondary school teaching.

Satisfactory scores on the Graduate Record Examination, general (aptitude) section.

Minimum Degree Requirements

Thirty hours of course work to include a selection of courses in the Departments of Botany and Biology which will broaden and balance the undergraduate work in biology. At least two 200-level courses in each department. Courses in four of the five following areas: anatomy; morphology and systematics; genetics; developmental biology; and environmental biology. Up to 12 hours of 100-level courses may be used for the above requirements where approved by the advisor and the Dean. Appropriate courses in related science departments may be used to complete the required 30 hours. No thesis is required; however, each degree recipient must complete a written and oral examination.

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Biology (Ph.D.)

College: <u>Graduate College</u> Department: <u>Biology</u>

Overview

Faculty research interests fall into two broad groupings: A) developmental biology/cell and molecular biology/physiology; and B) ecology/evolution/natural history. Current ongoing research projects include: A) molecular biology of receptors; cell biology; signal transduction and development; identification of novel muscle proteins by means of biochemical and genetic approaches; how molecular interactions define mechanical properties of muscles; genetics of chemoreception and chemotactic behavior of protozoa; electrophysiological basis of signal transduction; analysis of G protein signaling in Drosophila using genetic, molecular and immunohistochemical approaches; B) taxonomy and natural history of insects, particularly Rhysodid beetles; null models; community assembly; population and community ecology of carnivorous plants; parasite-host ecology; ecology and evolution of plant-animal interactions; population and community ecology of lizards; behavioral ecology; population genetics and molecular systematics in taxa such as Himalayan rodents, Polynesian black flies, and neotropical mosquitoes; genetic differentiation and evolution in structured populations; population genetics; cytoplasmically inherited reproductive incompatibility; evolutionary consequences of parasite-host interactions; physiological energetics of insects.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Satisfactory completion of: college level courses appropriate for science majors including a year of mathematics, a year of physics, organic chemistry, at least one year of biology;

the Graduate Record Examination, general (aptitude) section; and acceptability to the faculty member with whom the candidate wishes to do dissertation research. Deficiencies in prerequisites may be made up after entering the program.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

The diagnostic examination prior to registration for the first semester; the comprehensive exam; minimum requirement course work of 30 hours and additional courses as required by the advisor and Studies Committee; at least one academic year of graduate study at The University of Vermont.

Minimum Degree Requirements

Of the 75 credit hours required for the degree, at least 30 hours must be earned in courses suitable for graduate credit and must include six hours of Graduate Colloquia. The selection of courses will be designated for each student by his/her advisor and Studies Committee. At least 20, but not more than 45, credits must be earned in dissertation research. Each candidate must participate in the teaching of at least one undergraduate course.

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Biomedical Technologies Department

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Colleges: Nursing and Health Sciences, Graduate College

Faculty: Biomedical Technologies

Courses: Biomedical Technologies (BMT), Biomedical Technology (BMED)

Contact Information:

University of Vermont Biomedical Technologies Department 302 Rowell Building 106 Carrigan Drive University of Vermont Burlington, VT 05405

Phone: (802) 656-3811 Fax: (802) 656-2191 Email: <u>pharris@cosmos.uvm.edu</u> Web Site:

Affiliated Programs:

• Accelerated B.S./M.S. Program

Graduate Degrees and Majors

- Graduate Majors
 - Biomedical Technology (M.S.)

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Accelerated Master's Program in Biomedical Technology (B.S./M.S.)

College: <u>GraduateCollege</u> Department: <u>BiomedicalTechnologies</u>

Overview

A master's degree in Biomedical Technology (BMED) can be earned in a shortened time by careful planning in the junior and senior years at UVM. Students should discuss this possibility with the Department Graduate Program Director as soon as they think they might be interested in this program. For example, the M.S.could be earned in one additional year, as six credits of undergraduate courses may also be counted concurrently towards the M.S. degree requirements.

To be eligible for the AMP a student must be a declared major in one of the Department's program offerings. After application for admission to the Graduate College is accepted, up to six approved credits on concurrent undergraduate/graduate credit basis are taken. Eligible courses include BMT 242, 244, 281, 293 and a maximum of 2 credits selected from BMT 229, 239, 249, 259 and 269. Other admission requirements are a minimum G.P.A. of 2.67 in the basic science core (CHEM 23 or 31 & 32, CHEM 42 or 141 & 142, ANPS 19 & 20 or BIOL 1 & 2, MATH 19 or higher); and an overall G.P.A. of 3.0 or higher. Following admission, students are required to take at least 3 credit hours of undergraduate research. After graduation with the B.S. degree, students are eligible to become a candidate for the M.S. degree. Applications and further information may be obtained from the Graduate Program Director in the Department.

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Biomedical Technology (M.S.)

College: <u>Graduate College</u> Department: <u>Biomedical Technologies</u>

Overview

The Department of Biomedical Technologies offers a Master of Science degree in Biomedical Technology that provides in-depth preparation in the biomedical sciences. It is an appropriate course of study for professionals interested inadvanced clinical practice, research and development, education or the pursuitof further graduate opportunities.

Opportunities for research include: regulation of cell growth, DNA repair, infectious diseases, immunology, and clinical projects in Medical LaboratoryScience, Nuclear Medicine Technology and Radiation Therapy offered in conjunction with various basic science and clinical departments in the College of Medicineand the Fletcher Allen Health Care.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Completion of an accredited baccalaureate program in Biomedical Technology, medical laboratory science, nuclear medicine technology, radiation therapy or related fields, and national certification or equivalent in one of these areas. A minimum of one year's pertinent professional experience is preferred. GRE aptitude score is required.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Satisfactory completion of a two semester, graduate-level course in Biochemistry

(equivalent to Biochemistry 301-302) and the comprehensive examination.

Minimum Degree Requirements

Thirty credits total consisting of at least the following: Biomedical Technology 381 (two credits), thesis research (six credits), biochemistry lecture (six credits), plus other approved graduate courses. A noncredit teaching practicum in the Department's undergraduate programs is required.

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Departments and Programs

::Catalogue 2002-03 **Mathematics and Statistics Department** Courses Colleges: Engineering and Mathematics, Arts and Sciences, Graduate College, Academic Offerings **Continuing Education** Colleges & Schools Faculty: Mathematics Courses: Mathematics (MATH), Statistics (STAT) Faculty Policies & General **Contact Information:** Information University of Vermont Mathematics and Statistics Department Catalogue Archives 16 Colchester Ave Burlington, VT 05405 Phone: (802) 656-2940 Fax: (802) 656-2552 Email: dinitz@math.uvm.edu Web Site: http://www.emba.uvm.edu/EM/Math/ 2

Affiliated Programs:

<u>Accelerated B.S./M.S. Program</u>

Graduate Degrees and Majors

- Graduate Majors
 - Biostatistics (M.S.)
 - Mathematics (M.S., M.A.T., M.S.T.)
 - Mathematical Sciences (Ph.D.)
 - Statistics (M.S.)

Overview

The College of Engineering and Mathematics offers programs in severalareas of the mathematical sciences and their applications. Thecurriculum leads to the Bachelor of Science degree in Mathematics. The Applied and Interdisciplinary Mathematics option combines a majorin applied mathematics with an approved concentration in an alliedfield that emphasizes the application of mathematics.

The Statistics Program offers a major in Statistics within this degree. Accelerated master's programs in Mathematics, Statistics, and Biostatistics are also offered. These programs allow students to earnboth their B.S. and M.S. degrees in as little as five years.

Additionally, master of science degrees are available in Mathematics, Statistics, and Biostatistics. A doctor of philosophy degree in mathematical sciences is also available.

A Handbook for Mathematics and Statistics Undergraduate Majors, available from the Mathematics and Statistics department office or the UndergraduateMathematics Student Organization, provides additional information onthe mathematics and statistics degree programs, honors in mathematicsand statistics, mathematics and statistics courses, advising andother support for students, extracurricular activities, careeroptions, and other material of interest to potential majors.

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Accelerated Master's Program in Mathematics, Statistics, and Biostatistics (B.S./M.S.)

College: <u>Graduate College</u> Department: <u>Mathematicsand Statistics</u>

Overview

Accelerated master's programs in Mathematics, Statistics, and Biostatisticsare also offered. These programs allow students to earn both their B.S. and M.S.degrees in as little as five years.

A master's degree in Statistics or in Biostatistics can be earned in a shortenedtime by careful planning during the junior and senior years at UVM. For example, the MS could be earned in just one additional year, because six credits of undergraduate courses can also be counted concurrently towards the MS degree requirements. Students should discuss this possibility with the Statistics Program Directoras soon as they think they may be interested in this program.

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Biostatistics (M.S.)

College: <u>Graduate College</u> Department: <u>Mathematics</u>

Overview

This program is administered through the Statistics Program in close collaboration with the faculty and staff of the Medical Biostatistics Unit of the College of Medicine (Dr. Taka Ashikaga, Director). Dr. Larry Haugh is the program director.

The program offers a concentration in biostatistics leading to the M.S. degree. The curriculum takes full advantage of courses taught in the Statistics Program and includes experience in a variety of health, biomedical, and related research projects in the College of Medicine. This experience is designed to provide candidates with opportunities to use their academic training and work experience in defining research problems, formulating rational methods of inquiry, and gathering, analyzing, and interpreting data. The Medical Biostatistics research activities cover the full range of studies that take place within an academic medicine environment. These include population-based health surveys of various types and evaluations of health promotion programs and professional education activities, such as community intervention studies to prevent adolescent smoking, to enable women to quit smoking, and to promote breast cancer screening. They also include clinical studies of disability due to low back pain, bioengineering experiment design and measurement studies, and clinical trials for neurologic diseases, as well as data from other preclinical, clinical, and epidemiologic studies. Emphasis is placed on learning to perform computerized data analysis as the statistician in a research team.

Opportunities are also available for biostatistical and biometrical research related to problems in agriculture and the life sciences, as well as natural resources. Collaborating faculty in these areas are available to provide consulting or research experiences. Opportunities include multivariate or spatial data analyses for ongoing wildlife and water quality studies. (See also Statistics Program description.)

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An undergraduate major which provides a foundation for the application of statistical methodology and concepts to health and biomedical or agriculture/natural resource problems. For example, premedicine majors who have delayed their application to medical school will be well suited for the program. It is anticipated that candidates will have completed three semesters of calculus and a course including matrix algebra methods. However, provisional admission to the program can be given prior to the completion of these requirements. Computer experience is desirable. The Graduate Record Examination is strongly advised and is required of any applicant who wishes to be considered for a teaching fellowship or research assistantship. Current undergraduate students at The University of Vermont should contact the program director for details on the Accelerated Master's Program.

Minimum Degree Requirements

Plan A (Thesis): A 30-hour degree program which includes 24 semester hours of approved course work, with at least 21 hours in Biostatistics/Statisticscourses. This must include Biostatistics 200, 221, 223, 231, 241 or 261, 321,323, other Biostatistics courses numbered 201 or above (except 211, 308), and other quantitative methods courses, or (if approved) courses in a specialized field of application, plus six semester hours of approved thesis research (391).

Plan B (Nonthesis): A 33-hour degree program which includes 30 semester hours of approved course work with at least 21 hours in Biostatistics/Statisticscourses. This must include Biostatistics 200, 221, 223, 231, 241 or 261, 321,323, other Biostatistics courses numbered 201 or above (except 211, 308), and other quantitative methods courses, or (if approved) courses in a specialized field of application, and three semester hours of approved statistical research(381).

Under both plans, students must have or acquire a knowledge of the material in Biostatistics 201 and 211, and are expected to participate in the projects of the College of Medicine Biometry Facility as advised, and to attend the regular colloquium series as part of their training. The comprehensive examination covers theoretical and applied aspects acquired in the core courses of the program. During the latter part of their training the students will be expected to take major responsibility for some project, including the presentation of the final report for this project.

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Mathematics (M.S.)

College: <u>Graduate College</u> Department: <u>Mathematicsand Statistics</u>

Overview

The Department of Mathematics offers programs towards the Master of Science, Master of Science in Teaching, Master of Arts in Teaching, and the Doctor of Philosophy in Mathematical Sciences. There are two areas of concentration: puremathematics and applied mathematics. The programs emphasize the interaction between these two areas and the common role of scientific computation. Students can takecourses common to both areas, enabling them to gain an appreciation of the mathematicaltechniques and the connections between theory and applications.

The department offers an <u>AcceleratedMaster's Program (AMP)</u> leading to a B.S. and M.S. degree in five years. Interestedstudents should contact the department by the end of their sophomore year.

Department research interests include classical analysis, harmonic analysis, Eourier analysis, approximation theory, algebra, number theory, graph theory, combinatorics, fluid mechanics, biomathematics, differential equations, numericalanalysis, and modeling.

General Requirements

Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Because of the breadth of pure and applied mathematics, it is recognized thatāpplicants for admission will have diverse backgrounds. Admission requirementsāre therefore flexible. Applicants should have demonstrated strength in eitherpure or applied mathematics, a bachelor's degree with a major in mathematicsor a closely related discipline, and satisfactory scores on both the generalānd subject (mathematics) sections of the Graduate Record Examination.

Minimum Degree Requirements for the Degree of Master ofScience

Each student must complete one of the following options:

a. Twenty-four semester hours of acceptable graduate credits in advanced mathematics courses; six semester hours of thesis research culminating a master's thesis, or

b. Thirty semester hours of acceptable graduate creditsin advanced mathematics courses; no thesis required.

Under either option students must take, or acquire the knowledge of the contentin, the courses Math 331 and 333, and must satisfactorily complete at least four300-level mathematics courses and the seminar 382. In both options students must select a major concentration from among the areas: Analysis, Algebra, Applied Mathematics, or Discrete Mathematics. The concentration shall consist of at least fine approved hours in advanced mathematics courses in the respective area, threeof which must be at the 300-level; students in option b. may count the six hours of thesis credit towards these nine hours. In both options students must also select a minor concentration consisting of at least three approved hours of advanced mathematics complementary to the major area. With approval of the student's advisorup to six hours of courses outside mathematics may be used to fulfill the major, minor, or degree requirements.

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Mathematics (M.A.T.)

College: <u>Graduate College</u> Department: <u>Mathematics and Statistics</u>

Overview

The Department of Mathematics offers programs towards the Master of Science, Master of Science in Teaching, Master of Arts in Teaching, and the Doctor of Philosophy in Mathematical Sciences. There are two areas of concentration: pure mathematics and applied mathematics. The programs emphasize the interaction between these two areas and the common role of scientific computation. Students can take courses common to both areas, enabling them to gain an appreciation of the mathematical techniques and the connections between theory and applications.

Department research interests include classical analysis, harmonic analysis, Fourier analysis, approximation theory, algebra, number theory, graph theory, combinatorics, fluid mechanics, biomathematics, differential equations, numerical analysis, and modeling.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for the Degree of Master of Arts in Teaching

Thirty hours of course work, including at least 21 in mathematics and six in education. Students must be certified to teach. With the approval of their advisor, students may choose courses from the 100-level or from closely related fields. The student must pass an oral comprehensive examination in mathematics and additional required examinations in education. No thesis is required.

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Mathematics (M.S.T.)

College: <u>Graduate College</u> Department: <u>Mathematics and Statistics</u>

Overview

The Department of Mathematics offers programs towards the Master of Science, Master of Science in Teaching, Master of Arts in Teaching, and the Doctor of Philosophy in Mathematical Sciences. There are two areas of concentration: pure mathematics and applied mathematics. The programs emphasize the interaction between these two areas and the common role of scientific computation. Students can take courses common to both areas, enabling them to gain an appreciation of the mathematical techniques and the connections between theory and applications.

Department research interests include classical analysis, harmonic analysis, Fourier analysis, approximation theory, algebra, number theory, graph theory, combinatorics, fluid mechanics, biomathematics, differential equations, numerical analysis, and modeling.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies and Advancement to Candidacy for the Degree of Master of Science for Teachers

A bachelor's degree from an accredited institution and certification as a teacher of mathematics. Experience teaching secondary school mathematics. Satisfactory scores on the Graduate Record Examination.

Minimum Degree Requirements for the Degree of Master of Science for Teachers

Thirty hours of course work in mathematics. With the approval of their advisor, students may choose courses from the 100-level or from closely related fields. The student must pass an oral comprehensive examination. No thesis is required.

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Mathematical Sciences (Ph.D.)

College: Graduate College Department: Mathematicsand Statistics

Overview

The Department of Mathematics offers programs towards the Master of Science, Master of Science in Teaching, Master of Arts in Teaching, and the Doctor of Philosophy in Mathematical Sciences. There are two areas of concentration: puremathematics and applied mathematics. The programs emphasize the interaction betweenthese two areas and the common role of scientific computation. Students can takecourses common to both areas, enabling them to gain an appreciation of the mathematicaltechniques and the connections between theory and applications.

Department research interests include classical analysis, harmonic analysis, Eourier analysis, approximation theory, algebra, number theory, graph theory, combinatorics, fluid mechanics, biomathematics, differential equations, numericalanalysis, and modeling.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Because of the breadth of pure and applied mathematics, it is recognized thatāpplicants for admission will have diverse backgrounds. Admission requirementsāre therefore flexible. Applicants should have demonstrated strength in eitherpure or applied mathematics, a bachelor's degree with a major in mathematicsōr a closely related discipline, and satisfactory scores on both the generalānd subject (mathematics) sections of the Graduate Record Examination.

Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Successful completion of four qualifying examinations, three written and oneoral, in one

of the areas of concentration.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

Each student must complete the four qualifying exams and an approved plan ofstudy including at least 75 credit hours in course work or dissertation research. The student is required to write a doctoral dissertation and pass a final oraldefense of that dissertation. The Department requires two semesters of college-teachingexperience. Students are expected to demonstrate appropriate proficiency in the use of computers. There is no formal language requirement.

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Statistics (M.S.)

College: <u>GraduateCollege</u> Department: <u>Mathematicsand Statistics</u>

Overview

The Statistics Program offers biostatistics, statistics, and probability coursestor the entire University community along with traditional degree programs andindividually designed degree programs emphasizing statistics applied to otherfields. The degree programs are designed primarily for students who plan careersin business, actuarial science, industry, and government or advanced trainingin disciplines that make extensive use of statistical principles and methods. The Program faculty is deeply involved in consulting and collaborative researchin a wide variety of fields, including industry, agriculture and in the basicand clinical medical sciences. These research activities along with the researchof participating faculty from psychology, natural resources, etc., offer students unique opportunities to apply their classroom training to "real world" problems. Qualified students with the goal of learning statistics to use in aspecialized area of application are especially encouraged to take advantage ofthese cooperative arrangements.

Program faculty have active statistics research efforts in areas such as qualitycontrol, sequential analysis, three stage sampling, time series analysis, survivaldata analysis, discriminant analysis, bootstrap methods, categorical data analysis, measurement error models, and experimental design. A track in quality and productivity improvement is available. Students seeking the traditional graduate degree instatistics (along with course work in mathematics and computer science, if desired) have excellent opportunities to participate in the faculty's research. (See also <u>Biostatistics program description</u>.)

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies and Advancementto

Candidacy for the Degree of Master of Science

A baccalaureate degree. Three semesters of calculus, acourse in matrix methods, and one semester of statistics. Provisional acceptancecan be given prior to the completion of these requirements. Satisfactory scoreson the -general (aptitude) portion of the Graduate Record Examination are required for most sources of financial aid. Computer experience is highly recommended.

Current undergraduate students at The University of Vermont should contact the program director for details on the <u>AcceleratedMaster's Program (AMP)</u>.

Minimum Degree Requirements for the Degree of Master ofScience

Plan A (Thesis): A 30 semester hour program requiring 24 semester hours of approved course work. This must include Statistics 221, 223, 224, 231, 251, 261, 321, 323, 324, other Statistics courses numbered 200 or above (except 211, 281, 308, 313), other mathematics or quantitative methods courses or (if appropriate)courses in a specialized field of application, plus six hours of approved thesis research (391).

Plan B (Nonthesis): A 33 semester hour program requiring 30 semester hours of approved course work. This must include Statistics 221, 223, 224, 231,251, 261, 321, 323, 324, other Statistics courses numbered 200 or above (except211, 281, 308, 313), other mathematics or quantitative methods courses or (ifāppropriate) courses in a specialized field of application, plus three semester hours of approved statistical research (381).

Under both plans, students must have or acquire a knowledgeof the material in Statistics 201 and 211 in addition to their required course work. Additional specific courses may be required depending on the student,sbackground and interest. Other courses are selected with the approval of thestudent,s advisor from statistics, mathematics, computer science, and (ifappropriate) graduate level courses from the student,s intended area of specialty application (e.g. business administration, engineering, ecology, genetics, psychology). The student is expected to participate in the Colloquium series of the Program. Plan A and Plan B require successful completion of a comprehensive examination which includes coverage of theoretical and applied aspects of the program's core statistics courses. Under Plan B a student, in lieu of a thesis, must carry out an approved comprehensive data analysis or methodological research project culminating in both an oral and written report to the faculty.

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Botany Department

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Colleges: Agriculture and Life Sciences, Arts and Sciences, Graduate College

Faculty: <u>Botany</u>

Courses: Botany (BOT)

Contact Information:

University of Vermont Botany Department Marsh Life Science Building Burlington, VT 05405

Phone: (802) 656-2930 Fax: (802) 656-0440 Email: <u>lreade@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~plantbio/</u> **>**

Graduate Degrees and Majors

- Graduate Programs
 - Botany (M.S., M.A.T., M.S.T., Ph.D.)
 - Field Naturalist Option (M.S.)

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Botany (M.S.)

College: <u>Graduate College</u> Department: <u>Botany and Agricultural Biochemistry</u>

Overview

The Botany Department has ongoing research programs in: ecology and evolution including physiological ecology of aquatic plants, effects of acid depositions on forest ecosystems, physiological ecology of acid depositions, systematics and evolution of vascular plants, biogeography; physiology including morphogenesis and developmental biology of embryonic plant systems, mineral nutrition, growth and development, translocation, cellular electrophysiology, membrane function, amino acid transport, aluminum effects on cell membranes; and cell and molecular biology including molecular genetics; recombinant DNA of fungi and plant molecular development.

The Botany Department participates actively in the Cell and Molecular Biology Program which provides opportunities for interdisciplinary research with other life science departments.

The Botany Department offers a multidisciplinary non-thesis program leading to the degree of Master of Science, Field Naturalist Option. Enrollment is limited to a small number of mature, highly talented individuals who have demonstrated sustained interest in field aspects of the natural sciences. The program is designed to provide students with: (1) a solid grounding in field-related sciences; (2) the ability to integrate scientific disciplines into a coherent whole at the landscape level; (3) the ability to evaluate sites from a number of perspectives and/or criteria; (4) the ability to translate scientific insights into ecologically sound decisions; and (5) the ability to communicate effectively to a wide range of audiences.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

The equivalent of a UVM major or minor in a natural or physical science. Satisfactory scores on the Verbal and Math sections of the Graduate Record Examination.

Minimum Degree Requirements

A total of 30 credits of course work and thesis research. A minimum of 15 credits of course work should be in botany, other natural sciences, and supporting fields, and at least nine credits should be in thesis research.

Requirements for Admission to Graduate Studies for the Degree of Master of Science, Field Naturalist Option

An undergraduate or graduate degree in earth or life sciences is expected; additionally, a demonstrated commitment to field sciences (e.g., participation in environmental and conservation organizations, workshops, field trips, research); strong scores on the Graduate Record Examination. A subject (advanced) test in biology or geology is advised for students who lack an undergraduate degree in natural sciences. Recent college graduates are encouraged to pursue interests outside academe before application to the Field Naturalist program.

Minimum Degree Requirements, Field Naturalist Option

Thirty credit hours of courses to include at least two courses in each of three core areas: (1) life science; (2) earth science; and (3) ecology, the course selection to be determined by the student studies committee. Enrollment in the Field Naturalist Practicum (Botany 311) each semester; oral comprehensive examination the fourth semester; written field research project (Botany 392) at the end of the fourth semester.

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Botany (M.A.T.)

College: Graduate College Department: Botany and Agricultural Biochemistry

Overview

The Botany Department has ongoing research programs in: ecology and evolution including physiological ecology of aquatic plants, effects of acid depositions on forest ecosystems, physiological ecology of acid depositions, systematics and evolution of vascular plants, biogeography; physiology including morphogenesis and developmental biology of embryonic plant systems, mineral nutrition, growth and development, translocation, cellular electrophysiology, membrane function, amino acid transport, aluminum effects on cell membranes; and cell and molecular biology including molecular genetics; recombinant DNA of fungi and plant molecular development.

The Botany Department participates actively in the Cell and Molecular Biology Program which provides opportunities for interdisciplinary research with other life science departments.

The Botany Department offers a multidisciplinary non-thesis program leading to the degree of Master of Science, Field Naturalist Option. Enrollment is limited to a small number of mature, highly talented individuals who have demonstrated sustained interest in field aspects of the natural sciences. The program is designed to provide students with: (1) a solid grounding in field-related sciences; (2) the ability to integrate scientific disciplines into a coherent whole at the landscape level; (3) the ability to evaluate sites from a number of perspectives and/or criteria; (4) the ability to translate scientific insights into ecologically sound decisions; and (5) the ability to communicate effectively to a wide range of audiences.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts in Teaching

The Department offers a program leading to the degree of Master of Arts in Teaching. Satisfactory scores on the Graduate Record Examination general (aptitude) section are requirements for acceptance for this degree.

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Botany (M.S.T.)

College: Graduate College Department: Botany and Agricultural Biochemistry

Overview

The Botany Department has ongoing research programs in: ecology and evolution including physiological ecology of aquatic plants, effects of acid depositions on forest ecosystems, physiological ecology of acid depositions, systematics and evolution of vascular plants, biogeography; physiology including morphogenesis and developmental biology of embryonic plant systems, mineral nutrition, growth and development, translocation, cellular electrophysiology, membrane function, amino acid transport, aluminum effects on cell membranes; and cell and molecular biology including molecular genetics; recombinant DNA of fungi and plant molecular development.

The Botany Department participates actively in the Cell and Molecular Biology Program which provides opportunities for interdisciplinary research with other life science departments.

The Botany Department offers a multidisciplinary non-thesis program leading to the degree of Master of Science, Field Naturalist Option. Enrollment is limited to a small number of mature, highly talented individuals who have demonstrated sustained interest in field aspects of the natural sciences. The program is designed to provide students with: (1) a solid grounding in field-related sciences; (2) the ability to integrate scientific disciplines into a coherent whole at the landscape level; (3) the ability to evaluate sites from a number of perspectives and/or criteria; (4) the ability to translate scientific insights into ecologically sound decisions; and (5) the ability to communicate effectively to a wide range of audiences.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science for Teachers (Biology)

A bachelor's degree from an accredited institution and certification as a teacher of biology or an associated field. At least three years of secondary school teaching. Satisfactory scores on the Graduate Record Examinations general (aptitude) section.

Minimum Degree Requirements for the M.S.T. (Biology)

Thirty hours of course work to include a selection of courses in the Departments of Botany and Biology which will broaden and balance the undergraduate work in biology. At least two 200-level courses in each department. Courses in four of the five following areas: anatomy; morphology and systematics; genetics; developmental biology; and environmental biology. Up to 12 hours of 100-level courses may be used for the above requirement where approved by the advisor and the Dean. Appropriate courses in related science departments may be used to complete the required 30 hours. No thesis is required; however, each degree recipient must complete a written and oral examination.

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Botany (Ph.D.)

College: <u>Graduate College</u> Department: <u>Botany and Agricultural Biochemistry</u>

Overview

The Botany Department has ongoing research programs in: ecology and evolution including physiological ecology of aquatic plants, effects of acid depositions on forest ecosystems, physiological ecology of acid depositions, systematics and evolution of vascular plants, biogeography; physiology including morphogenesis and developmental biology of embryonic plant systems, mineral nutrition, growth and development, translocation, cellular electrophysiology, membrane function, amino acid transport, aluminum effects on cell membranes; and cell and molecular biology including molecular genetics; recombinant DNA of fungi and plant molecular development.

The Botany Department participates actively in the Cell and Molecular Biology Program which provides opportunities for interdisciplinary research with other life science departments.

The Botany Department offers a multidisciplinary non-thesis program leading to the degree of Master of Science, Field Naturalist Option. Enrollment is limited to a small number of mature, highly talented individuals who have demonstrated sustained interest in field aspects of the natural sciences. The program is designed to provide students with: (1) a solid grounding in field-related sciences; (2) the ability to integrate scientific disciplines into a coherent whole at the landscape level; (3) the ability to evaluate sites from a number of perspectives and/or criteria; (4) the ability to translate scientific insights into ecologically sound decisions; and (5) the ability to communicate effectively to a wide range of audiences.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

The equivalent of a UVM major or minor in a natural or physical science. Satisfactory scores on the Verbal and Math sections of the Graduate Record Examination.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

Completion of one academic year in graduate study at The University of Vermont; completion of any language required by the student's studies committee. The candidate must demonstrate ability to comprehend the contents of articles in the biological sciences in a modern foreign language appropriate to the student specialty and approved by the Studies Committee.

Minimum Degree Requirements

A total of 75 credits of course work and dissertation research. A minimum of 40 credits of course work should be in botany, other natural sciences and supporting fields, and at least 20 credits should be in dissertation research. In addition, each candidate must participate in six semester hours of supervised teaching.

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School of Business Administration

Contact Information:

University of Vermont School of Business Administration Kalkin Hall 55 Colchester Ave Burlington, VT 05405-0158

Phone: (802) 656-3175 Fax: (802) 656-8279 E-Mail Address: <u>business@bsad.uvm.edu</u> Web Site: <u>http://www.bsad.uvm.edu/</u>

- Graduate Degrees and Majors
- Business Administration Faculty Listing
- Business Administration Course Listings (BSAD)

Overview

The mission of the School of Business Administration is to educate Vermont, national, and international students for careers in management, to conduct research that extends knowledge and contributes to the effectiveness of teaching and learning, to forge productive links with business and not-for-profit organizations, and to develop faculty capabilities to interpret and respond to significant changes in management education, research, and practice. In its education, research, and service programs, the School is committed to our special responsibility to serve the citizens of Vermont.

The program integrates forward-looking professional studies with rigorous studies in the

liberal arts and sciences by graduating bachelors' candidates who

- know how to think critically, learn independently, and search for and integrate new information;
- understand what managers do, how businesses operate, and how markets behave;
- understand how knowledge is created;
- use knowledge, creative abilities, and analytical skills to frame and solve management problems;
- have strong communication skills;
- use information technologies to improve individual and organizational performance;
- have a sense of history, familiarity with great world literature and an understanding of global economic, political and technological developments;
- appreciate the diversity of cultures, values and ideas.

During their first two years, students build the conceptual andānalytical base for studying the art and science of management. Theypartially complete general education requirements and learn requiredskills for upper level business courses. Students take business fieldcourses and business discipline concentration courses in their juniorand senior years.

The School of Business Administration cooperates with the College of Engineering and Mathematics in offering a B.S. in Engineering Management. (See <u>Engineering</u> <u>Management Department</u>)

The undergraduate and graduate programs offered by the School are accredited by AACSB International: The Association to Advance Collegiate Schools of Business.

The offices of the School of Business Administration are located in Kalkin Hall.

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Master of Business Administration (M.B.A.) •

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Business Administration (M.B.A.)

College: <u>GraduateCollege</u> Department: <u>Schoolof Business Administration</u>

Overview

Management is the art of applying principles of the mathematical and socialsciences to decision making in an organizational environment characterized by uncertainty and limited resources. The program is designed (1) to develop the individual's ability to practice the art and (2) to build a foundation that will facilitate and encourage the continuation of this development beyond a formal university setting. Courses in the program emphasize the understanding and critical evaluation of conceptual and theoretical principles relevant to the decision process in the functional areas of business.

Upon completion of the program, students will have been exposed to each functionalārea, will have been required to demonstrate an ability to engage in individualānd group research projects, and will have demonstrated capacity to present coherentlyānd defend their views orally and in writing.

The MBA program is accredited by <u>AACSB</u> - International Association for Management Education.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies and forAdvancement to Candidacy for the Degree of Master of Business Administration

The MBA program consists of Prerequisite (basic skills), Core, and Advanced (beyond the core) courses. A student can be admitted to the Graduate College before completion of Prerequisite courses, but all prerequisites must be completed before the student is admitted to candidacy for the MBA degree.

All applicants must meet the general requirements for admission to the Graduate College. In addition to transcripts of prior undergraduate and graduate work, the applicant is required to submit scores on the Graduate Management Admissions Test. Students are selected for admission based on high promise of academic achievement in the MBA program. That promise will be judged by previous academic work, GMAT scores, relevant work experience, writing ability, and recommendations.

Minimum Degree Requirements

Students must complete all of the courses listed. Each Prerequisite coursenormally will be satisfied by completion of an appropriate three hour undergraduate level course. Computer usage skill may be demonstrated by appropriate experience. Prerequisite courses must be completed before enrollment in Core courses. Enrollment in Advanced courses is restricted to students who have completed the appropriate Core course in that functional area.

Prerequisite Courses

- 1. Macroeconomic Principles*
- 2. Microeconomic Principles*
- 3. Differential Calculus
- 4. Computer Usage
- 5. Statistics

*BSAD 302 may be taken to fulfill both the Macroeconomics and Microeconomics prerequisites.

- Core Courses (18 hours)
 - 1. BSAD 305 Fundamentals of Marketing Management
 - 2. BSAD 306 Fundamentals of Accounting
 - 3. BSAD 307 Organization and Management Studies
 - 4. BSAD 308 Corporate Finance
 - 5. BSAD 309 Fundamentals of Legal Environment of Business
 - 6. BSAD 340 Production and Operations Management
- Advanced Courses (30 hours)

(Of the 30 hours in this category, at least 24 must be in 300-level courses)

- I. Functional Area Courses (one selected from each area):
 - 1. Accounting and Finance (BSAD 260, 263, 266, 267, 282, 285, 360, 365, 380, Special Topics)
 - 2. Economic and Political Environment (BSAD 234, 337, Special Topics)
 - Human Resources Management (BSAD 222, 226, 331, 375, 376, 379, Special Topics)
 - 4. Marketing (BSAD 251, 252, 258, 352, Special Topics)
 - 5. Management Information Systems (BSAD 345, 347, Special Topics)
 - 6. Production and Operations Management and Quantitative Methods (BSAD 270, 293, 341, 346, Special Topics)
- II. Electives: Nine hours of graduate business courses

III. BSAD 396 Business Policy

A normal course load for full-time students is 12 hours per semester. Part-time students typically take six hours per semester. Substantially all Core courses must be completed before enrollment in Advanced courses. Business Policy will be taken during the student's last semester in the MBA program. Successful completion of the BSAD 396 course will be considered as fulfilling the Graduate College requirement that all master's degree students pass a comprehensive examination in their field of specialization.

Students who have received undergraduate degrees in business within the pastfive years from schools accredited by the AACSB are allowed to waive the Corecourses and may complete the program in one year by taking 15 hours of coursework per semester. Other students with academic experience covering materialin particular Core courses may waive such courses upon successful completionof qualifying examinations.

Course Sequencing

For full-time students needing to complete all Core (18 hour) and Advanced(30 hours) courses, the usual sequencing of courses is as follows:

First Year - Fall Semester

- BSAD 305
- BSAD 306
- BSAD 307
- BSAD 340

First Year - Spring Semester

- BSAD 308
- BSAD 309
- 2 Functional Area Courses

Second Year -Fall Semester

- 2 Functional Area Courses
- 2 Elective Courses

Second Year - Spring Semester

- 2 Functional Area Courses
- Elective Course
- BSAD 396

For full-time students needing to complete only the Advanced (30 hours) courses, a typical course sequencing is as follows:

Fall Semester

- 3 Functional Area Courses
- 2 Elective Courses

Spring Semester

- 3 Functional Area Courses
- Elective Course
- BSAD 396

As an alternative, some students may choose to complete two Advanced coursesduring the summer session (if available, since summer offerings are limited)in order to reduce their regular semester program to 12 hours.

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School of Business Administration Degree Requirements

College: Schoolof Business Administration

Overview

Students must comply with the degree requirements as stated in asingle catalogue edition in place during the time they are enrolled. The catalogue to be followed is the one in effect at the time astudent enrolls at UVM, unless the student requests in writing tofollow a catalogue that is published subsequently during theirenrollment at UVM. Students who have a separation from the University of three years or more must meet the requirements of the current catalogue at the date of readmission.

A minimum of 122 approved semester hours is required for the degree of Bachelor of Science in Business Administration. At least 50% of course work must be taken in subjects that are not business or upper level conomics. A cumulative grade point average of 2.0 is required. Additional grade requirements exist for basic business core, business field, and business discipline concentration courses.

Students must complete 30 of the last 45 hours of credit in residenceat UVM as a matriculated student.

See also specific degree requirements.

Academic Standards

Students will be placed on trial if their semester or cumulativeāverage is less than 2.0. They will remain on trial until bothsemester and cumulative averages reach at least a 2.0, or until theyāre dismissed.

Full-time students are eligible to be dismissed in three situations:(1) failure of at least half of their course credit for any semester;(2) three successive cumulative grade-point averages below a 2.0; (3)two successive semester averages below a 2.0. (For dismissal purposes,part-time students' semester averages are calculated using at least 12 consecutivecredits. Also, cumulative grade-point averages will not be considered as a basis for dismissal until at least 12 credit hours have beencompleted, unless over half of courses attempted are failed.)

A student eligible to be dismissed will be dismissed unless there are circumstances supporting an extension of trial status.

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Cell and Molecular Biology Department

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Colleges: Graduate College

Courses: Celland Molecular Biology (CLBI)

Contact Information:

University of Vermont Cell and Molecular Biology Department B329 Given Building 89 Beaumont Ave University of Vermont Burlington, VT 05405-0068

Phone: (802) 656-8522 Fax: (802) 656-4523 Email: <u>cellbio@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~cellbio/</u> €

Degrees, Majors, Minors, and Concentrations

- Graduate Majors
 - Cell and Molecular Biology (M.S.)
 - Cell and Molecular Biology (Ph.D.)

Overview

Participating faculty are from the following departments: Agricultural Biochemistry; Anatomy and Neurobiology; Animal and Food Science; Biochemistry; Biology; Biomedical Technology; Botany; Genetics; Medicine; Microbiology and Molecular Genetics; Molecular Physiology and Biophysics; Obstetrics and Gynecology; Pathology; Pediatrics; Pharmacology; Physics; and Surgery. An interdisciplinary program leading to M.S. and Ph.D. degrees in Cell and Molecular Biology is offered under the direction of a committee composed of faculty members drawn from the participating departments. The program provides the flexibility necessary for students to gain competence in the area of their choice. The extensive research facilities of the participating departments are available to all graduate students enrolled in the program. Inquiries should be directed to the Cell and Molecular Biology Program Director, Anne Huot, Department of Biomedical Technology.

Research includes: (Albertini) human somatic-cell genetic mutations, histocompatibility genetics (Bateman) mechanism of eukaryotic transcription initiation; (Berger) protein structural dynamics during muscle contraction; (Bond) computational studies of protein structure and evolution; (Braas) molecular mechanisms regulating neuroendocrine hormone expression and function; (Budd) T-lymphocyte signal transduction and development in normal and Fas-Ipr autoimmune mice; (Burke) structure, function and applications of ribozymes; (Chiu) regulation of gene expression in developing and neoplastic tissues; (Chu) structure and protein dynamics of heme proteins and hon-heme diiron proteins; (Conn) genetics of human plasmodium transmitting anopheline mosquitoes; (Cornbrooks) nervous system development and regeneration; (Currier) cellcell interactions in plant-microbe symbiosis (Cutroneo) regulation of collagen gene expression; (Doublie) crystallographic and biochemical studies of proteins involved in mRNA processing and editing; (Everse) structure/function determination of proteins (especially blood coagulation) by x-ray crystallographic methods; (Finette) mechanisms and clinical importance of somatic mutations in children; (Fives-Taylor) cross signaling between bacterial cells and host cells; (Francklyn) protein-nucleic acid recognition; structure and function of RNA and RNA binding proteins especially aminoacyl-tRNA synthetases; (Gilmartin) regulation of mRNA processing in HIV-1, biochemistry of eukaryotic transcription termination; (Haeberle) molecular regulation of cell motility and muscle contraction; (Hart) metal toxicity in the lung, pulmonary tolerance to pollutants; (Heintz) protein - DNA interactions at eucaryotic origins of replication; eukaryotic cell cycle; (Huber) immune mechanisms of tissue damage in viral infections; (Huot) cellular interactions involved in regulation of growth; (Jaken) signal transduction through protein kinase C; (Janssen-Heininger) oxidant-induced signaling in lung epithelium relevant to asthma; (Johnson) control of cellular morphogenesis during the yeast cell cycle, role of low-molecular-weight GTP-binding proteins in cell polarity; (Koh) molecular mechanisms of tumor suppressor gene function, mammalian cell cycle regulatory mechanisms; (Krag) translational research (deliver from lab to patient) on developing targeted therapeutics for cancer patients; (Kurjan) cell-cell interactions involved in yeast mating; (Lidofsky) liver cell signaling membrane transport mechanisms of liver failure; (Lounsbury) molecular regulation of calcium and growth factor signaling pathways, nuclear transport, and gene transcription; (Maughan) molecular mechanisms of muscle contraction and metabolism in Dropsophila; (May) regulation of neuropeptide expression and neurotransmitter phenotype, molecular endocrinology; (Melamede) in vitro production of antibodies using phage display systems in E. coli; (Mitchell) cytoskeletal protein metabolism and smooth muscle cell differentiation; (Morrical) enzymology of DNA replication, recombination, and repair; (Mossman) carcinogenesis of tracheobronchial tree, pulmonary fibrosis; (Murakami) regulation of protein kinase C and its role in neuronal plasticity, differentiation and survival; (Nicklas) molecular analysis of mutations occurring in vivo in humans exposed to genotoxicants; (Novotny) molecular genetics of development in fungi; (Osol) vascular smooth muscle and endothelial cells regulation of diameter of resistance arteries during pregnancy and chronic hypertension; (Parsons) synaptic physiology/pharmacology, transmitter actions, motor end plate, autonomic neurons; (Patlak) structure-function studies of single ion channels; (Pederson) assembly and function of transcription and replication initiation complexes in yeast; (Rincon) signal transduction and gene transcription regulation during thymic development and T cell activation; (Rould) x-ray crystallography to understand and control protein-DNA recognition; (Schneider) genetics of signal transduction in Drosophila development; (Sobel) dysregulation of fibrinolytic system protein expression and atherogenesis; (Stein) characterization of bacterial virulence factors that facilitate replication within host cells; (Stevens) cellular and molecular biology of tissue damage by toxic chemicals and its repair; (Sun) insulin signal transduction and the mechanism of insulin resistance; (Taatjes) glycosylation reactions in the Golgi apparatus; (Tierney) plant molecular biology, plant developmental biology, cell wall structure; (Tracy) molecular characterization of the cell-cell and cell-protein interactions regulating hemostasis and thrombosis; (Ullrich) molecular genetics of regulatory genes and development; (Van Houten) molecular genetics, biochemistry, physiology of chemoreceptors, calcium and other second messengers; (Vichi) signal transduction pathways involved in DNA repair; (Vigoreaux) functional studies of muscle proteins in Drosophila; (Wallace) biological processing of oxidative DNA lesions, molecular analysis of repair and mutagenesis of oxidative DNA lesions; (Ward) mechanisms of host cell invasion by Toxoplasma and Plasmodium; (Yandell) mechanisms of inherited cancer predisposition.

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Cell and Molecular Biology (M.S.)

College: <u>Graduate College</u> Department: <u>Cell and Molecular Biology</u>

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Biology (three semesters, including genetics), chemistry through organic, mathematics through calculus, physics (two semesters), physical chemistry. Satisfactory scores (60 percentile) on general (aptitude) Graduate Record Examination. Students who do not have all of the courses listed but who have a good academic record will be considered for admission to the program. Deficiencies may be made up after matriculation.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Completion of any deficient admission requirements.

Minimum Degree Requirements

Thirty hours of graduate level credit including Cell Biology 301-302 and one course in each of the following areas: genetics, biochemistry (one year); a techniques course approved by the Studies Committee; cell biology seminar once per year; thesis research.

The expected sequence for all first year students in the fall is CLBI 301, biochemistry, CLBI 381, and CLBI 391 or 491; in the spring is CLBI 302, biochemistry, CLBI 381 and CLBI 391 or 491. Additional courses or substitutions are offered with flexibility, but must have permission of the Program Director.

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Cell and Molecular Biology (Ph.D.)

College: <u>Graduate College</u> Department: <u>Cell and Molecular Biology</u>

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Biology (three semesters, including genetics), chemistry through organic, mathematics through calculus, physics (two semesters), physical chemistry. Satisfactory scores (60 percentile) on general (aptitude) Graduate Record Examination. Students who do not have all of the courses listed but who have a good academic record will be considered for admission to the program. Deficiencies may be made up after matriculation.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

Completion of any deficient admission requirements including one semester of physical chemistry equivalent to chemistry 160.

Minimum Degree Requirements

Cell Biology 301-302, one course in each of the three -following areas: genetics, biochemistry (one year), and techniques course approved by the Studies Committee; a minimum of 11 additional hours of course work. Studies Committee will advise course selection. Dissertation research, minimum 20 credits. All students must demonstrate satisfactory progress: finish minimum course work within three years; finish cumulative exam within prescribed time limits; participate in seminar program.

The expected sequence for all first year students in the fall is CLBI 301, biochemistry,

CLBI 381, and CLBI 391 or 491; in the spring is CLBI 302, biochemistry, CLBI 381 and CLBI 391 or 491. Additional courses or substitutions are offered with flexibility, but must have permission of the Program Director.

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Chemistry Department

Colleges: Arts and Sciences, Graduate College

Faculty: Chemistry

Courses: Chemistry (CHEM)

Contact Information:

University of Vermont Chemistry Department Cook Physical Sciences Building 82 University Place Burlington, VT 05405-0125

Phone: (802) 656-0198 Fax: (802) 656-8705 Email: <u>alucey@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~chem/</u> €

Graduate Degrees and Majors

- Graduate Programs
 - Chemistry (M.A.T., M.S., M.S.T., Ph.D.)

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Chemistry (M.A.T.)

College: <u>Graduate College</u> Department: <u>Chemistry</u>

Overview

Current research in organic chemistry includes design and synthesis of peptidemimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphansand their analogues which have chemotherapeutic potential, synthesis and reactionsof hybrid organic-inorganic polymers, synthesis and properties of carbon-richorganic materials, mechanistic studies of organic chemical reactions, and developmentof novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals,ālloys, and intermetallic compounds with a view toward storage of hydrogen asā fuel, and the use of various types of molecular spectroscopy, such as fluorescence,magnetic resonance, and IR/Raman, to address questions of structure, bonding,ānd dynamics in chemical and biophysical systems.

Research in inorganic chemistry includes investigations of the syntheses, structure, and spectroscopic properties of main-group ring systems and polymers with an emphasis on phosphazenes and borazines, electrochemical control of the structure and reactivity of transition metal complexes, solid state structure by x-raydiffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapordeposition.

Research in analytical chemistry includes electrochemical studies of transitionmetal complexes and organometallic complexes, electron spin resonance studiesof materials in unusual oxidation states, novel reaction of reactive compoundsgenerated electrochemically under high vacuum, studies of factors influencingmeterogeneous electron transfer process in nonaqueous media, studies of transient, imploding plasmas as solid sample atomizers for atomic spectroscopy, the developmentof instrumentation and techniques suitable for elemental analysis of nonconductingsolid samples via atomic

spectrometry, the development and use of analyticalmethods using stable isotopically labeled tracers and kinetic models to answerquestions of human physiology and biochemistry, and the simultaneous physicaland chemical analysis of individual aerosol particles, leading to the rapid,on-line and in situ determination of the physico-chemical makeup of the aerosol.

General Requirements

• Graduate (Master's)

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Chemistry (M.S.)

College: <u>Graduate College</u> Department: <u>Chemistry</u>

Overview

Current research in organic chemistry includes design and synthesis of peptidemimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphansand their analogues which have chemotherapeutic potential, synthesis and reactionsof hybrid organic-inorganic polymers, synthesis and properties of carbon-richorganic materials, mechanistic studies of organic chemical reactions, and developmentof novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals,ālloys, and intermetallic compounds with a view toward storage of hydrogen asā fuel, and the use of various types of molecular spectroscopy, such as fluorescence,magnetic resonance, and IR/Raman, to address questions of structure, bonding,ānd dynamics in chemical and biophysical systems.

Research in inorganic chemistry includes investigations of the syntheses, structure, and spectroscopic properties of main-group ring systems and polymers with an emphasis on phosphazenes and borazines, electrochemical control of the structure and reactivity of transition metal complexes, solid state structure by x-raydiffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapordeposition.

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spectrometry, the development and use of analyticalmethods using stable isotopically labeled tracers and kinetic models to answerquestions of human physiology and biochemistry, and the simultaneous physicaland chemical analysis of individual aerosol particles, leading to the rapid,on-line and in situ determination of the physico-chemical makeup of the aerosol.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An undergraduate major in an appropriate field. Satisfactory scores on the Graduate Record Examination general (aptitude) section for those requesting financial assistance.

Requirements for Advancement to Candidacy for the Degree of Master of Science

The requirements for admission to candidacy for the Master of Science degree are: (1) proficiency in three areas of chemistry evidenced by the biannual qualifying examinations or completion of designated courses at this university; (2) one semester of residence; (3) at least 15 hours of formal course work including (a) six hours of graduate-level courses in the chemical field of specialization, (b) three hours of graduate-level chemistry courses not in the area of concentration, and (c) Chemistry 381 (Seminar), and (4) maintenance of an overall point-hour ratio of 3.00. Students studying in the Master of Science degree program are advised to take the cumulative examinations in their specialty.

Minimum Degree Requirements

The above prerequisites for admission to candidacy must be supplemented in either of the following two ways:

Plan A: Completion of 12 hours of Masters Thesis Research (Chemistry391) and submission of a satisfactory thesis; (2) completion of at least 30 hoursof graduate credit (courses and Masters Thesis Research); and (3) one additionalhour of Chemistry 381 (Seminar).

Plan B: Completion of six hours of Independent Literature ResearchProject (Chemistry 395); (2) completion of at least 30 hours of graduate credit(courses and Literature Research Project); and (3) one additional hour of Chemistry381 (Seminar).

M.S. students should decide at the beginning of their -program whether they will pursue Option A or Option B and inform the Department and Graduate College of their decisions.

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Chemistry (M.S.T.)

College: <u>Graduate College</u> Department: <u>Chemistry</u>

Overview

Current research in organic chemistry includes design and synthesis of peptidemimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphansand their analogues which have chemotherapeutic potential, synthesis and reactionsof hybrid organic-inorganic polymers, synthesis and properties of carbon-richorganic materials, mechanistic studies of organic chemical reactions, and developmentof novel synthetic methodologies.

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Research in inorganic chemistry includes investigations of the syntheses, structure, and spectroscopic properties of main-group ring systems and polymers with an emphasis on phosphazenes and borazines, electrochemical control of the structure and reactivity of transition metal complexes, solid state structure by x-raydiffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapordeposition.

Research in analytical chemistry includes electrochemical studies of transitionmetal complexes and organometallic complexes, electron spin resonance studiesof materials in unusual oxidation states, novel reaction of reactive compoundsgenerated electrochemically under high vacuum, studies of factors influencingmeterogeneous electron transfer process in nonaqueous media, studies of transient, imploding plasmas as solid sample atomizers for atomic spectroscopy, the developmentof instrumentation and techniques suitable for elemental analysis of nonconductingsolid samples via atomic

spectrometry, the development and use of analyticalmethods using stable isotopically labeled tracers and kinetic models to answerquestions of human physiology and biochemistry, and the simultaneous physicaland chemical analysis of individual aerosol particles, leading to the rapid,on-line and in situ determination of the physico-chemical makeup of the aerosol.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science for Teachers

An undergraduate major in an appropriate field. Satisfactory scores on the general (aptitude) Graduate Record Examination. Completion of at least one full year of teaching.

Requirements for Advancement to Candidacy for the Degree of Master of Science for Teachers

Successful completion of Physics 128, Chemistry 141 and 162, and Mathematics 121, or their equivalents. (These courses may have been taken at the undergraduate level, as part of this graduate program, or credit may be obtained by transfer or examination.)

Minimum Degree Requirements for the Degree of Master of Science for Teachers

The above prerequisites for admission to candidacy must be supplemented by: (1) completion of 30 hours of credit, of which at least 18 must be in Physical Sciences Option (A) or (B) as described below. The remaining 12 credits may be chosen, with the consent of the Joint Advisory Committee, from appropriate courses above 100 in science, engineering, mathematics, and education (credit in education courses is limited to six semester hours); (2) successful completion of a comprehensive examination administered by the Joint Advisory Committee.

Physical Sciences Option (A): Nine semester hours of Physics numbered 128 and above, Chemistry 131 and six semester hours of Chemistry chosen from Chemistry 161, 231, 201, 264, and 241. This option is primarily for teachers of chemistry.

Physical Sciences Option (B): nine semester hours of Chemistry numbered 141 and above and nine hours of Physics in courses numbered above 200. This option is primarily for teachers of physics.

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Chemistry (Ph.D.)

College: Chemistry

Overview

Current research in organic chemistry includes design and synthesis of peptidemimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphansand their analogues which have chemotherapeutic potential, synthesis and reactionsof hybrid organic-inorganic polymers, synthesis and properties of carbon-richorganic materials, mechanistic studies of organic chemical reactions, and developmentof novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals,ālloys, and intermetallic compounds with a view toward storage of hydrogen asā fuel, and the use of various types of molecular spectroscopy, such as fluorescence,magnetic resonance, and IR/Raman, to address questions of structure, bonding,ānd dynamics in chemical and biophysical systems.

Research in inorganic chemistry includes investigations of the syntheses, structure, and spectroscopic properties of main-group ring systems and polymers with an emphasis on phosphazenes and borazines, electrochemical control of the structure and reactivity of transition metal complexes, solid state structure by x-raydiffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapordeposition.

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labeled tracers and kinetic models to answerquestions of human physiology and biochemistry, and the simultaneous physicaland chemical analysis of individual aerosol particles, leading to the rapid,on-line and in situ determination of the physico-chemical makeup of the aerosol.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

An undergraduate major in an appropriate field. Satisfactory scores on the Graduate Record Examination general (aptitude) section for those requesting financial assistance.

Requirement for Advancement to Candidacy for the Degree of Doctor of Philosophy

It is expected that a student will ordinarily complete the following requirements for admission to candidacy by the end of the second year of residence: (1) at least 15 hours of research (Chemistry 491); (2) satisfactory performance in the cumulative examinations in the specialty field; (3) demonstration of basic competence in four fields of chemistry (analytical, inorganic, organic, and physical) through the biannual qualifying examinations or completion of prescribed courses at The University of Vermont; (4) three hours of teaching; (5) one year of residence; (6) the following courses are required: Chemistry 381 (two credits), three semester hours of credit of advanced level work in three of the following five areas: analytical chemistry, inorganic chemistry, organic chemistry, physical chemistry, and related science. The remainder of each student \blacklozenge s program will be determined by a departmental studies committee on the basis of qualifying examination performance, background, and research interests. In the normal course of events a student should expect to devote much of the first year to formal course work; (7) maintenance of an overall point-hour ratio of 3.25.

Minimum Degree Requirements

In addition to the above requirements a student must: (1) complete a doctoral research project, write an acceptable dissertation, and defend it; (2) present a total of 75 hours of credit in course work and dissertation research, and (3) make an oral and written presentation of an original research proposal, Chemistry 388 (at least six months prior to the submission of the dissertation).

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Departments and Programs

::Catalogue 2002-03 **Civil and Environmental Engineering Department** Courses Colleges: Engineering and Mathematics, Graduate College Academic Offerings Faculty: Civil and Environmental Engineering Colleges & Schools Courses: Civil Engineering (CE) Faculty **Contact Information:** Policies & General University of Vermont Information Civil and Environmental Engineering Department 213 Votey Building Catalogue Archives 33 Colchester Avenue Burlington, VT 05405-0156 Phone: (802) 656-3800

Fax: (802) 656-8446 Email: Web Site: <u>http://www.emba.uvm.edu/cee/</u> **•**

Graduate Degrees and Majors

- Graduate Majors
 - Civil and Environmental Engineering (M.S., Ph.D.)

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Civil and Environmental Engineering (M.S.)

College: <u>Graduate College</u> Department: <u>Civilānd Environmental Engineering</u>

Overview

Graduate programs in Civil and Environmental Engineering that lead to the Masterof Science and Doctor of Philosophy degrees are offered. The curricular and research programs emphasize engineering related to environmental issues and intelligent transportation systems; in addition, geotechnical, and structural studies arealso possible at the master's level.

Research includes: groundwater contamination, modeling and remediation including optimal remediation design; environmental restoration and ecological engineering; hydrological processes; indoor air pollution and related health effects; mathematical modeling of contaminant transport in the environment, chemical and mechanical processes in human tissues, and dynamic behavior of structures; intelligent transportation systems; and information technology applications in civil and environmental engineering.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

A bachelor's degree and the approval of this Department. Satisfactory scores on the Graduate Record Examination general (aptitude) section. Internationalstudents whose native language is not English or who have not received theireducation in English are required to submit satisfactory results from the TOEFLexamination. Completed applications are due February 1.

Requirements for Advancement to Candidacy for the Degreeof Master of Science

Specific course work may be required of those who lack a sufficiently strongengineering background.

Minimum Degree Requirements

The above requirements for advancement to candidacy must be supplemented in Either of the two following ways:

Plan A: Completion of advanced courses in civil and environmental engineering, mathematics, and other approved disciplines and the completion of an acceptable master's thesis. At least 30 hours must be accumulated, six to nine of them inthesis research.

Plan B: Completion of 36 hours of advanced courses in civil and environmental engineering, mathematics, and other approved disciplines.

Students must declare which option they intend to pursue at the beginning oftheir program.

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Civil and Environmental Engineering (Ph.D.)

College: <u>Graduate College</u> Department: <u>Civilānd Environmental Engineering</u>

Overview

Graduate programs in Civil and Environmental Engineering that lead to the Masterof Science and Doctor of Philosophy degrees are offered. The curricular and research programs emphasize engineering related to environmental issues and intelligent transportation systems; in addition, geotechnical, and structural studies arealso possible at the master's level.

Research includes: groundwater contamination, modeling and remediation including optimal remediation design; environmental restoration and ecological engineering; hydrological processes; indoor air pollution and related health effects; mathematical modeling of contaminant transport in the environment, chemical and mechanical processes in human tissues, and dynamic behavior of structures; intelligent transportation systems; and information technology applications in civil and environmental engineering.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Doctor of Philosophy

An undergraduate degree in an appropriate field of study and demonstrated academic performance as measured by grades and satisfactory scores on the Graduate Record Examination general (aptitude) section. Applicants whose native language is notEnglish or who have not received their education in English must present satisfactoryresults from the TOEFL examination. Completed applications are due February 1.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

It is ordinarily expected that a student will complete the following requirementsfor advancement to candidacy prior to the end of the second year in the program:(1) one year of residency at UVM; (2) teaching experience in one course; (3)āt least 12 credit hours of research; (4) at least 15 credit hours of coursework at the graduate level acceptable to the student,s Studies Committee;(5) satisfactory performance on a comprehensive examination that includes a writtenpart and an oral part; and (6) satisfactory record of performance in coursesand in teaching and research assignments.

Minimum Requirements for the Degree of Doctor of Philosophy

In addition to advancement to candidacy, the student must (1) present at least Z5 credit hours in approved course work and research (including those requiredfor advancement to candidacy), of which at least 35 credit hours are in researchand six credit hours are in course work in disciplines ancillary to Civil andEnvironmental Engineering; and (2) write and successfully defend an acceptabledissertation

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Courses	Classics Department
Academic Offerings	Colleges: Arts and Sciences, Graduate College
	Faculty: <u>Classics</u>
Colleges & Schools	Courses: Classics (CLAS)
Faculty	
	Contact Information:
Policies & General	University of Vermont
Information	Classics Department
	481 Main St
Catalogue Archives	Burlington, VT 05405-0218
	Phone: (802) 656-3210
	Email: <u>classics@zoo.uvm.edu</u>

Graduate Degrees and Majors

Web Site: http://www.uvm.edu/~classics/ >

- Graduate Programs
 - Greek and Latin (M.A.T., M.A.)

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Greek or Latin (M.A.T.)

College: <u>GraduateCollege</u> Department: <u>Departmentof Classics</u>

Overview

Current research interests include Homer; Mycenaean and Homeric Greece; Greekand Latin lyric and elegiac poetry; Greek drama; the Attic orators; ancient literarycriticism; Greek and Roman philosophy and intellectual History; Greek and Romanhistoriography; Greek and Latin Prose; Cicero; Virgil; Latin epic; Petronius,satire; Greek and Roman technological authors; Roman history; Roman ImperialEamilies; Mythology; Archaeology; Medieval studies.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies in Latinand/or Greek for the Degree of Master of Arts in Teaching

A program in teaching of Latin and/or Greek leading tothe degree of Master of Arts in Teaching and to licensure, is alsooffered in conjunction with <u>the College of Education and</u> <u>Social Services</u>. Satisfactory scores on the general (aptitude) Graduate Record Examination are prerequisite for acceptanceto candidacy for this degree.

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Greek and Latin (M.A.)

College: <u>GraduateCollege</u> Department: <u>Departmentof Classics</u>

Overview

Current research interests include Homer; Mycenaean and Homeric Greece; Greekand Latin lyric and elegiac poetry; Greek drama; the Attic orators; ancient literarycriticism; Greek and Roman philosophy and intellectual History; Greek and Romanhistoriography; Greek and Latin Prose; Cicero; Virgil; Latin epic; Petronius,satire; Greek and Roman technological authors; Roman history; Roman ImperialEamilies; Mythology; Archaeology; Medieval studies.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies in Greekand Latin for the Degree of Master of Arts

An undergraduate major or minor or the equivalent; a readingknowledge of a modern foreign language, usually French, German, or Italian.

Minimum Degree Requirements

Eighteen hours of advanced courses in Greek and Latin, six hours of which must be 381; six additional hours in Greek and Latin, History, or Philosophy; thesis research (normally six hours). Comprehensive examinationsin Greek and Latin translation, at least one modern foreign language, Greek and Roman history, and literature and philology are required. In addition to course work, students will have a reading list of authors in Greek and Latin.

Those who expect the department's recommendation to go on for a Ph.D. elsewheremust

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show competence in both German and French by the end of their first yearof graduate study.

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Communication Sciences Department

Colleges: Arts and Sciences, Graduate College

Faculty: Communication Sciences

Courses: Communication Sciences (CMSI)

Contact Information:

University of Vermont Communication Sciences Department Pomeroy Hall 489 Main St Burlington, VT 05405-0130

Phone: (802) 656-3861 Fax: (802) 656-2528 Email: <u>communication.sciences@uvm.edu</u> Web Site: <u>http://www.uvm.edu/~cmsi/</u> �

Graduate Degrees and Majors

- Graduate Programs
 - Communication Sciences (M.S.)

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Communication Sciences (M.S.)

College: <u>Graduate College</u> Department: <u>Communication Sciences</u>

Overview

The faculty does research in speech and language development and disorders, and sociolinguistics.

The Master of Science degree program in Communication Sciences and Disorders is accredited for speech-language pathology by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (<u>ASHA</u>). The Eleanor M. Luse Center for Communication: Speech, Language, and Hearingwhichshares quarters with the Department and is a primary practicum site, holds accreditationfrom the Professional Services Board of ASHA in both Speech Pathology and Audiology. Students are required to fulfill academic requirements for the Certificate of Clinical Competence-Speech Language Pathology of the American Speech-Language-Hearing Association. All students are supervised by clinically certified members of the faculty of the Eleanor M. Luse Center and affiliated practicum sites.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Baccalaureate degree from an accredited institution; satisfactory performance on the general (aptitude) Graduate Record Examination. Completion of courses equivalent to CMSI 80 (Introduction to Linguistics), CMSI 90 (Phonetics), CMSI 94 (Development of Spoken Language), CMSI 101 (Speech Science) or a course in speech anatomy or physiology, CMSI 164 (Structure of the English Language) or a course in syntax or

morphology, CMSI 281 (Cognitive Neuroscience) or an equivalent neuroscience course and a course in statistics. In order to be accepted into the program, applicants must have completed or be currently enrolled in a sufficient number of prerequisite courses so that they will have no more than one outstanding course at the time of their admission. Students are also required to complete 25 observation hours obtained according to guidelines provided by the American Speech-Language-Hearing Association before they arrive on campus in order to facilitate their clinical training.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Satisfactory completion of the written comprehensive examinations. Students will not be admitted to candidacy if practicum grades are incomplete. Students may write the comprehensive examination only in or following that semester in which they will have completed 30 semester credits of graduate study and 300 hours of supervised clinical practicum and four credits in clinical study.

Minimum Degree Requirements

All students are required to complete 48 credit hours. These hours will include eleven required CMSI courses: 283 Swallowing Disorders, 284 Augmentative Communication, 310 Preparation and Management of Speech and Language Evaluation and Therapy, 380 Research Methods, 383 Seminar in Language/Learning Disabilities, 384 Articulation/ phonologic Disorders, 385 Voice Disorders, 386 Adult Neuropathologies, 387 Language Disorders, 388 Stuttering, and 389 Aphasia. In addition, students are required to take a total of 6 credits of CMSI 291/292 Clinical Study.

Thesis Option: The student will complete 42 credithours of graduate level courses and six additional credits for conducting the research leading to an M.S. thesis.

Nonthesis Option: All students choosing this option will complete the 48 credit hours required for the degree. Those students whochoose a Research Presentation as their nonthesis option will complete at least42 credit hours of graduate level courses and 6 additional credits (CMSI 392)for conducting research.

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Departments and Programs

Courses	Community Development and Applied Economics Department
Academic Offerings	Colleges: College of Agriculture and Life Sciences, Graduate College
	Faculty: Community Development and Applied Economics
Colleges & Schools	Courses: Community Development and Applied Economics (CDAE)
Faculty	
	Contact Information:
Policies & General	University of Vermont
Information	Community Development and Applied Economics Department
Ostala was Arabiasa	103 Morril Hall
Catalogue Archives	Burlington, VT 05405
	Phone: (802) 656-1013
	Fax: (802) 656-1423
	1 ax. (002) 030-1423

- Web Site: http://www.uvm.edu/~cdae/
 - <u>CDAE Core Courses</u>

Email: cdae@zoo.uvm.edu

Graduate Degrees and Majors

- Graduate Programs
 - Community Development and Applied Economics (M.S.)

Overview

The Department of Community Development and Applied Economics (CDAE) expands and promotes the use of economic, social, and environmental principles to develop sustainable communities locally and globally. Students in CDAE will focus on the application of economic principles and their relationship to leadership and management, economic and business development, environmental sustainability, and social responsibility.

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Community Development and Applied Economics (M.S.)

College: Graduate College Department: Community Development and Applied Economics

Overview

Vision: CDAE is an international leader in sustainable resource use for dynamic community development.

Mission: The Department of Community Development and Applied Economics (CDAE) expands and promotes the use of economic, social, and environmental principlesto develop sustainable communities locally and globally.

The Department offers a Master of Science Degree in CDAE. Research includes sustainable development, both domestic and abroad; applied demand analysis; and consumer and public policy issues.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

- GPA = 3.0 or equivalent from Bachelor's Degree
- GRE Total > 1350, with a minimum of 400 in each of the three areas: Verbal, Quantitative, and Analytical.
- TOEFL score > 550 written test or 213 computer test for international students whose native language is not English or who have not received their education in English.

Requirements for Advancement to Candidacy for the Degreeof Master of Science

Specific course work may be required of those who lack calculus, statistics and/or economics background.

Minimum Degree Requirements

The degree requires a total of 30 credit hours, of which 24 are from advanced courses in CDAE and other related fields plus six hours of thesis research. A written comprehensive examination and an oral defense of the thesis are also required. A student's thesis research is often an integral part of the faculty-led, ongoing research projects in the Department.

Students in the graduate program must have a 3.00 grade point average to remain a degree candidate. A student may be dismissed from the Graduate College if two or more grades below a "B" are received.

Core Course Requirements

Four core courses and graduate research seminars are required for each graduate student:

- CDAE 354 Advanced Microeconomics: Theory of the consumer, theory of the firm, perfect and imperfect competition, welfare economics, uncertainty and selected topics in economic policy.
- CDAE 351 Research Methods: Procedures of developing a research project, applications of economic theory and analytical tool in empirical economic research.
- One additional course in quantitative or qualitatitive analysis to be approved by the Studies Committee (e.g., Statistics 225: Applied Regression Analysis; Statistics 223: Applied Multivariate Analysis; EDFS 347: Qualitative Research Methods).
- One course in community development to be approved by the Studies Committee (e.g., CDAE 205: Rural Communities in Modern Society; CDAE 218: Community Organization and Development)
- CDAE 392 Graduate Seminars. Each student is required to complete three hours of this course. Students should enroll for one hour in each of three semesters.

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Courses	Computer Science Department
Academic Offerings	Colleges: Engineering and Mathematics, Arts and Sciences, Graduate College, Continuing Education
Colleges & Schools	Faculty: Computer Science
Faculty	Courses: Computer Science (CS)
Policies & General Information	Contact Information: University of Vermont
Catalogue Archives	Computer Science Department 351 Votey Building
	33 Colchester Avenue
	Burlington, VT 05405-0156
	Phone: (802) 656-3330
	Fax: (802) 656-0696
	Email: Computer.Science@uvm.edu
	Web Site: http://www.cs.uvm.edu 9

Affiliated Programs:

• Accelerated B.S./M.S. Program

Graduate Degrees and Majors

- Graduate Majors
 - <u>Computer Science (M.S.)</u>

Overview

Students may select either of three degree programs in ComputerScience. The Bachelor of Science degree, with a major in ComputerScience, and the Bachelor of Science degree, with a major in ComputerScience and Information Systems, are offered through the College ofEngineering and Mathematics. Additionally, aBachelor of Arts degree, with a major in Computer Science, is offeredthrough the College of Arts and Sciences.

A non-degree Certificate, an Accelerated Masters' program, and a Master of Science degree are also available.

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Accelerated Master's Program in Computer Science (B.S./M.S.)

College: <u>GraduateCollege</u> Department: <u>ComputerScience</u>

Overview

The Accelerated Master's Program (AMP) in Computer Science allows students with strong ability and motivation to complete a bachelor and a master's degreein computer science within five years. It is expected that students enrolled in this program will pursue a master's thesis on original research commencing in the summer following their senior year.

The first four years of the AMP consist of a complete undergraduate programin Computer Science, satisfying the curricular requirements for either the Bachelorof Science in Computer Science (BS/CS), the Bachelor of Science in Computer Scienceand Information Systems (BS/CSIS), or the Bachelor of Arts in Computer Science(BA/CS). During the fourth year, a student in the AMP has dual status, being an undergraduate student in Computer Science, and simultaneously a first-yeargraduate student in Computer Science. Up to six credit hours of courses takenduring an AMP student's senior year can be applied simultaneously towards the bachelor's and master's degree requirements. These courses must be approved in advance by the Director of Graduate Studies in Computer Science.

Undergraduates interested in the AMP should discuss this option with the Directorof Graduate Studies in Computer Science during their junior year.

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Computer Science (M.S.)

College: <u>Graduate College</u> Department: <u>Computer Science</u>

Overview

Research areas include algorithm design and analysis, combinatorialdesign, computational biology, database design and management, datamining and knowledge discovery, discrete modeling, knowledge-basedsystems, neural networks, numerical methods, parallel and scientificcomputing, pattern recognition, programming languages, and softwareengineering.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

A bachelor's degree in computer science or a related discipline, and satisfactory scores on the Graduate Record Examination general (aptitude) section are required for admission. Students should also demonstrate that they have taken the following courses: two courses that treat systematic program development in a high level language (CS 21 and 26, or equivalent), one course in computer system organization and assembly language programming (CS 101, or equivalent); one course in either programming languages (e.g., CS 103) or data structures (e.g., CS 104), two courses in differential, integral, and multivariate calculus (Math 21, 22, or equivalent), one course in linear algebra (Math 124, or equivalent), and one course in applied probability (Stat 151, or equivalent).

International students whose native language is not English or who have not received their education in English are required to submit satisfactory results from the TOEFL

examination.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Specific course work may be required of those who lack a sufficiently strongcomputer science background.

Minimum Degree Requirements

Thesis Option: Thirty hours of which six to nine hours are thesis research, the remainder being course work to include at least one credit of CS 381.

Nonthesis Option: Thirty-three hours of course work, to include at least three credits of CS 381.

Students in both options must take or have completed the equivalent of the core sequence: Computer Science 201, 202, 222, 224, and 243; and must take additional graduate level courses in Computer Science, or related areas (not more than three credits of which may be independent study) with departmental permission, to fulfill the credit hour requirements. Students in both options must also pass a comprehensive exam.

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Courses: Art Education (EDAR), Early Childhood Education (EDEC), Education (EDSS), Elementary Education (EDEL), Family and Consumer Sciences Education (EDFC), Foundations (EDFS), Higher Education (EDHI), Middle Level Education (EDML), Music Education (EDMU), Physical Education (EDPE), Physical Education

Activities (PEAC), Secondary Education (EDSC), Special Education (EDSP)

Colleges: Education and Social Services, Graduate College

Contact Information:

University of Vermont **Education Department** 533 Waterman Building 85 S. Prospect St. Burlington, VT 05405-0160

Phone: (802) 656-3356 Fax: (802) 656-0004 Email: James.Mosenthal@uvm.edu Web Site: http://www.uvm.edu/~cess/? Page=education.html&MM=departmentsmenu.html <?

Degrees, Majors, Minors, and Concentrations

- Graduate Majors
 - Curriculum and Instruction (M.Ed.)
 - M.Ed. Option:
 - Secondary Education (7-12) (<u>M.Ed./Teacher Licensure</u>)
 - Educational Leadership (M.Ed.)
 - Educational Leadership and Policy Studies (Ed.D.)
 - Educational Studies (M.Ed.)

- Higher Education and Student Affairs Administration (M.Ed.)
- Interdisciplinary (Individually Designed) (M.Ed.)
- Reading and Language Arts (<u>M.Ed.</u>)
- Secondary Education (7-12) (M.Ed./Teacher Licensure)
- Special Education (M.Ed.)
 - M.Ed. Concentrations:
 - <u>Consulting Teacher</u>
 - Essential Early Education
 - Intensive Special Education
 - Literacy and Special Education

- Certificates
 - Art Education (K-12) (Postbaccalaureate Certificate/Teacher Licensure)
 - Educational Leadership (Post-Master's Certificate)
 - Elementary Education (K-6) (<u>Postbaccalaureate Certificate/Teacher</u> Licensure)
 - Interdisciplinary (Individually Designed) (Post-Master's Certificate)
 - Middle-Level Education (5-8) (<u>Postbaccalaureate Certificate/Teacher</u> <u>Licensure</u>)
 - Music Education (K-12) (Postbaccalaureate Certificate/Teacher Licensure)
 - Physical Education (K-12) (<u>Postbaccalaureate Certificate/Teacher</u> Licensure)
 - Secondary Education (7-12) (<u>Postbaccalaureate Certificate/Teacher</u> <u>Licensure</u>)
 - Special Education (Post-Master's Certificate)
 - Certificate Areas:
 - Consulting Teacher/Learning Specialist
 - Early Intervention
 - Integration Specialist
 - Intensive Special Education

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Curriculum and Instruction (M.Ed.)

College: <u>GraduateCollege</u> Department: <u>Education</u>

Overview

The Curriculum and Instruction master's program is designed to develop leadershipin such educational settings as teaching, curriculum theory, curriculum development, and related areas of research for elementary and secondary public and privateschool settings. Areas of focus within the M.Ed., in addition to those describedin detail below, include elementary or secondary education, information technology, and health/physical education. The program is also appropriate for those withinstructional roles in human services agencies.

Programs are developed to provide a comprehensive background in fields basicto instruction and curriculum development as well as the application of thatknowledge to a specialized field. They include courses aimed at the examinationand improvement of instructional practices in elementary and secondary schools,and understanding of curriculum theory and the application of curriculum development.Opportunities for independent study and research are encouraged in all specializations.

Inquiries regarding these programs should be addressed to Barbara Kleptz.

Within Curriculum and Instruction, the Licensure Master of Education program for secondary teachers is designed for those students who aspire to earn both a master's degree and a license to teach in public secondary schools. The program particularly welcomes students from UVM and northeastern colleges and universities majoring in arts and sciences, agriculture and natural resources who have completed majors in humanities, the arts, social sciences, science and mathematics. Students will become licensed to teach in grades seven through twelve in one academic year and two summers. With additional study, an endorsement for the middle grades may be earned.

UVM students who have completed their third year of study for a bachelor's degree may apply to the Accelerated Licensure Master of Education program. These students, when accepted, may complete nine semester hours, six of which may be counted towards the minimum requirements for the master's degree. Application forms and further information may be obtained from the Department of Education. Inquiries regarding this program should be addressed to Fran Keppler.

General Requirements

- Graduate (Master's)
- Education Department (Master of EducationDegree)

Specific Requirements

Work at the graduate level draws upon other divisions of the University, thus abling the College to develop strong programs of professional education which include academic offerings in the various teaching fields in elementary and secondary education. Degree concentrations, in addition to those listed below, can be developed on an interdisciplinary basis responding to student strengths and needs.

Courses in professional education include: 207, 209, 211, 217, 218, 225, 226, 227, 228, 241, 244, 245, 248, 256, 257, 259, 261, 270, 271, 321, 333, and 343.

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Accelerated Licensure Master of Education Program for SecondaryEducation (M.Ed., Curriculum and Instruction)

College: <u>GraduateCollege</u> Department: <u>Education</u>

Within Curriculum and Instruction, the Licensure Master of Educationprogram for secondary teachers is designed for those students who aspireto earn both a master's degree and a license to teach in public secondary schools. The program particularly welcomes students from UVM and northeastern colleges and universities majoring in arts and sciences, agriculture and natural resources who have completed majors in humanities, the arts, social sciences, science and mathematics. Students will become licensed to teach in grades seven throughtwelve in one academic year and two summers. With additional study, an endorsement for the middle grades may be earned.

UVM students who are in their third year of study for a Bachelor's degreemay apply to the **Accelerated Licensure Master of Education program.** These students, when accepted, may complete nine semester hours, six of whichmay be counted towards the minimum requirements for the Master's degree. Requestsfor further information and application forms may be obtained by contactingthe Secondary Education Program Coordinator, 405A Waterman Building, (802) 656-1411.

Inquiries regarding these programs should be addressed to Darlene Nelligan.

General Requirements

- Graduate (Master's)
- Education Department (Master of Education)

Specific Requirements

• Curriculum and Instruction (Masterof Education)

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Educational Leadership (M.Ed.)

College: GraduateCollege Department: Education

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Overview

The Educational Leadership program is designed to prepare leaders for publicschools, educational and social agencies, and middle management positions in Figher education.

Inquiries regarding this program should be addressed to Professor Judith A.Aiken.

General Requirements

- Graduate (Master's)
- Education (Master of Education)

Specific Requirements

The M.Ed. program for licensure usually requires 30 to 36 credit hours of courses including seminars, or area internships, and research experiences.

The Certificate of Advanced Study (C.A.S.) Program usually requires 30 to 36credit hours of study beyond the M.Ed. requirements.

Courses with an administration/planning focus include: 264, 266, 268, 280, 332, 333, 334, 335, 336, 337, 353, 354, 355, 356, and 358.

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Educational Leadership and Policy Studies (Ed.D.)

College: <u>Graduate College</u> Department: <u>Education</u>

Overview

A Doctor of Education (Ed.D.) degree is offered in Educational Leadership and Policy Studies. This is an applied research based program for professionalsserving in educational management positions in schools and school-related organizations;e.g. state departments of education, professional associations, higher education, and human service agencies.

Program emphases include: the design and implementation of educational research; policy studies; adaptation of theoretical constructs and models related to leadershipand change in educational and social service settings; knowledge and skillsin interorganizational relationships; budget and strategic planning and programevaluation.

This program has been designed to respond to the expanding demands placed onleaders in educational and human service organizations where they are increasinglyexpected to design and supervise local research and varied evaluative studies; interpret and apply recent national research findings; analyze and apply governmental regulations and court decisions; develop organizational responses to emerging social expectations; organize and lead staff development programs; understand and apply broad-based economic principles and social and fiscal policy; develop and manage budgets; assess and respond to the psychological needs of educational consumers; employ effective interpersonal management and decision-making skills.

Specific Requirements

Prerequisites for Admission to Graduate Studies

Applicants must possess a master's degree or equivalent, from an accreditedinstitution and a cumulative grade-point average of 3.00 for previous graduatestudy. Other requirements include a representative scholarly writing sampleand a resume. Students applying for graduate fellowships and/or assistantshipsare required to demonstrate satisfactory scores on the Graduate Record Examination(GRE). Students admitted to graduate studies must complete successfully a core ofstudy consisting of courses in research, foundational, and policy studies, andorganizational change and leadership. Upon such completion and submission ofa qualifying paper, students will be considered for candidacy for the degree. Students must also pass a written comprehensive examination prior to the awardof the degree of Doctor of Education.

Prerequisites for Acceptance to Candidacy for the Degreeof Doctor of Education

Satisfactory completion of all core requirements and the qualifying paper willsatisfy the prerequisites for acceptance to candidacy.

Requirements for the degree of Doctor of Education include a minimum of 56semester credit hours of doctoral studies completed at UVM following formaladmission to the program with the following distribution:

- 15 semester hours in the core courses (minimum)
- 21 semester hours general distribution (minimum)
- Dissertation Research 20 semester hours (minimum).

All course credit hours beyond the core are distributed in educational leadership, research, critical perspectives, organizational change and selected specialtycontent areas.

Transfer of Credit

A maximum of nine (9) semester hours may be accepted in transfer from an accredited graduate program. Transfer credit may be completed prior to admission to the Doctor of Education Program provided that the credit is approved by the student'sStudies Committee and that the credit conforms to all other Graduate Collegerequirements.

Residency Requirement

The residency requirement for the Doctor of Education (Ed.D.) degree consists of the following:

- 1. Completion of the five core courses (15 semester hours), and
- 2. Completion of 12 semester credit hours of coursework during two contiguous semesters beyond the core.

For further requirements concerning Studies Committees, Research and Dissertation, and the Dissertation Defense Examination Committee, refer to <u>General Requirements for the</u> <u>Degree of Doctor of Philosophy</u>.

Application deadline is May 1.

Detailed information on the course of study is available from Program Director, Susan

Hasazi, Professor, The University of Vermont, Office of the Dean, Collegeof Education and Social Services, 311 Waterman Bldg., Burlington, VT 05405-0160.

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Educational Studies (M.Ed.)

College: <u>Graduate College</u> Department: <u>Education</u>

Overview

The Foundations of Education faculty offer graduate courses in foundations of education and a master's degree in Educational Studies. The degree program is a research and scholarship based program for students from a diversity of educational fields including instruction, administration, policymaking and analysis, social services, state departments of education, allied educational professions (counselors, health care personnel, journalists), school boards, and international education. Students study past, present, and future educational problems and practices from the perspectives of the several disciplines; and they make cross disciplinary connections to discover the themes common to all the disciplines as well as to the theory and practice of education. Students study the process of making professional judgments about educational practice that include ethical, political, historical, literary, cultural, and social considerations. They strive to understand more profoundly not only the "what" and the "how" of the education professions, but the "why" as well.

Students in this program learn how to become competent scholars and researchers in the field of education by knowing the pertinent literature, staying abreast of the latest policy developments in the field, and communicating this information effectively to various audiences through competent, discipline-based research, publication, and teaching. Students also strive to acquire the values, understandings, and skills necessary to advance a conception of the good society which includes respect for human dignity, a belief in human rights, and an ethic of service to others.

Inquiries regarding this program should be addressed to Professor David Shiman.

General Requirements

- Graduate (Master's)
- Education (Master of Education)

Specific Requirements

The master's degree in Educational Studies is tailored to the intellectual and professional interests of the student. Students plan their course of study with a faculty advisor in the program. Students are urged to elect courses and organize their research around problems of interest to them.

Courses applicable to the Educational Studies Program include: 204, 205, 206, 209, 255, 302, 303, 314, 322, 347, 352, and 354.

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Higher Education and Student Affairs Administration (M.Ed.)

College: <u>GraduateCollege</u> Department: <u>Integratedand Professional Studies</u>

Overview

The graduate program in Higher Education and Student Affairs Administration Educates professionals who apply human development, organizational, and administrativeprinciples to their work with students in higher education. Graduates of themaster's degree program possess knowledge in administration and planning, organizationaldevelopment, higher education policy and practice, and student affairs professionalprinciples. Graduates further the goals of colleges and universities by servingas policy makers, student affairs educators, student service advisors, and administrators.

Pluralism is a primary curricular foundation of the Higher Education and StudentAffairs program. Pluralism, a reality of American life and U.S. higher education, is expressed through course and experiential opportunities emphasizing the diversityof people, experiences, perspectives, and structures. The curriculum, includingcourses, practica internships, graduate assistantships, and volunteer opportunitieswith the University and local institutions integrate conceptual theory withadministrative practice. Students gain an understanding of the student affairsprofession, multiculturalism, college student development, history of and trendswithin U.S. higher education, organizational theory, and professional ethics.

An array of 60 practicum internships and 35 graduate assistantship (e.g., clinical internship) placements help students integrate their conceptual knowledge withstudent affairs and higher education practice. Assistantships are housed inUniversity offices such as alumni affairs, the provost's office, admissions,jūdicial affairs, development, and residential life. The assistantship applicationprocess is separate from the admissions process but interviews for both areheld concurrently in March of each year. Practica experiences (three selectionsduring the course of the degree) are available within University and local collegeoffices.

General Requirements

- Graduate (Master's)
- Education (Master of Education)

Specific Requirements

Students are urged to hold either a full-time position in college and/or studentaffairs administration, if a part-time student, or a 20 hour per week graduateassistantship, if a full-time student. Assistantship stipends cover tuitionfor 20 credit hours of study each year and a bimonthly stipend.

Courses required for the M.Ed. degree in Higher Education and Student Affairs(EDHI) include: 297, 360, 361, 362, 375, 380, 383, 385, and 395. Forty credithours are required for the M.Ed. degree.

There is also a Higher Education concentration in the Educational Leadershipand Policy Studies doctoral degree (Ed.D.) that requires core courses (see EducationalLeadership Ed.D.) and a program of studies focusing on the administration inhigher education.

(Please visit our website for HESA program information at <u>http://www.uvm.edu/~uvmhesa/</u>€).)

Inquiries regarding this program should be addressed to Professor KathleenManning, 72 University Heights, University of Vermont, Burlington, Vermont 05405.

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Interdisciplinary (M.Ed.)

College: <u>GraduateCollege</u> Department: <u>Integratedand Professional Studies</u>, <u>Education</u>

Overview

This degree program is for students who wish to pursue an individually designed, integrated program of study. The program draws primarily from graduate courses in Educational Leadership, Counseling, Higher Education and Student Affairs Administration, and Educational Studies but may include courses from other departments within the College and the University.

Applicants should have a clear understanding of how the Interdisciplinary Programwill serve their career goals. For this reason, major emphasis in admissionsis placed upon the applicant's Statement of Purpose. Applicants are stronglyencouraged to contact the Department of Integrated Professional Studies, 72University Heights, prior to making application for admission. Detailed informationabout the program and admissions criteria will be supplied upon request.

Inquiries regarding this program should be addressed to Professor Robert Nash.

General Requirements

- Graduate (Master's)
- Education (Master of Education)

Specific Requirements

A minimum of 36 credit hours is required for completion of the program. Theprogram is ideally suited for persons whose personal and professional development development development of course work not readily available in other graduate programs, or for individuals who plan to assume new or emerging roles in the fields of education or social and human services.

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Reading and Language Arts (M.Ed.)

College: <u>GraduateCollege</u> Department: <u>Education</u>

Overview

The purpose of this program area is to prepare teachers and specialists inthe field of reading. Classroom teachers, reading specialists or consultants, supervisors, administrators are responsible for developing programs which willenable every student to attain their maximum proficiency in the use of readingand language. To meet this end, several courses have been devised which focus classroom reading instruction and reading difficulties. Through the ReadingClinic, students also have opportunities for laboratory experiences as wellas for research and study in reading, literature, and language arts.

Inquiries regarding this program should be addressed to Professor Marjorie Lipson.

General Requirements

- Graduate (Master's)
- Education (Master of Education)

Specific Requirements

Courses in reading and language arts include: 222, 223, 234, 246, 375, 376,378, and 379. Various independent study and special topic courses are also available.

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Special Education (M.Ed.)

College: <u>GraduateCollege</u> Departments: <u>Education</u>, <u>Integrated Professional Studies</u>

Overview

This master's program is designed to prepare students to collaborate with families, educators, and other professionals and service agencies in the development, implementation and evaluation of instructional programs and supports for learnerswith disabilities in integrated school and community settings. The program requiresthat students have appropriate professional experience.

Three primary areas of emphasis within the program are Consulting Teacher/Learning Specialist, Essential Early Education and Intensive Special Education. All threeareas have State of Vermont approved licensure endorsement tracks, and successful completion leads to a licensure endorsement for special education in Vermont.

- Consulting Teacher/Learning Specialist: Students are prepared to collaborate with families, educators and other professionalsin the design, implementation and evaluation of instruction for learners withmild to moderate disabilities in integrated regular elementary, middle or high school classrooms.
- Essential Early Education: Students areprepared to provide individualized, familycentered special education servicesto young children with disabilities and their families through both directand collaborative delivery systems coordinated with social service agencies in integrated home, preschool and community settings in rural areas.

Intensive Special Education: Students are prepared to provide direct and collaborativeinstruction to learners with moderate to severe disabilities on the basis of identified activities, skills, adaptations and transitions needed for learnersto function in current and future integrated school, home and other community environments, with services involving learners' parents and a variety of professionaldisciplines.

• Literacy and Special Education: The purposeof this concentration is to prepare elementary and middle level educatorsion the field of reading and special education.

These educators help promotestudent success both through their specific knowledge of assessment, planningand remediation, as well as their ability to work efficiently with teams ofstudents, parents and teachers to collaboratively plan and deliver an integrated system of services. Graduates of the program earn the Master's of EducationDegree or a Certificate of Advanced Study and are recommended for professional licensure and endorsement as either a reading teacher/coordinator or a consulting teacher/learning specialist in the State of Vermont. Inquiries regarding this concentration should be addressed to Professors Marjorie Lipson or George Salembier.

In addition, a <u>Certificate of AdvancedStudy (sixth-year certificate</u>) with a usual total of 36 credit hour programmay be arranged for applicants who have already earned a Master's degree.

Additional information on the above should be requested from the Program Coordinator.

General Requirements

- Graduate (Master's)
- Education (Master of Education)

Specific Requirements

Specific courses are required for each area (Consulting Teacher/Learning Specialist, Essential Early Education or Intensive Special Education), as well as a fullyear internship. Students seeking admission to a licensure endorsement trackmust meet additional requirements. Contact the Special Education Program forassistance with questions on admissions requirements.

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Postbaccalaureate Teacher Preparation Program

College: Graduate College

Overview

The Postbaccalaureate Teacher Preparation Program is designed for individuals who have a bachelor's degree from an accredited four-year institution and who want to become licensed to teach in Vermont. The basic program fulfills the professional education requirements for state licensure. Areas and levels of licensure include:

- Grades K-12: Art, Music, Physical Education.
- Grades K-6 (Elementary): General Elementary Education.
- Grades 7-12 (Secondary): English, Foreign Language, Mathematics, Science (Animal Sciences*, Biological Science, Chemistry, Earth Science, and Physics), Social Studies (Anthropology, Economics, Geography, History, Political Science, and Sociology).

* Animal Sciences is an alternate route for Biology Endorsement.

Admissions Requirements

Applicants to the Postbaccalaureate (Postbac) Teacher Preparation Program must meet the following entrance criteria:

- 1. Hold a bachelor's degree from an accredited institution of higher education.
- 2. Possess a general education background based on those studies known as liberal arts which embrace the broad areas of social and behavioral sciences, mathematics, biological and physical sciences, the humanities, and the arts.
- 3. Demonstrate a commitment to the teaching profession.
- 4. Have a minimum overall GPA of 2.5 in undergraduate course work.
- 5. For elementary candidates: Previous course work must include 30 semesterhours in a single liberal arts discipline.
- 6. For middle-level candidates: Previous course work must include two approved areas of concentration, with 18 credits in each.
- 7. For secondary candidates: Previous course work must include a minimum of 30

semester hours with a minimum GPA of 2.75 in one of the academicareas to meet Vermont state licensure requirements for the major academicconcentration.

Secondary Education also has a master's degree option:

Majors: Biological Science, Chemistry, Earth Science, English, French, Geography, German, History, Latin, Mathematics, Physics, Spanish. Broad Field Majors: Anthropology, Biological Science, Economics, Geography, History, Physical Science, Political Science, and Sociology.

The Post-Baccalaureate curriculum includes both undergraduate and graduatecourses. Nine graduate credits may apply toward the M.Ed. degree at UVM, contingent on acceptance into the Graduate College.

The deadline for applications to the graduate licensure program in SecondaryEducation is April 1 for the next academic year. Course work begins during thesummer or fall, depending upon the area of licensure. Applications are accepted and considered only once each year with updated informational materials and application forms available in January. Requests for further information about the Secondary Education PBTP Program and application forms may be obtained by contacting the PBTP Coordinator, Secondary Education Program, 405 Waterman Building.

Applications for qualified applicants for the Elementary Education Postbaccalaureate Program are reviewed on an ongoing basis. Acceptance to begin in a given semester is based on availability of courses and placements at field sites. Requests for further information about the PBTP Elementary Education Certification Program and application forms may be obtained by contacting the Elementary Education PBTP Coordinator, Elementary Education Program, 533 Waterman Building.

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Certificate of Advanced Study in Integrated Studies (Sixth-Year, Post-Master's Certificate)

College: <u>Education and Social Services</u> Department: <u>IntegratedProfessional Studies</u>, <u>Education</u>

Overview

A Certificate of Advanced Study (sixth-year certificate), a 30- to 36-graduate credit hour program beyond the master's degree, is offered in Integrated Studies.

The program is designed for students who have completed their master's degreeand are interested in exploring a self-designed, integrated program of studydrawing upon graduate level experiences currently provided by departments of Integrated Professional Studies and Education of the College of Education and Social Services. The program does not lead to any type of state licensure.

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Certificate of Advanced Study in Special Education (Sixth-Year, Post-Master's Certificate)

College: Education and Social Services Departments: Education, Integrated Professional Studies

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The Program in Special Education offers the Certificate of Advanced Study tostudents with appropriate master's degrees in the following areas: consultingteacher/learning specialist, early intervention, essential early education, integration specialist, and intensive special education. A minimum of 30 credit hours of course work is required.

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Contact Information:

University of Vermont **Electrical and Computer Engineering Department** 301 Votey Building 33 Colchester Avenue Burlington, VT 05405-0156

Phone: (802) 656-3331 Fax: (802) 656-3358 Email: eeinfo@emba.uvm.edu Web Site: http://www.emba.uvm.edu/ece/

Affiliated Programs:

• Accelerated B.S./M.S. Program in Materials Science

Graduate Degrees and Majors

- Graduate Majors
 - Electrical Engineering (M.S., Ph.D.)
 - Biomedical Engineering (M.S.)

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Accelerated Masters Program in Materials Science

College: <u>Graduate College</u> Department: <u>Materials Science Program</u>

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The program offers an Accelerated Masters Program leadingto both B.S. and M.S. degrees in five years. The program is open to undergraduatechemistry, physics, electrical engineering, and mechanical engineering majors. Interested students should contact the Materials Science Director by the beginningof their junior year.

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Electrical Engineering (M.S.)

College: <u>Graduate College</u> Department: <u>Electrical andComputer Engineering Department</u>

Overview

Master of Science and Doctor of Philosophy programs are offered. Candidatesnormally have obtained the Bachelor of Science degree in Electrical Engineeringprior to application for admission but other applicants are encouraged to considerthe program if they have extensive background in mathematics and the basic sciences. In such cases, it may be necessary for a student to complete the entrance qualificationswithout receiving credit toward graduate studies. The general requirements foradmission as outlined under the "Regulations of the Graduate College" must be met. Areas of research expertise are control systems, biomedical engineering, test engineering, machine vision, mechatronics, computer engineering, solid statephysical electronics, electromagnetics, information processing, communicationtheory, semiconductor materials, devices and integrated circuits (VLSI).

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

An accredited bachelor's degree in an appropriate field.

Requirements for Advancement to candidacy for the Degreeof Master of Science

An accredited bachelor's degree in electrical engineeringor equivalent education.

Minimum Degree Requirements

Advanced courses in electrical engineering, physics, computerscience, and mathematics (18 to 24) with at least 15 credit hours appropriatelydistributed in approved areas of study in the Electrical and Computer EngineeringDepartment thesis research (six to 12 hours).

Although a thesis is normally required in the programleading to the M.S. in Electrical Engineering, the thesis may be waived withdepartmental approval, in favor of additional courses. In such cases, the studentwill be expected to have considerable professional experience, or to submit highquality technical reports as evidence of professional maturity.

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Courses

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Catalogue Archives

Electrical Engineering (Ph.D.)

College: Graduate College Department: Electrical andComputer Engineering

Overview

Master of Science and Doctor of Philosophy programs are offered. Candidates normally have obtained the Bachelor of Science degree in Electrical Engineering prior to application for admission but other applicants are encouraged to consider the program if they have extensive background in mathematics and the basic sciences. In such cases, it may be necessary for a student to complete the entrance qualifications without receiving credit toward graduate studies. The general requirements for admission as outlined under the Regulations of the Graduate College must be met. Areas of research expertise are control systems, biomedical engineering, testengineering, computer engineering, solid state physical electronics, electro-optics, information processing, communication-theory, semiconductor materials, devices and integrated-circuits (VLSI).

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Doctor of Philosophy

A master's degree in electrical engineering or the equivalent.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

Successful completion of Ph.D. comprehensive examinations.

The majority of students will have completed a core programcomprising graduate courses before taking the comprehensive examination.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

At least 45 credit hours in courses and seminars and 20credit hours in dissertation. Four courses are to be chosen from a major areaof concentration and two from a minor. The requirements specified under the Policiesof the Graduate College must also be met. A total of 75 credit hours is required.

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Biomedical Engineering (M.S.)

College: <u>Graduate College</u> Department: <u>Mechanical Engineering</u>, <u>Electrical and Computer Engineering</u>

Overview

The program in Biomedical Engineering is interdisciplinary and offers the Master of Science degree. Graduate students obtain the M.S. degree through a program administered cooperatively by the Mechanical Engineering and Electrical and Computer Engineering departments. The program is directed jointly by Tony S. Keller (Mechanical Engineering), Dryver R. Huston (Mechanical Engineering), and Bruce D. Beynnon (Orthopaedics and Rehabilitation).

Participating faculty with strong commitments to biomedical engineering research and education are from the departments of Civil and Environmental Engineering, Electrical and Computer Engineering, Mathematics and Statistics, Mechanical Engineering, Molecular Physiology and Biophysics, Orthopaedics and Rehabilitation, Physical Therapy, and Physics. The extensive research facilities of the participating faculty and departments are available to all graduate students enrolled in the program, and the program provides the flexibility necessary for students to gain competence in the area of their choice. Research includes: Bioinstrumentation, Biomechanics, Biomedical Imaging, Biomedical Systems and Signal Analysis, Clinical Engineering, Implant Design, Rehabilitation Engineering, Simulation, and Biomathematics.

Students in the program are generally supported by sponsored research projects, participating departments and training grants. Inquiries about current research and funding opportunities should be directed to Laurel Zeno, Vermont Space Grant Consortium, 332B Votey Bldg., Burlington, VT 05405; Phone: (802) 656-1429; Fax: (802) 656-8802.

Research includes: (Absher) speech signal processing, adaptive control systems; (Bates) biomedical signal processing and mathematical modeling applied to the respiratory system; (Berger) structural dynamics in motor proteins during muscle contraction; (Beynnon) sports medicine, ankle, knee shoulder and spine biomechanics, low back pain; (Chesler) effects of mechanical stimuli on vascular physiology and pathology;

(Clark) health care technology planning and management, instrumentation for life sciences research and medical device validation; (Fleming) sports medicine, lower and upper extremity ligament and tendon injuries, biomechanics; (Hamrell) mechanisms of sarcomere function, normal and diseased heart muscle, viral myocarditis; (Haugh) statistical process control and quality improvement, medical biostatistics and clinical trials, orthopaedics and rehabilitation, low back pain, reliability estimation, time series analysis; (Hazard) spine disability risk factors, seating design, continuous passive spinal motion, low back pain; (Henry) motor control of human posture and movement, related to musculoskeletal injuries; (Hitt) mechanics of branching blood flows, microcirculatory hemodynamics, artificial blood; (Huston) whole body vibration, low back pain, electromyography; (latridis) soft-tissue and spinal bioengineering; (Irvin) respiratory biomechanics; (Johnson) sports, knee and ski injuries and knee biomechanics; (Keller) spine mechanics, material and structural properties of biologic tissues, orthopaedic implant biomechanics and design, skeletal growth and remodeling; (Krag) normal and degenerative disc biomechanics, spinal instrumentation, spinal disorders; (Lakin) applied mathematics, modeling intracranial pressure dynamics, microgravity effects on human physiology; (Laible) computational biomechanics, analysis of flow and transport modeling in biologic materials; (Low) regulation of smooth muscle contractile proteins; (Maughan) molecular biophysics of muscle contraction; (Stokes) biomechanics of spine and spinal deformity; (Warshaw) smooth muscle physiology, including structure/function relationship of molecular motors; (G. Wu) biomechanics of human postural control and aging, modeling, and instrumentation. (J. Wu) muscle mechanics, molecular mechanics, ultrasonic biosensors, ultrasonic heating and enhanced anti-cancer action.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Students applying for admission to the graduate program must meet the general requirements of admission of The University of Vermont Graduate College. Admission is competitive and students are selected on the basis of their scholastic preparation and intellectual capacity.

The following minimum preparation is recommended:

- Biology, Chemistry: Two semesters each, or four introductory courses in the following subjects anatomy, biology, biophysics, chemistry, physiology.
- Engineering: Two introductory courses in one or more of the following subjects biomechanics, mechanics, thermodynamics, electrical engineering, control theory, or fluid mechanics.
- Mathematics: One course past differential equations.
- Physics: Two semesters of physics.

Special arrangements may be made, on an individual basis, for students who are highly prepared in one area, but less well prepared in another.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Completion of any deficient admission requirements.

Minimum Degree Requirements

Candidates for the degree of Master of Science must complete 30 graduate credit hours of an approved program of study, including 18-24 semester credits of graduate-level courses approved by the program faculty and distributed as follows: Physiology and Biophysics (eight credits); engineering subspecialty (electrical, civil, or mechanical engineering), seven-11 credits; physics, mathematics or engineering elective, three credits. In addition, the candidate must present a research thesis (six-12 credits) and pass a final oral examination. Most candidates complete a six-seven credit thesis.

2002-03 Online Catalogue

Academics	Departments and Programs
Catalogue 2002-03	English Department
Courses	Colleges: Artsand Sciences, Graduate College,Continuing Education
Academic Offerings	Faculty: <u>English</u>
Colleges & Schools	Courses: English (ENG)
Faculty	Contact Information:
Policies & General Information	University of Vermont English Department
Catalogue Archives	400 Old Mill 94 University Place
	Burlington, VT 05405-0114
	Phone: (802)656-3056
	Fax: (802)656-3055
	E-mail: pfrechet@zoo.uvm.edu
	Web Site: <u>http://www.uvm.edu/~english/</u> �

Graduate Degrees and Majors

- Graduate Majors
 - English Literature (M.A.)
 - Teaching English (M.A.T.)

2002-03 Online Catalogue

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English (M.A.)

College: <u>Graduate College</u> Department: <u>English</u>

Overview

The research interests of the faculty of the Department of English and libraryresources permit graduate students to undertake thesis subjects in virtuallyall fields of the discipline.

General Requirements:

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts

An undergraduate major in English or its equivalent; satisfactory scores on the general (aptitude) Graduate Record Examinations; demonstration of proficiency in writing by a detailed statement concerning the purpose in pursuing graduatestudy in English. If admitted conditionally the student must complete satisfactorily a stipulated number of hours (usually six) of graduate level work.

Requirements for Advancement to Candidacy for the Degree of Master of Arts

Satisfactory completion of 18 hours of appropriate credit.

Minimum Degree Requirements for the Degree of Master of Arts

Thesis Option: Completion of 24 hours of course work, including fiveof the following six: 320, 330, 340, 350, 360, and 370 or 201-296; and at leasthine additional hours (at least three of these nine in English or Humanities, at most six in related fields). Candidates must submit a customized reading list, pass a comprehensive exam based on it, and complete six additional hours by writing an acceptable thesis and defending it successfully

(ENG 391).

Nonthesis Option: Completion of 30 hours of course work, including fiveof the following six: 320, 330, 340, 350, 360, and 370 or 201-296; and at leastfifteen additional hours (at least nine of these in English or Humanities, atmost six in related fields). Candidates must pass a three-part comprehensiveexamination based on set Departmental reading lists, and must receive a gradeof B+ or better on two seminar papers submitted to an ad hoc faculty ReadingCommittee (ENG 392).

Both Options: All M.A. candidates in English must demonstrate a readingknowledge of a foreign language by examination or by advanced coursework.

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English (M.A.T.)

College: <u>Graduate College</u> Department: <u>English</u>

Overview

The research interests of the faculty of the Department of English and libraryresources permit graduate students to undertake thesis subjects in virtuallyal fields of the discipline.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Arts in Teaching

See GeneralRequirements

Minimum Degree Requirements for the Degree of Master of Arts in Teaching

Thirty credit hours of course work; 24 in English (including five of the followingsix: English 320, 330, 340, 350, 360, and 370 or 201-296; and at least nine additionalhours of course work in English or Humanities up to six of these in a relatedfield), plus a comprehensive examination in English. Additional requirements Education will differ for those already licensed to teach (at least 6 credithours) and for those not licensed to teach (up to 33 credit hours).Completion 24 hours of course work, including five of the following six: 320, 330, 340,350, 360, and 370 or 201-296; and at least nine additional hours (at least threeof these nine in English or Humanities, at most six in related fields). Candidates submit a customized reading list, pass a comprehensive exam based on it, and complete six additional hours by writing an acceptable thesis and defending successfully (ENG 391).

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Courses

Department and Programs

Forestry Program

Catalogue 2002-03

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Colleges: Schoobf Natural Resources, GraduateCollege

Faculty: Forestry

Courses: Forestry(FOR)

Contact Information:

University of Vermont ForestryProgram George D. Aiken Center 81 Carrigan Drive Burlington, VT 05405

Phone: (802) 656-2620 FAX: (802) 656-8683 E-mail: <u>jshane@zoo.uvm.edu</u> Web Site: <u>http://snr.uvm.edu/academics/forestry.htm</u>

Affiliated Programs:

• Accelerated Public Forest Administration B.S./M.P.A. Program

Graduate Degrees and Majors

- Graduate Majors
 - Forestry (<u>M.S</u>)

Overview

The Forestry major provides students with an education in ecologically responsible forestry, emphasizing the complex landscapes of the northeastern United States. Students

develop their abilities to coordinate and manage all aspects of sustainableforestry through an education that combines a strong foundation in natural and social sciences with handson field-based classes, internships, research experiences, and forest management projects. The curriculum is integrative, technologically current, science-based. The program was accredited through December 2002 by the Society of American Foresters.

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Courses

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Accelerated Public Forest Administration (B.S./MPA)

College: <u>GraduateCollege</u> Department: <u>Forestry</u>, <u>PublicAdministration</u>

Academic Offerings

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Colleges & Schools

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This program affords Forestry students interested in Public Forest Administration the opportunity to obtain both an undergraduate B.S. degree in Forestry and a Master's in Public Administration degree in a total of five years, rather than the traditional six-year minimum. Further information is available from the offices of the Forestry Program and the MPA Program.

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Forestry (M.S.)

College: <u>Graduate College</u> Department: <u>NaturalResources</u>

Overview

The goal of this Master of Science Program is to provide graduate students with advanced training in forestry science and the opportunity to further their knowledge and proficiency in some specialized aspect of forestry. The faculty has research interests which span the broad areas of biometry, ecology, genetics, free improvement, management, pathology, physiological ecology, policy and administration, remote sensing, and silviculture.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

Undergraduate degree in forestry or in a discipline related to the intendedspecific field of study. Satisfactory scores on the general (aptitude) portionof the Graduate Record Examination.

Minimum Degree Requirements

The Forestry degree has two options.

Plan A (Thesis Option): Requires 15 to 24 credit hoursof advanced forestry and related courses, including NR 378, a comprehensive examination, six to 15 hours of thesis research, and an oral defense of the thesis. A student, sthesis research is often an integral part of ongoing research projects.

Plan B (Project Option): Requires at least 24 credithours of advanced forestry and related

courses, including NR 378, a comprehensiveexamination, three to six hours for a project pertinent to the student,sarea of specialization, and an oral defense of the project. The project is typicallya forest resources management plan, a major paper, or a series of papers.

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Departments and Programs

Catalogue 2002-03	
Courses	Geography Department
Academic Offerings	Colleges: Arts and Sciences, Graduate College
	Faculty: <u>Geography</u>
Colleges & Schools	Courses: Geography (GEOG)
Faculty	
	Contact Information:
Policies & General	University of Vermont
Information	Geography Department
	200 Old Mill
Catalogue Archives	94 University Place
	Burlington, VT 05405-0114
	Phone: (802) 656-3060
	Fax: (802) 656-3042
	Email: geography@uvm.edu

Graduate Degrees and Majors

- Graduate Majors
 - Geography (M.A., M.A.T.)

Web Site: http://www.uvm.edu/~geograph/ >

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Courses

Academic Offerings

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Catalogue Archives

Geography (M.A.)

College: <u>GraduateCollege</u> Department: <u>Geography</u>

Overview

Faculty research interests include most systematic aspects of geography includingsocial, urban, political, economic, historical and physical geography. TechniqueInterests are in remote sensing, geographic information systems and quantitativemethods. Regional interests and field experiences are in Africa, Europe, Canadaand the US.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts

Evidence of a strong interest in geography. Satisfactory scores on the general (verbal and quantitative) portion of the Graduate Record Examination.

Requirements for Advancement to Candidacy for the Degree of Master of Arts

Twelve semester hours or its equivalent in geography and supporting courses in related fields or demonstrated proficiency in geography which would be assurance of success in graduate study.

Minimum Degree Requirements

Twenty-one hours in geography courses including 203, 204, or a reading knowledge of a foreign language, and six hours of thesis research (391); nine additional hours in geography or a related field. For additional information, please write to the Graduate Program Coordinator, Department of Geography.

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Courses

Academic Offerings

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Geography (M.A.T.)

College: <u>GraduateCollege</u> Department: <u>Geography</u>

Overview

Faculty research interests include most systematic aspects of geography includingsocial, urban, political, economic, historical and physical geography. TechniqueInterests are in remote sensing, geographic information systems and quantitativemethods. Regional interests and field experiences are in Africa, Europe, Canadaand the US.

General Requirements

• Graduate (Master's)

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Departments and Programs

Colleges: Arts and Sciences, Graduate College

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Faculty

Information

Catalogue 2002-03

Geology Department

Academic Offerings

Colleges & Schools

Policies & General

Catalogue Archives

Faculty: Geology

Courses: <u>Geology (GEOL)</u>

Contact Information:

University of Vermont Geology Department Perkins Building 43 Colchester Ave Burlington, VT 05405-0122

Phone: (802) 656-3396 Fax: (802) 656-0045 Email: <u>bdoolan@moose.uvm.edu</u> Web Site: <u>http://geology.uvm.edu/</u> €

Graduate Degrees and Majors

- Graduate Majors
 - Geology (<u>M.S.</u>, <u>M.A.T</u>, <u>M.S.T</u>)

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Courses

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Colleges & Schools

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Catalogue Archives

Geology (M.S.)

College: <u>Graduate College</u> Department: <u>Geology</u>

Overview

Research programs include environmental geology, geomorphology, and water resources; sedimentary, igneous and metamorphic environments and structural evolution of orogenic belts. Specific faculty interests include geologic history and recentsedimentation in the Lake Champlain Basin, processes and chronology of glaciation, stable and cosmogenic isotopic studies, water quality and pollutant transport, tectonic evolution of deformed continental margins, petrofabric and structural analysis of deformed rocks, partial melting processes, stratigraphy and sedimentary environments of lower Paleozoic sandstones and carbonates.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

An undergraduate major in an appropriate field: 12 semesterhours in geology; satisfactory scores on the general (aptitude) Graduate RecordExamination. Year courses in chemistry, physics or biology, and calculus or in an approved ancillary science strongly recommended.

Requirements for Advancement to candidacy for the Degreeof Master of Science

Satisfactory completion of one year of graduate study plusa comprehensive examination.

Minimum Degree Requirements for the Degree of Master ofScience

Thesis and advanced courses in geology must total at least 30 semester hours, including at least one 300-level course. Advanced courses in related sciencesāre encouraged and may be substituted for some selected geology courses on approvalby the departmental advisor. All students must complete successfully a course in field geology before graduation. This can be satisfied by Geology 201, orā comparable course at another institution, or recognized experience with a statesīurvey, U.S. Geological Survey, an oceanographic institute, a geolimnologicalāroup or industry. Satisfactory completion will be determined by the DepartmentalStudies Committee.

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Geology (M.A.T.)

College: <u>GraduateCollege</u> Department: <u>Geology</u>

Overview

Research programs include environmental geology, geomorphology, and water resources; sedimentary, igneous and metamorphic environments and structural evolution of orogenic belts. Specific faculty interests include geologic history and recentsedimentation in the Lake Champlain Basin, processes and chronology of glaciation, stable and cosmogenic isotopic studies, water quality and pollutant transport, tectonic evolution of deformed continental margins, petrofabric and structural analysis of deformed rocks, partial melting processes, stratigraphy and sedimentary environments of lower Paleozoic sandstones and carbonates.

General Requirements

• Graduate (Master's)

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Geology (M.S.T.)

College: <u>GraduateCollege</u> Department: <u>Geology</u>

Overview

Research programs include environmental geology, geomorphology, and water resources; sedimentary, igneous and metamorphic environments and structural evolution of orogenic belts. Specific faculty interests include geologic history and recentsedimentation in the Lake Champlain Basin, processes and chronology of glaciation, stable and cosmogenic isotopic studies, water quality and pollutant transport, tectonic evolution of deformed continental margins, petrofabric and structural analysis of deformed rocks, partial melting processes, stratigraphy and sedimentary environments of lower Paleozoic sandstones and carbonates.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science for Teachers

- 1. A bachelor's degree from an accredited institution;
- 2. Certification as a teacher of a physical or natural science;
- 3. Satisfactory scores on the Graduate Record Examination (general portion).

Requirements for Advancement to Candidacy for the Degreeof Master of Science for Teachers

Satisfactory completion of one year of graduate study plus departmental recommendation.

Minimum Requirements for the Degree of Master of Sciencein Teaching (Geology)

Thirty hours of course work that will strengthen the student's background inearth science. Up to 12 hours of 100-level courses may be chosen if applicable.Course work may be chosen from supporting subject areas as well as from geology.Each student, in conference with an advisor, will develop a program suited to his/her needs and background. No thesis is required; however, each degree recipient must complete a general written or oral examination.

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Departments and Programs

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Courses	Historic Preservation Depart	
Academic Offerings	Colleges: Graduate College	
Colleges & Schools	Faculty: Historic Preservation	
Faculty	Courses: Historic Preservation (HP)	
Policies & General	Contact Information:	
Information	University of Vermont	
monnation	Historic Preservation Department	
Catalogue Archives	213 Wheeler House	
J.	133 South Prospect Street	
	University of Vermont	

tment

Burlington, VT 05405-0164

Phone: (802) 656-3180 Fax: (802) 656-8794 Email: histpres@zoo.uvm.edu Web Site: http://www.uvm.edu/~histpres/ I

Graduate Degrees and Majors

- Graduate Majors
 - Historic Preservation (M.S.)

Overview

This interdisciplinary graduate program leading to a Master of Science in Historic Preservation is offered in collaboration with the History Department.Enrollment is limited to qualified participants who are seeking an intensive, community-oriented educational experience that provides a balance between academicand professional training. As its underlying philosophy, the program recognizesthe diverse contributions, both high-style

and vernacular, that every generation has made to the built environment and views historic preservation as a form of management which keeps these contributions in balance. The program is designed to develop future leaders to help foster economic growth through the stewardship of historic resources and to provide a focus for research on and public awareness of the built environment. The program has been certified as meeting standards for professional training established by the National Council for Preservation Education.

Applicants desiring financial aid may be nominated for Graduate College Fellowshipsor for Graduate Teaching Assistantships in the History Department.

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Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Historic Preservation (M.S.)

College: Graduate College Department: <u>Historic Preservation</u>

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science in Historic Preservation

(1) A baccalaureate degree with a major in a preservation-related field such as architecture, architectural history, history, planning, business administration, economics, engineering, interior design, law, or environmental studies. (2) Applicants must take the general (aptitude) portion of the GraduateRecord Examination and submit a sample independent research paper, design project, or other evidence of preservation-related professional ability. Almost all successful applicants have spent at least a year in a preservation-related job or volunteer work after the baccalaureate.

Requirements for Advancement to Candidacy for the Degreeof Master of Science

Admission to this highly competitive program constitutes acceptance to candidacy as well.

Minimum Degree Requirements for the Master of Science

(1) Thirty-six credit hours of course work. A minimum of 33 credit hours (including an internship or thesis) must be taken in historicpreservation. (2) A written comprehensive examination given during the thirdsemester. (3) An internship in a preservation agency, or a written thesis. Thismay be undertaken upon completion of two or three semesters of concentrated coursework. At the conclusion of the internship, an oral presentation describing workaccomplished will be given before a jury of practicing professionals for evaluation.(4) Historic Preservation 200, 201, 204, 205, 206, 301, 302, 306, 307 and 303

or 391 are required courses for the degree. Students also take one elective unlessthey elect to do a thesis instead of an internship. For the thesis option, atotal of six credit hours is required for HP391.

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Departments and Programs

Colleges: Arts and Sciences, Graduate College

Courses

History Department

Academic Offerings

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Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Faculty: <u>History</u> Courses: <u>History (HST)</u>

Contact Information:

University of Vermont History Department Wheeler House 133 South Prospect St Burlington, VT 05405

Phone: (802) 656-3180 Fax: (802) 656-8794 Email: <u>dlsmail@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~history/</u> €

Affiliated Programs:

Accelerated B.A./M.A. Program

Graduate Degrees and Majors

- Graduate Programs
 - History (M.A., M.A.T.)

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Accelerated Master's Program in History (B.A./M.A.)

College: <u>GraduateCollege</u> Department: <u>History</u>

Overview

Academic Offerings

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History majors in their third year of undergraduate standing at UVM may applyto the department for the AMP in history. Students accepted into the program will during their senior year work simultaneously on their B.A. and M.A. requirements, toward which they may count up to six concurrent credits. Application forms and further information may be obtained from the Director of Graduate Studies, Departmentof History.

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Courses

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History (M.A.)

College: <u>GraduateCollege</u> Department: <u>History</u>

Academic Offerings

Colleges & Schools

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Catalogue Archives

Overview

The History Department offers a comprehensive program of courses in the historyof the Western Hemisphere, European history, and non-Western history.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts

Applicants should have an undergraduate major in history, or in a related field of the social sciences or humanities with the equivalent of a minor in history. They must take the Graduate Record Examination and submit with the application a sample of writing, such as a research paper done in the course of undergraduate study.

Requirements for Advancement to Candidacy for the Degree of Masters of Arts

Each student's Studies Committee will certify admission to candidacy when it has approved a course of study (which may include remedial work such as courses in appropriate foreign languages) and a tentative thesis topic.

Minimum Degree Requirements for the Degree of Master ofArts

Plan A: (Non-thesis) Thirty hours of coursework in history, at least fifteen of which must be earned in seminar courses.

Plan B: (Thesis) Thirty hours of course workin history, including six hours of thesis research. The thesis must be successfullydefended in an oral examination.

Each plan requires that the student pass a comprehensive exam (oral or written)in two areas of historical knowledge.

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:: Academics	$History(M \land T)$	
Catalogue 2002-03	– History (M.A.T.)	
Courses	College: <u>GraduateCollege</u> Department: <u>History</u>	
Academic Offerings	Overview	
Colleges & Schools	The History Department offers a comprehensive program of courses in the historyof the	
Faculty	Western Hemisphere, European history, and non-Western history. General Requirements • Graduate (Master's)	
Policies & General Information		
Catalogue Archives		

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Departments and Programs

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Materials Science Program

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Materials Science Flogra

Colleges: Graduate College

Faculty: Materials Science

Courses: Materials Science (MATS)

Contact Information:

University of Vermont Materials Science Program 319 Votey Building 33 Colchester Ave. University of Vermont Burlington, VT 05405-0156

Phone: (802) 656-8505 Email: <u>varhue@emba.uvm.edu</u> Web Site: <u>http://www.emba.uvm.edu/EM/Engineering/Material/</u>

Affiliated Programs:

<u>Accelerated B.S./M.S. Program</u>

Graduate Degrees and Majors

- Graduate Majors
 - Materials Science (M.S.)
 - Materials Science (Ph.D.)

Overview

Participating faculty are from the following departments: Electrical an Computer

Engineering, Civil and Environmental Engineering, Mechanical Engineering, Physics, and Chemistry.

The program in Materials Science is multidisciplinary. It is involved with the mechanical, electrical, chemical, and physical properties of materials - primarily solids - and applications of these materials. It is multidisciplinary in the sense that it combines the theoretical and experimental capabilities of a variety of disciplines and applies them to the solution of complex scientific and engineering problems. Problems such as analysis and synthesis of electronic materials, development of bulk and thin film electronic devices and integrated circuits, physical and mechanical properties of biomaterials and polymers are typical examples requiring such an interdisciplinary approach. The course program gives a broad background in materials. It also provides flexibility allowing specialization in particular areas of interest.

The program in Materials Science offers the Master of Science degree and the Doctor of Philosophy degree. Each student must meet the general requirements for admission as outlined under the Regulations of the Graduate College. Students in the program are sponsored by the participating department which best reflects the students' backgrounds and interests.

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Materials Science (Multidisciplinary) (M.S.)

College: <u>GraduateCollege</u> Department: <u>Materials Science Program</u>

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

A bachelor's degree in physics, chemistry, metallurgy, engineering, materials science, or mathematics. Applicants with other backgrounds will be evaluated individually.

Minimum Degree Requirements

The above requirements for admission must be supplemented in either of the following ways:

Plan A With Thesis: 30 graduate credit hours of an approved programof study including at least 18 credit hours of course work; completion of atleast one three-credit hour course in each of the following categories; solidstate theory, quantum mechanics, applied mathematics, and materials properties of solids; satisfactory completion of a comprehensive examination, and satisfactory completion of an M.S. thesis including its defense at an oral examination.

Plan B Without Thesis: 30 credit hours of an approved program of study; completion of at least one three-credit hour course in each of the following categories: solid state theory, quantum mechanics, applied mathematics, and materials properties of solids, and satisfactory completion of a comprehensive examination.

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Materials Science (Multidisciplinary) (Ph.D)

College: <u>GraduateCollege</u> Department: <u>Materials Science Program</u>

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Doctor of Philosophy

An accredited master's degree (or equivalent) in physics, chemistry, metallurgy, engineering, mathematics, or materials science.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

Successful completion of a Ph.D. comprehensive examinationin Materials Science and demonstrated competence in computer programming. Thecomprehensive examination includes the areas of quantum mechanics, solid statetheory, applied mathematics, thermodynamics, and materials properties of solids.

Minimum Degree Requirements

In addition to the above, the following are required:

A minimum of 75 graduate credit hours including a minimum of 20 in dissertation research. An overall grade-point average in graduate courses of 3.25 or better. Completion of at least one three-credit hour course in each of the followingcategories: solid state theory, quantum mechanics, applied mathematics, thermodynamicsand kinetics, and one course in each of two categories dealing with materialsproperties of solids. Satisfactory completion of a Ph.D dissertation includingits defense at an oral examination.

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Mechanical Engineering Department

Colleges: Engineering and Mathematics, Graduate College

Faculty: Mechanical Engineering

Courses: Mechanical Engineering (ME)

Contact Information:

University of Vermont Mechanical Engineering Department 201 Votey Building 33 Colchester Ave. Burlington, VT 05405

Phone: (802) 656-3320 Fax: (802) 656-1929 Email: [unavailable] Web Site: <u>http://www.emba.uvm.edu/me/</u> **?**

Affiliated Programs:

- Accelerated B.S./M.S. Program
- <u>Accelerated B.S./M.S. Program in Materials Science</u>

Graduate Degrees and Majors

- Graduate Majors
 - Mechanical Engineering (M.S., Ph.D.)
 - Biomedical Engineering (M.S.)

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Accelerated Master's Program in Mechanical Engineering (B.S./M.S.)

College: <u>Graduate College</u> Department: <u>MechanicalEngineering</u>

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An Accelerated Masters Program is available for undergraduate students at the University of Vermont currently majoring in Mechanical Engineering. Further details can be obtained from the Department of Mechanical Engineering, 201 Votey Building, (802) 656-3320.

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Mechanical Engineering (M.S.)

College: <u>Graduate College</u> Department: <u>MechanicalEngineering</u>

Overview

Master of Science and Doctor of Philosophy programs are offered. Candidates holding degrees other than those in Mechanical Engineering are encourages to apply. In such cases, it is typically necessary for students to complete some preparatory course work in addition to the graduate studies. In all courses, general requirements for admission, as outlined under the Regulations of the Graduate College, must be met. Areas of research interest include: applied mechanics, biomechanics, fluid mechanics, fuel science, heat transfer, mechatronics, microelectromechanical systems (MEMS), precision engineering, smart structures, tissue engineering, vibrations.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

An accredited bachelor's degree in Mechanical Engineering or equivalent is the typical requirement; however, students holding a bachelor's degree in a related engineering or scientific field may also qualify for admission.

Requirements for Advancement to Candidacy for the Degreeof Master of Science

A cumulative grade point average of 3.0 or better for the first nine credit hours of graduate course work.

Minimum Degree Requirements for the Degree of Master ofScience

The Department of Mechanical Engineering offers both thesis and non-thesis options for the master's degree. Both options require the completion of advanced courses in mechanical engineering, mathematics, and other approved courses and research (for thesis students) totaling at least 30 credits. Graduate students. Graduate students receiving financial support via teaching or research fellowships are required to select the thesis option. Part-time students typically select the non-thesis option but may choose the thesis option if they prefer. Students normally decide on which option they intend to pursue at the beginning of their program.

All students are required to complete a prescribed set of fifteen core course credits which cover areas of advanced engineering mathematics, mechanics, and numerical methods. In addition, all students must select an area of specialization for their degree. Currently, the department offers specialization tracks in (1) solid mechanics and design; (2) thermo-fluid mechanics; and (3) biomechanics. Further details on the core course requirements and the areas of specialization can be obtained from the Department of Mechanical Engineering or its website.

Thesis Option: In addition to core courses, students selecting the thesis option must complete a minimum of six credits of course work in their chosen area of specialization. Students must also complete six to nine hours of independent thesis research; those opting for a six-credit thesis must complete an additional three credits of approved course work.

Non-Thesis Option: Students selecting the non-thesis option must complete an additional fifteen credits of course work beyond the core credits in lieu of a thesis. Of the additional course work, a minimum of nine credits must be in a chosen area of specialization.

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Mechanical Engineering (Ph.D.)

College: <u>Graduate College</u> Department: <u>MechanicalEngineering Department</u>

Overview

Master of Science and Doctor of Philosophy programs are offered. Candidates holding degrees other than those in Mechanical Engineering are encourages to apply. In such cases, it is typically necessary for students to complete some preparatory course work in addition to the graduate studies. In all courses, general requirements for admission, as outlined under the Regulations of the Graduate College, must be met. Areas of research interest include: applied mechanics, biomechanics, fluid mechanics, fuel science, heat transfer, mechatronics, microelectromechanical systems (MEMS), precision engineering, smart structures, tissue engineering, vibrations.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Doctor of Philosophy

An accredited bachelor's or master's degree in mechanical engineering or closely related discipline is required.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

Successful completion of the Ph.D. comprehensive examination.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

The degree of Doctor of Philosophy requires of candidates a minimum of 75 credit hours

to be earned in course work and in dissertation research. The 75 credit hours must be distributed in such a way that at least 40 credit hours must be earned in courses and seminars and a minimum of 25 credit hours must be earned in dissertation research. All Ph.D. candidates complete a doctoral thesis consisting of original research and of sufficient quality to merit publication in an archival journal.

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Departments and Programs

Microbiology and Molecular Genetics Departme

Microbiology and Molecular Genetics Department Courses Colleges: College of Agriculture and Life Sciences, Graduate College Academic Offerings Faculty: Microbiology and Molecular Genetics Colleges & Schools Courses: Microbiology and Molecular Genetics (MMG) Faculty **Contact Information:** Policies & General University of Vermont Information Microbiology and Molecular Genetics Department 201 Stafford Hall Catalogue Archives Burlington, VT 05405 Phone: (802) 656-2164

Phone: (802) 656-2164 Fax: (802) 656-8749 Email: <u>@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/microbiology/</u> €

Affiliated Programs:

<u>Accelerated B.S./M.S. Program</u>

Graduate Degrees and Majors

- Graduate Programs
 - Microbiology and Molecular Genetics (M.S.*, Ph.D.)

* MMG normally accepts only applicants for the Ph.D. program. However, UVM undergraduate students may apply for the Accelerated Master's Program. Other students who wish to apply to the M.S. program should contact the individual faculty member with whom they wish to study.

Overview

Undergraduates who undertake studies in the Department of Microbiology and Molecular Genetics receive instruction in the classroom and in state-of-the-art teaching and research laboratories. The Department offers either a Microbiology or a Molecular Genetics major or minor as well as courses in the areas of molecular genetics, general, clinical, and environmental microbiology, virology, and immunology which are available to students in other programs. Numerous research opportunities provide undergraduates with close interactions with faculty at the cutting edge of microbiology using molecular genetics technology.

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Accelerated Master's Program in Microbiology and Molecular Genetics (B.S./M.S.)

College: <u>GraduateCollege</u> Department: <u>Microbiology and Molecular Genetics</u>

Overview

Outstanding students with an interest in the graduate degree may apply to enter the Accelerated Masters Program of the Department. In this program students commence study for their master's degree in their senior year and have the potential to obtain a B.S./M.S. in a five-year period.

Microbiology and Molecular Genetics normally accepts only applicants for the Ph. D. program. However, UVM undergraduate students may apply for the Accelerated Master's Program.

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Microbiology and Molecular Genetics (M.S.)

College: <u>Graduate College</u>, <u>Medicine</u> Department: <u>Microbiology and Molecular Genetics</u>

Overview

Research activities include: Mutagenic mechanisms in human populations; the enzymology and regulation of cellular DNA replication and repair; molecular mechanisms of genetic recombination; structural biology of proteins and nucleic acids; cellcycle control of transcription and DNA replication in eukaryotes; regulationand enzymology of RNA polymerase II transcription; enzymology and atomic structureof mammalian cell mRNA processing factors; molecular basis of tRNA recognition; ribozyme structure and enzymology; signaling networks that regulate morphogenesisin yeast; isolation and regulation of mating type genes in Schizophyllum; plantgrowth and development; molecular mechanisms of bacterial adhesion and pathogenesis; molecular and cellular mechanisms of host-pathogen interactions; and bacterialtransformations of organic pollutants.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Master of Science Degree

MMG normally accepts only applicants for the Ph.D. program. However, UVM undergraduate students may apply for the Accelerated Master's Program. Other students who wish to apply to the M.S. program should contact the individual faculty member with whom they wish to study. One year of biological science; one year physics (equivalent of Physics 11 and 12); one year of inorganic chemistry and one year of organic chemistry (equivalent of Chemistry 1, 2, 141 and 142), mathematics through calculus (equivalent of Math 19 and 20); additional courses required by the Department depending on the aims of the student. A student may be admitted pending satisfactory completion of one or two

of the above courses during the first semester(s) of graduate study. Satisfactory scores on the general aptitude portion of the Graduate Record Examination. Subject GRE tests are recommended but not mandatory.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Applicants may be accepted concurrent with admission, or candidacy may be deferred pending a period of satisfactory graduate study at The University of Vermont. Acceptance to candidacy is granted only to those students who have met all undergraduate course prerequisites.

Minimum Degree Requirements for the Degree of Master ofScience

Thirty total credits to include six credit hours of Thesis Research (MMG391) and 24 course credits, including the Microbiology and Molecular Geneticscore curriculum (six course credits each in Biochemistry, Genetics, and Microbiology); at least two credits in current Topics in Molecular Genetics (MMG 310); other approved courses such that at least 16 course credits are taken from courses affered by the Department of Microbiology and Molecular Genetics; qualifying and Molecular Completion of dissertation.

Combined Medical College and Graduate College Degree Programs

Qualified students, following acceptance into the medical college, may simultaneously enroll in the Graduate College for a Master of Science or Ph.D. degree programin Microbiology and Molecular Genetics. The program would be developed with concurrence of the Dean for Student Affairs in the College of Medicine.

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Microbiology and Molecular Genetics (Ph.D.)

College: <u>Graduate College</u>, <u>Medicine</u> Department: <u>Microbiology and Molecular Genetics</u>

Overview

Research activities include: Mutagenic mechanisms in human populations; the enzymology and regulation of cellular DNA replication and repair; molecular mechanisms of genetic recombination; structural biology of proteins and nucleic acids; cellcycle control of transcription and DNA replication in eukaryotes; regulationand enzymology of RNA polymerase II transcription; enzymology and atomic structureof mammalian cell mRNA processing factors; molecular basis of tRNA recognition; ribozyme structure and enzymology; signaling networks that regulate morphogenesisin yeast; isolation and regulation of mating type genes in Schizophyllum; plant@rowth and development; molecular mechanisms of bacterial adhesion and pathogenesis; molecular and cellular mechanisms of host-pathogen interactions; and bacterialtransformations of organic pollutants.

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for the Either the Master of Science or the Doctor of Philosophy Degree

MMG normally accepts only applicants for the Ph.D. program. However, UVM undergraduate students may apply for the Accelerated Master & Program. Other students who wish to apply to the M.S. program should contact the individual faculty member with whom they wish to study. One year of biological science; one year physics (equivalent of Physics 11 and 12); one year of inorganic chemistry and one year of organic chemistry (equivalent of Chemistry 1, 2, 141 and 142), mathematics through calculus (equivalent of Math 19 and 20); additional courses required by the Department depending on the aims of the student. A student may be admitted pending satisfactory

completion of one or two of the above courses during the first semester(s) of graduate study. Satisfactory scores on the general aptitude portion of the Graduate Record Examination. Subject GRE tests are recommended but not mandatory.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

Completion of one full year of graduate study at The University of Vermont, satisfactory performance on teaching assignments, successful completion of the Department core curriculum and qualifying exam, and approval of the student is thesis advisor and Studies Committee, the Faculty of the Department of Microbiology and Molecular Genetics, and the Dean of the Graduate College.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

Seventy-five total credits to include at least 30 credit hours of Dissertation Research (MMG 491) and at least 30 course credits, including the Microbiology and Molecular Genetics core curriculum (six course credits each in Biochemistry, Genetics, and Microbiology); at least four credits in Current Topics in Molecular Genetics (MMG 310); other approved courses such that at least 20 course credits are taken from courses offered by the Department of Microbiology and Molecular Genetics; teaching assignments as arranged by Department; proficiency in computer applications; qualifying exam; successful completion of dissertation.

Combined Medical College and Graduate College Degree Programs

Qualified students, following acceptance into the medical college, may simultaneously enroll in the Graduate College for a Master of Science or Ph.D. degree program in Microbiology and Molecular Genetics. The program would be developed with concurrence of the Dean for Student Affairs in the College of Medicine.

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Natural Resources Program

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Colleges: School of Natural Resources, Graduate College

Faculty: Natural Resources

Courses:Natural Resources (NR)

Contact Information:

University of Vermont Natural Resources Department George D. Aiken Center 81 Carrigan Drive Burlington, VT 05405

Phone: (802) 656-4280 FAX: (802) 656-8683 E-mail: mcaldwel@zoo.uvm.edu Web Site: http://snr.uvm.edu/academics/natural_res.html <a>>

Graduate Degrees and Majors

- Graduate Majors
 - Natural Resource Planning (<u>M.S.</u>)
 - Water Resources (M.S.)
 - M.S. Concentrations
 - Conservation Biology
 - Ecological Planning
 - Ecosystems Ecology & Management
 - Human Dimensions and the Environment
 - Pollution Ecology
 - Spatial Analysis and Ecosystem Modeling

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Natural Resources Planning (M.S.)

College: <u>GraduateCollege</u> Department: <u>NaturalResources</u>

Overview

This interdisciplinary program prepares students for professional careers with public agencies and private organizations engaged in various aspects of environmental and natural resource planning and management. It provides theoretical and practical course work and experiences for those seeking to be environmentally-sensitive, resource-based planners and managers (town planners, regional planners, environmental regulation officials) as well as those seeking a broad natural resource education in such areas as: ecology and applied ecology; environmental law, policy, and administration; environmental economics; environmental education and interpretation; recreation management and tourism; management information systems (especiallyGIS), environmental studies, resource conservation, and sustainable development. Integrated resource management involving interdisciplinary problem-solving teams is stressed in most courses.

Efforts of faculty in the School of Natural Resources with the above specialtiesāre augmented by those of colleagues in related fields at UVM, including theEield Naturalist, Public Administration, and Historic Preservation programs and the Center for Rural Studies. The academic program is further enriched by visitingfāculty made up of leading Vermont planners and resource managers.

The program focuses on several concepts: seeking synergism between ecological concerns and economic health, considering the capacity of the land to supportappropriate development (designing with nature as opposed to stressing technologicalsolutions for transforming nature to meet human needs), understanding the "senseof place," understanding human institutions and behavior, and technicalimplementation (with emphasis on Geographic Information Systems).

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

Undergraduate degree in an appropriate field in the sciences, social services, or humanities/fine arts; satisfactory scores on the GraduateRecord Examination, general (aptitude) section; and three letters of recommendationattesting to the candidate's academic potential for graduate work and motivationfor pursuing this degree. Most successful applicants to this highly competitiveprogram have had past experience in an environmental or natural resource-relatedjob, internship, volunteer work, or international travel.

Minimum Degree Requirements

The Natural Resource Planning program offers two options.

Plan A (Thesis Option): Requires at least 24 credithours of course work in related fields (including five hours of core coursesand NR 378), a comprehensive examination, six hours of thesis research, and anoral defense of the thesis.

Plan B (Project Option): Requires at least 24 credithours of course work in related fields (including five hours of core courses, NR 378, and three distributive courses), a comprehensive examination, six credithours of project research, and an oral defense of the project.

Irrespective of the plan chosen, students in the NaturalResource Planning Program usually are in residence for two years.

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Water Resources (M.S.)

College: Graduate College Department: Natural Resources

Overview

The Master of Science in Water Resources is designed to provide students withan advanced understanding of water quantity and quality in the natural environmentand with the skills and methodologies to analyze and solve technical problemsconcerning the effects of human activities on water quality and quantity. Currentareas of research emphasis include ecotoxicology; integrating dynamic and spatialmodels; nonpoint source pollution; stream and lake ecology; systems approachesto water resource modeling; water quality modeling; and watershed processes.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

Undergraduate degree in an appropriate discipline and satisfactoryscores on the Graduate Record Examination, general (aptitude) section.

Minimum Degree Requirements for the Degree of Master ofScience

The Water Resources degree requires 15 to 24 credit hoursof course work in water resources and related fields, including NR 378; a comprehensiveexamination, six to 15 credits of thesis research, and an oral thesis defense.

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Nursing Department

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Colleges: Nursing and Health Sciences, Graduate College

Faculty: Nursing

Courses: Graduate Nursing (GRNU)

Contact Information:

University of Vermont Nursing Department 216 Rowell Building 106 Carrigan Drive University of Vermont Burlington, VT 05405

Phone: (802) 656-3830 Fax: (802) 656-8306 Email: <u>nursing@zoo.uvm.edu</u> Web Site: <u>http://nursing.uvm.edu</u>/ €

Graduate Degrees and Majors

- Graduate Majors
 - <u>Nursing (M.S.)</u>

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Nursing (M.S.)

College: <u>GraduateCollege</u> Department: <u>Nursing</u>

Overview

The Master of Science in nursing prepares professional nurses to assume leadership roles within the discipline of nursing in a variety of settings, to expand knowledgeof nursing, develop expertise in a specialized area of nursing and acquire thefoundation for doctoral study and continued professional development.

The tracks/majors offered are: Adult Health Nursing, Advanced Population Focused Nursing (Community Health Nursing) and Primary Health Care Nursing. Upon completion of the Adult or Advanced Population Focused Nursing tracks/majors, graduatesare eligible to take the ANCC certification examination for Adult or Community Health Clinical Nurse Specialist. Upon completion of the Primary Health Care Nursing track/major, graduates are eligible to take the ANCC or AANP certification examination for Adult or Family Nurse Practitioner.

Current research interests of the faculty include: rural health issues, women'shealth issues, determinants of healthy aging, health promotion, caring, feministtheory, end of life decision making, ethical decision making, advanced practiceframework, determinants of leadership, alcohol and drug use within a communityhealth context, patient classification, program evaluation, suicide, women'smental health, psychosocial concerns of consumers and health care providers, multidimensional healing, therapeutic touch, diabetes, cancer, and client self-teachingtools.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of

Science

A bachelor's degree with a major in nursing, preferably with a grade point average of 3.00 or better including a basic course in statistics. Eligible for licensure as a registered nurse in Vermont. Satisfactory scores on the Graduate Record Exam. Three letters of recommendation from persons who can assess your potential for graduate work. RN's with a bachelor's degree in another field may be admitted upon successful completion of the Bridge Process (a means to assess prior nursing knowledge). Current UVM nursing undergraduates may be eligible to apply for the Accelerated Master's Program.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Under most circumstances, meeting the requirements for admission as stated above will allow advancement to candidacy. Students who appear to be marginal in meeting admission requirements may be required to satisfactorily complete certain courses before acceptance as a degree candidate.

Minimum Degree Requirements for the Degree of Master ofScience

Credit hour requirements vary depending on track and include thesis (6 credits) or project (3 credits) and successful completion of written comprehensive exam.

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Nutrition and Food Sciences Department

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Colleges: College of Agriculture and Life Sciences, Graduate College

Faculty: Nutrition and Food Sciences

Courses: Nutrition and Food Sciences (NFS)

Contact Information:

University of Vermont Nutrition and Food Sciences Department 305 Terrill Hall 570 Main St Burlington, VT 05405-0148

Phone: (802) 656-3374 Fax: (802) 656-0407 Email: rtyzbir@zoo.uvm.edu Web Site: http://nutrition.uvm.edu/ 1

Graduate Degrees and Majors

- Graduate Degrees
 - Family and Consumer Sciences (M.A.T.)
 - Nutrition and Food Sciences (M.S.)

Overview

The Department of Nutrition and Food Sciences (NFS) prepares students to enter the rapidly expanding field of dietetics, food science, nutition, health, and fitness. Nutrition and Food Science, unique in fields of study, are rooted in the physiological, chemical, and biochemical sciences but are comprehensive in scope since they integrate knowledge learned in the social and psychological sciences. The faculty in the department believe that excellence in teaching, research and undergraduate student advisement are critical components of their responsibility to undergraduate education. Through formal course work, field experience, and independent research, students prepare themselves in the biochemical, psychological, and socioeconomic aspects diet, nutrition and foods. Thus NFS majors are able to meet the current and future needs in nutrition and food science and assume innovative, leadership roles in society and industry.

The course credits earned in NFS provide background in preventive and therapeutic nutrition as well as nutrient requirements for human growth, development, health, and fitness throughout the life cycle. Other courses focus on the physical, chemical, and nutritional properties of food, food safety, and consumer aspects of food related to socioeconomic status, life style, cultural beliefs, and health. Although a series of courses providing knowledge in these areas is required of all majors, each student has a generous amount of free elective credits to pursue personal interests.

It is possilbe for students to meet the requirements for more than one program option (for example, Dietetics majors are also double majors in Nutrition and Food Sciences) or combine a major in this department with another areas of study (e.g. Atheletic Training). In addition, department majors may elect to meet the undergraduate requirements needed for admission to medical schools (including naturopathic, chiropractic, or osteopathic) or graduate school in nutrition, food science, sports nutrition, or family and consumer sciences.

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Family and Consumer Science (M.A.T.)

College: <u>GraduateCollege</u> Department: <u>Nutritionand Food Sciences</u>

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A Master of Arts in Teaching degree program is offered in Family and Consumer Sciences. This degree enhances an in-service teacher's content expertise or leadsto initial licensure. With appropriate elective courses this degree can provideendorsements for teaching Science and Health in addition to licensure for Familyand Consumer Sciences. For more information, contact Professor Valerie Chamberlain, Department of Nutrition and Food Sciences, 106 Terrill Hall, (802) 656-0035 or (802) 656-3374.

General Requirements

• Graduate (Master's)

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Nutrition and Food Sciences (M.S.)

College: <u>Graduate College</u> Department: <u>Nutritionand Food Sciences</u>

Overview

The department mission is to study the relationship between nutrition, food science, health and fitness (preventive nutrition) and between diet and disease (therapeutic nutrition). Faculty research encompasses both basic and applied or community aspects of human nutrition and food science and technology. Research is being conducted on: the impact of attitudes and behaviors toward eating and exercise on body size, shape and composition, the elucidation of arrhythmogenicity of long-chain acyl-carnitines in humans, factors effecting energy intake and expenditure in aging, developing web-based interactive multimedia tools for use in teaching and research, inter-generational nutrition program development, developing behavior modification programs to improve individual eating behaviors and the nutritional status, health, and fitness of communities, testing the effectiveness of Internet support on the long term management of obesity, factors effecting the nutritional status of children, milk chemistry and cheese technology (i.e., structure, function, and properties of mozzarella and goat's milk cheese), chemistry and processing of infant formula, food microbiology, food material science, mathematical modeling of biological processes important to foods and cheese rheology.

For more information, contact Professor Robert S. Tyzbir, Chair of the Departmentof Nutrition and Food Sciences, 315 Terrill Hall, (802) 656-3374 or e-mail rtyzbir@zoo.uvm.edu.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

An undergraduate major in nutrition, dietetics, food science, or a science-related field. Satisfactory scores on the Graduate Record Examination, general (aptitude) portion.

Minimum Degree Requirements for the Degree of Master ofScience

Thirty hours including six to fifteen hours of thesis research. Twenty-one hours should be earned in the field of specialization; nine hours may be selected from related areas; courses is statistics, Research Methods in Nutrition and Food Sciences, and Nutrition and Food Sciences Seminar are required.

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Pathology Department

Colleges: Graduate College

Faculty: Pathology

Courses: Pathology (PATH)

Contact Information:

University of Vermont Pathology Department A249 Medical Alumni Building 89 Beaumont Ave. Burlington, VT 05405-0134

Phone: (802) 847-3059 Fax: (802) 656-8892 Email: <u>susan.kent@vtmednet.org</u> Web Site: http://www.fahc.org/pathology/ **3**

Graduate Degrees and Majors

- Graduate Majors
 - Pathology (M.S.)

Overview

Research interests are in the fields of anatomic, clinical, and experimentalmolecular pathology. Current studies include histochemistry, connective tissue pathology and biochemistry, thrombosis, cardiovascular disease, electron microscopy, neoplasia, teratology, immunopathology, virology, and lung diseases.

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Pathology (M.S.)

College: <u>GraduateCollege</u> Department: <u>Pathology</u>

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

Satisfactory undergraduate or graduate course work in chemistryand the biological sciences. Microbiology and immunology are also recommendedbut not required. Satisfactory scores on the Graduate Record Examination, general(aptitude) section. Persons interested in a Ph.D. program may wish to considerthe interdisciplinary program in Cell and Molecular Biology in which Pathologyparticipates.

Minimum Degree Requirements for the Degree of Master ofScience

Anatomy 311 (three hours), Pathology 305 (three hours), Biochemistry 301-302(six hours); additional approved courses; thesis research (six to 15 hours).

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Pharmacology Department

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Colleges: Graduate College

Faculty: Pharmacology

Courses: Pharmacology (PHRM)

Contact Information:

University of Vermont Pharmacology Department B303 Given Building 89 Beaumont Ave University of Vermont Burlington, VT 05405-0068

Phone: (802) 656-2500 Fax: (802) 656-4523 Email: asalisbu@zoo.uvm.edu Web Site: http://pharmweb.med.uvm.edu 🕄

Graduate Degrees and Majors

- Graduate Majors
 - Pharmacology (M.S.)
 - Pharmacology (Ph.D.)

Overview

This degree program involves development of a broadly based background inbiomedical science followed by intensive laboratory research in the chosen areaof specialization. Primary research interests of the faculty include: CardiovascularPharmacology (ionic basis of vascular smooth muscle function, neurovascular communication, gene

transcription and smooth muscle cell proliferation), Signal Transduction(protein nuclear transport, signaling by protein kinases), and Pharmacokineticsof anti-AIDS and anti-cancer drugs (chemical determinants of therapeutic activity, natural products as anti-cancer agents).

A pre- and postdoctoral training program in clinical pharmacology of anticancerdrugs is offered in cooperation with the Vermont Cancer Center.

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Pharmacology (M.S.)

College: <u>Graduate College</u> Department: <u>Pharmacology</u>

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegrees of Master of Science

Year courses in biology, organic chemistry, physics, analytic geometry and calculus; physical chemistry and/or a reading knowledge of one foreignlanguage may be additional prerequisites, depending on the requirements of the esearch supervisor; and acceptable scores on the general (verbal, quantitative) section of the Graduate Record Examination.

Minimum Requirements for the Master of Science Degree

Pharmacology 301, 302, 303, 381, 391; supporting courses in biochemistry and physiology.

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Pharmacology (Ph.D.)

College: <u>Graduate College</u> Department: <u>Pharmacology</u>

General Requirements

• Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegrees of Doctor of Philosophy

Year courses in biology, organic chemistry, physics, analytic geometry and calculus; physical chemistry and/or a reading knowledge of one foreign languagemay be additional prerequisites, depending on the requirements of the research supervisor; and acceptable scores on the general (verbal, quantitative) section of the Graduate Record Examination.

Minimum Requirements for the Doctor of Philosophy Degree

Physiology and Biophysics 301; Biochemistry 301, 302; Pharmacology301, 302, 303, 328, 381, 491; Biometrics and Applied Statistics 308.

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Courses	Physical Therapy Department	
Academic Offerings	Colleges: Graduate College	
Colleges & Schools	Faculty: Physical Therapy	
Faculty	Courses: Physical Therapy (PT), Movement Sciences and Rehabilitation (MVSR)	
Policies & General Information	Contact Information: University of Vermont Physical Therapy Department	
Catalogue Archives	305 Rowell Building 106 Carrigan Drive	
	University of Vermont Burlington, VT 05405	

Phone: (802) 656-3252 Fax: (802) 656-2191 Email: <u>kcote@cosmos.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~sahs/pt.html</u> �

Graduate Degrees and Majors,

- Graduate Majors
 - Physical Therapy (M.P.T.)
 - Movement Sciences and Rehabilitation (M.S.)

Overview

The Department of Physical Therapy offers two master's degree programs: the Master of Physical Therapy (MPT), the professional entry-level program; and the Master of Science in Movement Sciences and Rehabilitation, the post-professional program for physical and occupational therapists and other rehabilitation specialists.

The Department of Physical Therapy offers a three-year graduate program, leading to the Master of Physical Therapy (MPT) degree. For high school or undergraduate students contemplating a career in physical therapy, prior to entry, a minimum of three to four years of undergraduate study is required.

Combined Curriculum Option: For students who meet the criteria, we offer a guaranteed admission program to the Master of Physical Therapy program. Through this program, entering first-year undergraduates are guaranteed a space in the MPT program at the end of three years at UVM. High school students who wish to pursue physical therapy at UVM may begin their college career by selecting from the following undergraduate majors: all 42 majors in the College of Arts and Sciences; and either of two majors, Nutrition and Food Sciences or Biological Science, in the College of Agriculture and Life Sciences. Those students who opt to complete the requirements for their undergraduate major in three years may apply to the MPT program during their third year. If admitted to the MPT program, students will begin their first year of graduate study, students will be awarded the baccalaureate degree in their undergraduate major. Thereafter, following successful completion of their second and third years of graduate study, students will be awarded the Master of Physical Therapy. For students who choose this option, the total length of study is six years.

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Physical Therapy (M.P.T.)

College: <u>GraduateCollege</u> Department: <u>PhysicalTherapy</u>

Overview

The MPT professional entry-level program contains course work related to thescience and art of physical therapy practice including the basic sciences of anatomy, physiology and neuroscience, the clinical sciences of pathophysiology and pharmacology related to sensorimotor function, and the applied sciences of exercise, physical agents, orthotics and environmental modification. Principles of research, education, administration, and ethical practice in multicultural settings will be addressed throughout this curriculum.

Students will acquire necessary knowledge, skills, and behaviors through case studies and practice which integrate basic and clinical sciences, professional practice and critical inquiry in a progression from the foundational sciences and clinical care issues, to an integration of health care practice, research and policy issues.

The full-time Clinical Education Program (PT 232, 333, 334, 335, 336) is an integral part of the curriculum, offering the student opportunities to apply knowledge, skills and behaviors in the clinical setting. The program is widely affiliated throughout the U.S., but focused in the Northeast. Students affiliating will be responsible for the cost of medically required vaccinations, transportation and living expenses (including room and board) during the full-time clinical experiences. The first two full-time experiences, one for two weeks, and the second for four weeks, will be completed at the same clinical site. These will be located within a commutable distance from Burlington. The last three full-time experiences each will be eight weeks in length. All students in the program are required to carry professional liability insurance prior to enrolling in the clinical education experience. Students should plan their finances to include these expenses. The affiliations will be scheduled as indicated in the curriculum plan unless insufficient clinical sites are available; in that case, students may be required to complete clinical affiliation requirements in an alternate time period. Upon completion of the program, graduates will be eligible to sit for the national professional licensure examination.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Physical Therapy

There are two routes of entry into the MPT program. First, students who haveentered The University of Vermont in one of the following majors may apply duringtheir junior year to enter the MPT program in their senior year: all majors inthe College of Arts and Sciences; Nutrition and Food Sciences or Biological Sciencesin the College of Agriculture and Life Sciences. Students will be advised byfaculty in their undergraduate major as well as in Physical Therapy so that theycan complete the requirements for that major in three years. If admitted to PhysicalTherapy in their senior year, they will be awarded the baccalaureate degree intheir undergraduate major after the successful completion of their first yearof study in Physical Therapy. Thus, the total length of study for these students will be 6 years. The MPT program will also be open to applicants who have alreadycompleted baccalaureate, masters or doctoral degrees in other disciplines. Theircourse of study will be three academic years.

Prerequisites to the MPT Program for the Degree of Masterof Physical Therapy

Students must have completed 2 semesters of college chemistry, with laboratory, including introduction to organic chemistry; 2 semesters of college physics, with laboratory; and 1 semester of college math at least at the pre-calculus evel, calculus preferred, or statistics.

Admissions Requirements for the Degree of Master of Physical Therapy

Minimum GPA of 2.67 in college level courses. Competence in conveying ideas in an organized manner, critical thinking and logic, and writing as demonstrated in a writing sample. Excellent interpersonal and communication skills as evidenced by life and community experience. Commitment to the profession of physical therapy, as assessed by volunteer or work experience in PT settings. Three letters of reference, at least one each from professional and educational sources. Official transcript, completion of application form, completion of health form. For students who will have completed a minimum of a baccalaureate degree prior to enrolling in the MPT program, submission of scores of the Graduate Record Examination. A minimum score of 1500 on the aptitude portion is expected.

Minimum Degree Requirements for the Degree of Master of Physical Therapy

Satisfactory completion of 85 credits of graduate courses in physical therapy, including 5 credits in Anatomy, 5 credits in Neuroscience, 6 credits in Physiology, and 21 credits of full-time Clinical Education.

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Movement Sciences and Rehabilitation (M.S.)

College: <u>GraduateCollege</u> Department: <u>PhysicalTherapy</u>

Overview

The Master of Science Degree Program is designed for graduate physical and occupational therapists or other rehabilitation specialists who desire to expandand enhance their scientific knowledge and professional skills in a scholarlyenvironment in preparation for practicing as an advanced clinician. The advancedclinician is a practitioner with in-depth knowledge who can act as a mentor, coach, advocate, and resource for providers and consumers by demonstrating competentadvanced clinical judgment and skill, as well as competent teaching skill, andby promoting research as a critical reader and contributor. The core of the programfocuses on the scientific basis of normal and abnormal movement. It is accompaniedby courses within a professional practice sequence, as well as a research sequencewhich will culminate in the completion of a thesis. The program is designed to accommodate practicing clinicians who wish to pursue part-time or full-time graduatestudies.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Graduate of an accredited entry level educational program in physical or occupational therapy or, other rehabilitation specialties, with a minimum GPA of 2.67 (B-) desired. Submission of scores of the Graduate Record Examination. A minimum score of 1500 on the aptitude portion is expected. Three letters of reference, at least one each from professional and educational sources. Official transcript, completion of application form, completion of health form. At least two years of clinical practice as a physical or

occupational therapist or other rehabilitation specialist. Current knowledge of statistics, neuroscience, and biomechanics which may be demonstrated by prerequisite courses within the last five years or satisfactory performance on equivalency tests in each of these areas. (Appropriate courses on campus, or self-study guides will be recommended for anyone who does not initially meet these standards.) A personal interview during which clearly defined educational goals and objectives for graduate study are discussed as they are reflected in the application and supportive documentation. These goals will be discussed in relationship to departmental resources and goals to determine whether personal and departmental objectives are congruent and compatible.

Minimum Degree Requirements

Completion of 36 credits of graduate courses in movement sciences and rehabilitation, including six credits of thesis research and six credits of approved electives.Completion of a practicum in one of the following areas: teaching, clinical specialty, management, and consultation. Completion of a comprehensive written exam is required prior to the initiation of the masters thesis research. In addition to the exam, the student must defend the research proposal in an oral presentation.

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Departments and Programs

Catalogue 2002-03 **Physics Department** Courses Colleges: Arts and Sciences, Graduate College Academic Offerings Faculty: Physics Colleges & Schools Courses: Physics (PHYS) Faculty **Contact Information:** Policies & General University of Vermont Information **Physics Department** Cook Physical Science Building, Room A405 Catalogue Archives 82 Univeristy Place Burlington VT 05405-0125 Phone: (802) 656-2644 Fax: (802) 656-0817 Email: physics@zoo.uvm.edu

Affiliated Programs:

<u>Accelerated B.S./M.S. Program</u>

Web Site: http://www.uvm.edu/~physics/ 1

Graduate Degrees and Majors

- Graduate Programs
 - Physics (<u>M.A.T.</u>, <u>M.S.</u>, <u>M.S.T.</u>)

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Accelerated Master's Program in Physics (B.S./M.S.)

College: <u>Graduate College</u> Department: <u>Physics</u>

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Students must apply for the Accelerated Master's Program (AMP) during spring semester of their junior years. Students interested in the AMP can request information in writing from the Department. Recommendation for admission will be based upon the student's prior academic record with particular attention paid to performance in upper-division 200level physics courses. Generally, AMP students must begin a research project by or during the summer prior to their senior years.

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Physics (M.A.T.)

College: <u>Graduate College</u> Department: <u>Physics</u>

Overview

The Department of Physics offers research opportunities in astrophysics, biophysics, condensed matter physics, and the physics of materials.

Astrophysical research centers on experimental radio astronomy, with particularemphasis on pulsars and the interstellar medium. Observations are carried outusing major instruments of the U.S. National Observatories and generally involvecomputer analysis and interpretation.

Research in biophysical ultrasound is directed toward an understanding of thephysical principles involved when ultrasound interacts with living systems. Thisoften involves collaboration with the College of Medicine. Acoustical and opticaltweezers permit manipulating single cells without touching them. New forms of ultrasonic transducers and biosensors are being developed in collaboration with Electrical Engineering, as part of the Materials Science Program.

Biophysical research includes studies on the development and employment of novel uses of in situ atomic force microscopy for biological applications, specifically high-resolution structural studies of membrane proteins, investigation of the packing of genetic materials on bilayer membranes, and studies on how DNA-bilayer interactions affect the use of cationic lipids as gene-delivery means. Other studies to better understand the structure and assembly kinetics of biological membranes focus on the physical properties of lipid layers employing in situatomic force microscopy, fluorescence imaging, and differential scanning calorimetry.

Other research in biological physics and protein dynamics involves combiningthe detail of atomic-resolution X-ray crystallography with the sensitivity ofoptical and IR spectroscopy. We have access to a state-of-the-art protein crystallographydiffractometer and make regular trips to synchrotrons in the US and Europe. Computationalfacilities for structural biology include several SGIs and a 12-node Beowulfparallel-processor Linux cluster.

Research in theoretical condensed matter physics focuses on the dynamics ofquantum systems with application to electronic, magnetic, optical, structural, and thermal properties of nanomaterials including fullerene-derived solids (buckyballs) and carbon nanotubes. Basic research also includes the investigation of low energyscattering of atoms and molecules from surfaces and systems with many internaldegrees of freedom and the development of new methods for studying quantum many-bodysystems, such as new extensions of density functional theory to van der Waalssystems.

Theoretical studies of the optical properties of materials include the electronicstructure of defect complexes in ionic crystals, the application of subtracteddispersion relations to optical data analysis, and the separation of inter- andintra-band effects in the infrared spectra of metals. Related studies are concernedwith theories of X-ray scattering, of X-ray optical properties, and of X-rayoptical elements.

Research in materials physics includes studies of the kinetics of thin filmgrowth and surface processing, applied to materials with interesting and usefulphysical properties such as organic semiconductors and magnetic materials. Manyof the research projects involve real-time X-ray or electron diffraction structuralstudies of surface phenomena, combined with computer simulation of relevant surfaceprocesses. We have an ultra-high vacuum thin-film deposition laboratory dedicatedto these studies, and we make regular use of synchrotron X-ray facilities in the US.

Opportunities for collaborative research with other University departmentsand groups include those with Chemistry, the Materials Science Program, Molecular Physiology and Biophysics, the Cell and Molecular Biology Program, Computer Scienceand Electrical Engineering, Civil and Environmental Engineering, and MechanicalEngineering, Medical Radiology, and Geology.

The Department participates in two doctoral programs: Materials Science andCell and Molecular Biology.

General Requirements

• Graduate (Master's)

Specific Requirements

The Department also offers programs leading to the degrees of Master of Sciencein Engineering Physics, Master of Arts in Teaching, and Master of Science for Teachers of Physical Science. As a participant in the Materials Science program, the Department sponsors candidates for the degrees of Master of Science and Doctorof Philosophy in Materials Science. Details are available elsewhere in the catalogueand also from the Physics Department.

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Physics (M.S.)

College: Graduate College Department: Physics

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Overview

The Department of Physics offers research opportunities in astrophysics, biophysics, condensed matter physics, and the physics of materials.

Astrophysical research centers on experimental radio astronomy, with particular Emphasis on pulsars and the interstellar medium. Observations are carried outuising major instruments of the U.S. National Observatories and generally involvecomputer analysis and interpretation.

Research in biophysical ultrasound is directed toward an understanding of thephysical principles involved when ultrasound interacts with living systems. Thisoften involves collaboration with the College of Medicine. Acoustical and opticaltweezers permit manipulating single cells without touching them. New forms of ultrasonic transducers and biosensors are being developed in collaboration with Electrical Engineering, as part of the Materials Science Program.

Biophysical research includes studies on the development and employment of novel uses of in situ atomic force microscopy for biological applications, specifically high-resolution structural studies of membrane proteins, investigation of thepacking of genetic materials on bilayer membranes, and studies on how DNA-bilayerinteractions affect the use of cationic lipids as gene-delivery means. Otherstudies to better understand the structure and assembly kinetics of biologicalmembranes focus on the physical properties of lipid layers employing in situatomic force microscopy, fluorescence imaging, and differential scanning calorimetry.

Other research in biological physics and protein dynamics involves combiningthe detail of atomic-resolution X-ray crystallography with the sensitivity of optical and IR spectroscopy. We have access to a state-of-the-art protein crystallographydiffractometer and make regular trips to synchrotrons in the US and Europe. Computational facilities for structural biology include several SGIs and a 12-node Beowulfparallel-processor Linux cluster.

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Theoretical studies of the optical properties of materials include the electronicstructure of defect complexes in ionic crystals, the application of subtracted dispersion relations to optical data analysis, and the separation of inter- and intra-band effects in the infrared spectra of metals. Related studies are concerned with theories of X-ray scattering, of X-ray optical properties, and of X-ray optical elements.

Research in materials physics includes studies of the kinetics of thin filmgrowth and surface processing, applied to materials with interesting and usefulphysical properties such as organic semiconductors and magnetic materials. Manyof the research projects involve real-time X-ray or electron diffraction structuralstudies of surface phenomena, combined with computer simulation of relevant surfaceprocesses. We have an ultra-high vacuum thin-film deposition laboratory dedicatedto these studies, and we make regular use of synchrotron X-ray facilities in the US.

Opportunities for collaborative research with other University departmentsand groups include those with Chemistry, the Materials Science Program, Molecular Physiology and Biophysics, the Cell and Molecular Biology Program, Computer Scienceand Electrical Engineering, Civil and Environmental Engineering, and MechanicalEngineering, Medical Radiology, and Geology.

The Department participates in two doctoral programs: Materials Science andCell and Molecular Biology.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

Undergraduate majors in science, engineering, or mathematicsare considered for admission to the program. Satisfactory scores on the GraduateRecord Examination (general and subject section) are required.

Requirements for Advancement to Candidacy for the Degreeof Master of Science

Physics 211, 213, and 273; two additional semester courses in physics above the

sophomore level; two semester courses in mathematics abovethe sophomore level.

Minimum Degree Requirements for the Degree of Master ofScience

A total of 30 credit hours including a minimum of six hours of thesis research and at least nine hours of Physics courses numbered over 300.

The Department also offers programs leading to the degrees of Master of Sciencein Engineering Physics, Master of Arts in Teaching, and Master of Science for Teachers of Physical Science. As a participant in the Materials Science program, the Department sponsors candidates for the degrees of Master of Science and Doctorof Philosophy in Materials Science. Details are available elsewhere in the catalogueand also from the Physics Department.

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Physics (M.S.T.)

College: <u>Graduate College</u> Department: <u>Physics</u>

Overview

The Department of Physics offers research opportunities in astrophysics, biophysics, condensed matter physics, and the physics of materials.

Astrophysical research centers on experimental radio astronomy, with particular emphasis on pulsars and the interstellar medium. Observations are carried out using major instruments of the U.S. National Observatories and generally involve computer analysis and interpretation.

Research in biophysical ultrasound is directed toward an understanding of the physical principles involved when ultrasound interacts with living systems. This often involves collaboration with the College of Medicine. Acoustical and optical tweezers permit manipulating single cells without touching them. New forms of ultrasonic transducers and biosensors are being developed in collaboration with Electrical Engineering, as part of the Materials Science Program.

Biophysical research includes studies on the development and employment of novel uses of in situ atomic force microscopy for biological applications, specifically high-resolution structural studies of membrane proteins, investigation of the packing of genetic materials on bilayer membranes, and studies on how DNA-bilayer interactions affect the use of cationic lipids as gene-delivery means. Other studies to better understand the structure and assembly kinetics of biological membranes focus on the physical properties of lipid layers employing in situ atomic force microscopy, fluorescence imaging, and differential scanning calorimetry.

Other research in biological physics and protein dynamics involves combining the detail of atomic-resolution X-ray crystallography with the sensitivity of optical and IR spectroscopy. We have access to a state-of-the-art protein crystallography diffractometer and make regular trips to synchrotrons in the US and Europe. Computational facilities for structural biology include several SGIs and a 12-node Beowulf parallel-processor Linux

cluster.

Research in theoretical condensed matter physics focuses on the dynamics of quantum systems with application to electronic, magnetic, optical, structural, and thermal properties of nanomaterials including fullerene-derived solids (buckyballs) and carbon nanotubes. Basic research also includes the investigation of low energy scattering of atoms and molecules from surfaces and systems with many internal degrees of freedom and the development of new methods for studying quantum many-body systems, such as new extensions of density functional theory to van der Waals systems.

Theoretical studies of the optical properties of materials include the electronic structure of defect complexes in ionic crystals, the application of subtracted dispersion relations to optical data analysis, and the separation of inter- and intra-band effects in the infrared spectra of metals. Related studies are concerned with theories of X-ray scattering, of X-ray optical properties, and of X-ray optical elements.

Research in materials physics includes studies of the kinetics of thin film growth and surface processing, applied to materials with interesting and useful physical properties such as organic semiconductors and magnetic materials. Many of the research projects involve real-time X-ray or electron diffraction structural studies of surface phenomena, combined with computer simulation of relevant surface processes. We have an ultra-high vacuum thin-film deposition laboratory dedicated to these studies, and we make regular use of synchrotron X-ray facilities in the US.

Opportunities for collaborative research with other University departments and groups include those with Chemistry, the Materials Science Program, Molecular Physiology and Biophysics, the Cell and Molecular Biology Program, Computer Science and Electrical Engineering, Civil and Environmental Engineering, and Mechanical Engineering, Medical Radiology, and Geology.

The Department participates in two doctoral programs: Materials Science and Cell and Molecular Biology.

The Department also offers programs leading to the degrees of Master of Science in Engineering Physics, Master of Arts in Teaching, and Master of Science for Teachers of Physical Science. As a participant in the Materials Science program, the Department sponsors candidates for the degrees of Master of Science and Doctor of Philosophy in Materials Science. Details are available elsewhere in the catalogue and also from the Physics Department.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science for Teachers

An undergraduate major in an appropriate field. Satisfactory scores on the general (aptitude) Graduate Record Examination. Completion of at least one full year of teaching.

Requirements for Advancement to Candidacy for the Degree of Master of Science for Teachers

Successful completion of Physics 128, Chemistry 141 and 162, and Mathematics 121, or their equivalents. (These courses may have been taken at the undergraduate level, as part of this graduate program, or credit may be obtained by transfer or examination.)

Minimum Degree Requirements for the Degree of Master of Science for Teachers

The above prerequisites for admission to candidacy must be supplemented by: (1) completion of 30 hours of credit, of which at least 18 must be in Physical Sciences Option (A) or (B) as described below. The remaining 12 credits may be chosen, with the consent of the Joint Advisory Committee, from appropriate courses above 100 in science, engineering, mathematics, and education (credit in education courses is limited to six semester hours); (2) successful completion of a comprehensive examination administered by the Joint Advisory Committee.

Physical Sciences Option (A): Nine semester hours of Physics numbered 128 and above, Chemistry 131 and six semester hours of Chemistry chosen from Chemistry 161, 231, 201, 264, and 241. This option is primarily for teachers of chemistry.

Physical Sciences Option (B): nine semester hours of Chemistry numbered 141 and above and nine hours of Physics in courses numbered above 200. This option is primarily for teachers of physics.

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Plant and Soil Science Department

Colleges: College of Agriculture and Life Sciences, Graduate College

Faculty: Plant and Soil Science

Courses: Plant and Soil Science (PSS)

Contact Information:

University of Vermont Plant and Soil Science Department Hills Agricultural Building 105 Carrigan Drive Burlington, VT 05405-0082

Phone: (802) 656-2630 Fax: (802) 656-4656 Email: <u>pass@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~pss/</u>€

Graduate Degrees and Majors

- Graduate Programs
 - Plant and Soil Science (M.S., Ph.D.)

Overview

The Plant and Soil Science program allows students to expand their knowledge of science and apply it to plant production, landscape design, and to environmental issues related to plants and soils. The faculty represent the disciplines of agronomy, horticulture, entomology, plant pathology, and soil science. Our program procides a unique, interdisciplinary opportunity for studying plant/soil ecosystems that are managed for food, feed, or fiber production, for landscape purposes, or for recycling/waster utilization.

The program integrates classroom and field experiences and incorporates relevant environmental, social, and economic issues into the curriculum. Faculty help students develop individualized courses of study to match their interests and career goals. There are for areas of concentration with the Plant and Soil Science program, they are: Agroecology/Sustainable Agriculture, Landscape Design, Horticulture, and Environmental Soil Science.

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Plant and Soil Science (M.S.)

College: <u>Graduate College</u> Department: <u>Plantānd Soil Science</u>

Overview

Current research projects are concerned with the solution of horticulturalānd agronomic problems with special emphasis on environmental physiology, soilāhemistry, pasture management, plant nutrition, and pest management. Areas ofīesearch include winter hardiness of fruits, and woody and herbaceous ornamentals;āultural and environmental interrelationships as they affect plant growth, cropādaptation, and variety; pasture production and marginal land utilization; cropēstablishment and soil productivity; mycorrhizal fungi; soil chemistry of therātizosphere; redox reactions in soils; the behavior of heavy metals; compostānd organic matter research; behavior of nitrogen in the soil; nutrient availabilityto plants; agricultural waste management; biological control of insects, disease,ānd weeds; integrated pest management for control of insects, diseases, and weeds.A student's thesis research will be an integral part of the on-going researchēfforts of the department.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Science

An undergraduate major in an appropriate agricultural, environmental, biological, or physical science. Satisfactory scores on the Graduate Record Examination, general (aptitude) section.

Requirements for Advancement to Candidacy for the Degreeof Master of Science

Satisfactory completion of one academic year of graduate study in the Department of Plant and Soil Science, and a written or oral comprehensive examination. The decision on the type of comprehensive exam will be made by the major professor after consultation with the student.

Minimum Degree Requirements for the Degree of Master ofScience

Eighteen to 22 hours in Plant and Soil Science and closely related fields; satisfactory participation in seminars during residency; thesis research (six to 12 hours).

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Plant and Soil Science (Ph.D.)

Department: <u>Plant and Soil Science</u> College: <u>Graduate College</u>

Overview

Current research projects are concerned with the solution of horticulturaland agronomic problems with special emphasis on environmental physiology, soilchemistry, pasture management, plant nutrition, and pest management. Areas offesearch include winter hardiness of fruits, and woody and herbaceous ornamentals;cultural and environmental interrelationships as they affect plant growth, cropadaptation, and variety; pasture production and marginal land utilization; cropestablishment and soil productivity; mycorrhizal fungi; soil chemistry of therbizosphere; redox reactions in soils; the behavior of heavy metals; compostand organic matter research; behavior of nitrogen in the soil; nutrient availabilityto plants; agricultural waste management; biological control of insects, disease, and weeds. A student's thesis research will be an integral part of the on-going researchefforts of the department.

General Requirements

• Graduate (Ph.D.)

Specfic Requirements

Requirements for Admission to Graduate Studies for theDegree of Doctor of Philosophy

A Master of Science degree in an appropriate agricultural, environmental, biological, or physical science. Satisfactory scores on the Graduate Record Examination, general (aptitude) section.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

Satisfactory completion of two academic years of graduate study in the Department of Plant and Soil Science at The University of Vermont. With the approval of the Dean of the Graduate College and the Department of Plant and Soil Science, a master's degree may be accepted in partial fulfillment of this requirement.

Satisfactory completion of a written and oral qualifying doctoral examination as prescribed by the Department.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

The course requirements are as follows: a total of at least 40 credit hoursof which a minimum of 30 must be taken in Plant and Soil Science and closelyrelated disciplines (e.g. botany, chemistry, forestry, microbiology, and biochemistry, geology). Satisfactory participation in seminars during residency is required. All master and doctoral students must take part in the Department's undergraduatereaching program.

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Departments and Programs

Catalogue 2002-03	1 0
Courses	Psychology Department
Academic Offerings	Colleges: Arts and Sciences, Graduate College
	Faculty: <u>Psychology</u>
Colleges & Schools	Courses: Psychology (PSYC)
Faculty	
	Contact Information:
Policies & General	University of Vermont
Information	Psychology Department
	Dewey Hall
Catalogue Archives	2 Colchester Ave
	Burlington, VT 05405-0134
	Phone: (802) 656-2670
	Fax: (802) 656-8783

Graduate Degrees and Majors

Web Site: http://www.uvm.edu/~psych/ I

- Graduate Programs*
 - Psychology (<u>M.A.</u>, <u>Ph.D.</u>)

* Applicants must apply for the Ph.D. degree only. Students whose goal is a terminal master's degree are not accepted.

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Courses

Catalogue 2002-03

Psychology (M.A.)

College: GraduateCollege Department: <u>Psychology</u>

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Overview

Additional clinical, research, and adjunct faculty supervise students in clinicaland research placements.

The Ph.D. Program in General/Experimental psychology admits students in threebroad areas of concentration ("clusters"): Biobehavioral Psychology; Developmental/Social Psychology; and Behavioral Psychopharmacology.

The Ph.D. program in Clinical Psychology places equal emphasis on researchand clinical training. The clinical program is fully accredited by the American Psychological Association.

Further information about both programs can be obtained electronically, or by requesting a department graduate studies brochure from the Department of Psychology. Both contain details of requirements, funding opportunities, clinicaland research facilities, specialty areas, ongoing research, and faculty, as wellas general information about the University and the area.

Applicants must apply for the Ph.D. degree only. Students whose goal is a terminal master's degree are not accepted. The application deadline for admission is January 15.

General Requirements

Graduate (Master's)

Specific Requirements

Requirements for Advancement to Candidacy for the Degreeof Master of Arts

A major or its equivalent in undergraduate psychology including courses in statistics and

experimental psychology; satisfactory scores on theGraduate Record Examination, including the subject (advanced) subtest in Psychology.

Minimum Degree Requirements for the Degree of Master ofArts

Twenty-four hours of psychology courses and seminars, including Psychology301, 302, 340, 341; Proseminar; thesis research for six credits. The requirementsof the specific courses (301, 302, 340, 341) may be exempted by examination. There is no foreign language requirement.

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Psychology (Ph.D.)

College: GraduateCollege Department: Psychology

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Overview

Additional clinical, research, and adjunct faculty supervise students in clinicaland research placements.

The Ph.D. Program in General/Experimental psychology admits students in threebroad areas of concentration ("clusters"): Biobehavioral Psychology; Developmental/Social Psychology; and Behavioral Psychopharmacology.

The Ph.D. program in Clinical Psychology places equal emphasis on researchand clinical training. The clinical program is fully accredited by the American Psychological Association.

Further information about both programs S can be obtained electronically or by requesting a department graduate studies brochure from the Department of Psychology. Both contain details of requirements, funding opportunities, clinicaland research facilities, specialty areas, ongoing research, and faculty, as wellas general information about the University and the area.

Applicants must apply for the Ph.D. degree only. Students whose goal is a terminal master's degree are not accepted. The application deadline for admission is January 15.

General Requirements

Graduate (Ph.D.)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Doctor of **Philosophy**

A major or its equivalent in undergraduate psychology including courses in statistics and experimental psychology; satisfactory scores on the Graduate Record Examination, including the subject subtest in Psychology. A telephone interview is required of top applicants to the Clinical Program.

Requirements for Advancement to Candidacy for the Degreeof Doctor of Philosophy

For the General/Experimental Program, satisfactory completionof minimum degree requirements for Master of Arts degree or equivalent; for theClinical Program, satisfactory performance of the Ph.D. comprehensive examination.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

Both the General/Experimental and the Clinical Programrequire a minimum of 75 credit hours. However, each program requires proficiency in several specific areas. In order to achieve such proficiency, most students in the complete a total of 79 to 83 credit hours. A minimum of 20 credits must be accumulated in dissertation research and the remainder in course credits numbered in the 200 through 400 sequences of the psychology curriculum, or acceptable courses at the 200 or 300 level from other curricula. Detailed information on courses of study is available from the Department. Satisfactory performance on the department final oral examination. There is no foreign language requirement. Both programs have a required preliminary examination.

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Departments and Programs

Catalogue 2002-03		
Courses	Public Administration Department	
Academic Offerings	Colleges: GraduateCollege, Agriculture and Life Sciences	
Colleges & Schools	Faculty: Public Administration	
Faculty	Courses: Public Administration (PA)	
Policies & General Information	Contact Information: University of Vermont Public Administration Department	
Catalogue Archives 103 Morrill Hall 146 University Place University of Vermont Burlington, VT 05405-0106	103 Morrill Hall 146 University Place University of Vermont	
	Phone: (802) 656-1012 Fax: (802) 656-1423	

Email: <u>mpa@uvm.edu</u> Web Site: <u>http://www.uvm.edu/cdae/mpa/</u>

Affiliated Programs:

- Accelerated B.S./M.P.A. Program
- <u>Accelerated Public Forest Administration B.S./M.P.A. Program</u>
- <u>Community Development and Applied Economics</u>

Graduate Degrees and Majors,

- Graduate Majors
 - Public Administration (M.P.A.)

Overview

The Master of Public Administration program is a professional masters degreeprogram with perspectives from a variety of academic and professional disciplines. Our purpose is to further the student's ability to manage complex public and non-profit organizations and to work effectively in the public policy process. In addition to the core faculty, the program draws upon associated faculty from any departments and colleges across the university.

The MPA degree program is designed to:

- Provide promising public and nonprofit sector managers with a quality educational experience covering the theories and practices of program planning and control, and the problems of policy making in an environment characterized by resource constraints and rapid social change.
- 2. Stimulate and focus scholarly research on the problems and issues of public organizations in Vermont, nationally, and internationally.
- 3. Facilitate mutually beneficial interaction within the community of scholarsand practitioners of public administration.

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Accelerated Masters Program in Public Administration (MPA)

College: <u>GraduateCollege</u> Department: <u>PublicAdministration</u>

Overview

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The AMP-PA affords UVM students the opportunity to secure a sound undergraduate and graduate program of study in five rather than a minimum of six years, integratesmore closely both programs of study, and enhances competitiveness in a marketplacestressing broad undergraduate and focused professional graduate education. The AMP-PA welcomes students majoring in the administrative, behavioral, health, environmental, organizational, social sciences and related disciplines requiring graduate work in administration, or planning and policy capacities in the publicservice. For more information contact the MPA Office (802) 656-2606.

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Public Administration (M.P.A.)

College: Graduate College Department: Public Administration

General Requirements

• Graduate (M.S)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Public Administration

A sound academic record, including a baccalaureate degree from an accredited undergraduate institution, satisfactory scores on the general aptitude sectionof the Graduate Record Examination, three letters of recommendation attestingto the candidate ,s academic potential for graduate work and motivation forpursuing the MPA. Past experience in public service will be considered. Personscurrently employed in administrative positions are encouraged to apply. In addition, a student must have completed these prerequisite courses: Economics, AmericanGovernment and Statistics.

NOTE: The application deadlines for the MPA Program are February 1 and June 15 for summer/fall admission and November 15 for spring admission.

Requirements for Advancement to Candidacy for the Degreeof Master of Public Administration

Successful completion of 36 credit hours, including core courses PA 301, 302, 303, 305 and 306, and an approved sequence of elective courses which may include up to nine credits of coursework from approved disciplines related to public administration. Preservice students (those without substantial public administration experience) are required to complete an approved three-credit internship as part of their approved sequence of courses beyond the core courses.

Satisfactory completion of the written Comprehensive Examination, an evaluativedevice

and capstone experience, offered three times per year (March, August, and October) for students in their final semester of study in the UVM-MPA program.

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Departments and Programs

Courses	Romance Languages Department
Academic Offerings	Colleges: Arts and Sciences
Colleges & Schools	Faculty: <u>French</u>
Faculty	Courses: French (FREN)
- acouty	Contact Information:
Policies & General	University of Vermont
mormation	Romance Languages Department
Catalogue Archives	571 Waterman Building 85 South Prospect St
	Burlington, VT 05405-0160
	Phone: (802) 656-3196

Phone: (802) 656-3196 Fax: (802) 656-5773 Email: <u>jaboyer@zoo.uvm.edu</u> Web Site: <u>http://www.uvm.edu/~romlang/</u> €

Graduate Degrees and Majors

- Graduate Programs
 - French (<u>M.A.T.</u>, <u>M.A.</u>)

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French (M.A.T.)

College: GraduateCollege Department: RomanceLanguages

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Overview

Opportunities for thesis research in the literatures and cultures of France, Québec, and other regions of the Francophone world.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Arts in Teaching

An undergraduate major in French or equivalent. Satisfactoryscores on the general (aptitude) Graduate Record -Examinations.

Minimum Degree Requirements

Master of Arts in Teaching

If you are already a licensed teacher: Twenty-one credithours in French (including the Graduate Humanities Seminar) and a comprehensiveexamination, plus six credit hours in education courses.

If you do not presently have licensure: Twenty-one credithours in French (including a 3credit interdisciplinary Graduate Humanities Seminar) and a comprehensive examination. In addition, thirty hours of professional education course work, including a year's internship in a Professional Development School, production of a Licensure Portfolio, and Teacher Licensure.

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French (M.A.)

College: GraduateCollege

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Department: RomanceLanguages

Overview

Opportunities for thesis research in the literatures and cultures of France, Québec, and other regions of the Francophone world.

General Requirements

Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Arts

An undergraduate major in French or equivalent. Satisfactoryscores on the general (aptitude) Graduate Record -Examinations.

Minimum Degree Requirements

Master of Arts

Twenty-four credit hours of course work, including the Graduate Humanities Seminar and EDSC 259 (Teaching Foreign Language in the Schools). In addition, six hours of directed research, with the following options:

Plan A: Thesis research (six hours)

Plan B: Two research papers (six hours)

Candidates must pass an examination in four areas of theirstudy.

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Departments and Programs

Catalogue 2002-03	
Courses	Social Work Department
Academic Offerings	Colleges: Educationand Social Services, GraduateCollege
	Faculty: Social Work
Colleges & Schools	Courses: SociaWork (SWSS)
Faculty	Contact Information:
Policies & General	University of Vermont
Information	Social Work Department 85 So. Prospect Street
Catalogue Archives	443 Waterman
	University of Vermont
	Burlington, VT 05405
	Phone: (802) 656-8565
	Fax: (802) 656-8704
	Email:
	Web Site: http://www.uvm.edu/~socwork/

Graduate Degrees and Majors

- Graduate Major
 - Social Work (<u>M.S.W.</u>)

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Social Work (M.S.W.)

College: <u>Graduate College</u> Department: <u>Social Work</u>

Overview

The Master of Social Work Program prepares students for advanced practice which affirms diversity, reflects people's strengths and promotes social justice and human rights. The program emphasizes community and family-centered practice in a variety of professional roles and settings. An advanced standing option is available for qualified students who have earned a bachelor's degree from an accredited social work program. The Master of Social Work Program is fully accredited by the Council on Social Work Education.

Please request an M.S.W. Program Bulletin from the Department for more details and/or review our homepage . The first year curriculum has five components: human behavior and the social environment, social welfare policy and services, social work research, social work practice, and field practicum. The second year curriculum is built around either of two concentration areas: Social Work in Health/Mental Health or Social Work with Children and Families. Concentrations consist of two advanced practice courses, a field practicum and two concentration electives. Additionally, students take three courses which bridge both concentration areas: Advanced Social Welfare Policy Analysis and Practice, Critical Applications of Human Behavior and the Social Environment, and Advanced Social Work Research. The analytical paper/portfolio (SWSS 398) is a culminating experience which is evaluative, integrative, interpretive, and constructive. It requires students to demonstrate competency in written and oral expression; understanding of, and identification with, the program philosophy and social work values and ethics; and ability to think analytically, and self-critically in an area of concentration in social work. It also provides integration and closure to their educational experiences, and fulfills the Graduate College comprehensive examination requirement.

General Requirements

• Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of Social Work

Prospective students must meet the following minimum requirements:

- 1. Earned a baccalaureate degree from an institution accredited by the Council on Postsecondary Accreditation.
- Attained satisfactory scores on the Graduate Record Examination (GRE). A holistic view of candidates' qualifications for graduate social work education is utilized; therefore, no minimum score for admission has been set. Applicants must submit GRE scores prior to admission.
- 3. Earned a minimum grade-point average (GPA) of 2.5 (where 4.0=A) in undergraduate studies.
- 4. Earned a minimum grade-point average of 3.0 in any previous graduate work in Social Work.
- 5. Be in good standing from the last institution they attended.
- 6. Demonstrated achievement of designated liberal arts content in their undergraduate studies including some courses in each of the following areas: social sciences (defined as including sociology, political science, anthropology, economics, etc.); behavioral and life sciences (defined as including psychology, human biology, human ecology, etc.); and humanities (defined as including history, philosophy, English, literature, religion, etc.). Most specifically, students must have completed at least one course in human biology and one in statistics. If they have not done so at the time of admission, they must complete these two prerequisite courses prior to starting the first fall semester of study in the advanced practice concentration curriculum.
- 7. Submission of a resume with their application materials before consideration of their file.

In addition to the above, the typed statement of purpose and written references (at least one of which is an academic and one of whish is a human services reference) are also important sources of information regarding the qualifications and experiences of applicants. For the academic year 2001-2002, a non-refundable deposit of \$200 is required of accepted candidates to hold their place in the upcoming class; the deposit is applied toward the cost of the program when students become officially enrolled. Applicants should contact the Department of Social Work (802-656-8800) to receive an MSW Program Bulletin.

Applicants with a Bachelor of Social Work degree from a program accredited by the Council on Social Work Education (CSWE) may apply for Advanced Standing to the MSW program. Students granted advanced standing may waive certain program (Foundation) requirements. Full-time advanced-standing students start their programs in January of each year, while regular-track students start their programs in the fall semester. This option is not available to students entering the program during the 2001-2002 academic year.

Minimum Degree Requirements for the Degree of Master of Social Work

The Master of Social Work degree requires 60 credits of graduate study, unless students are admitted with Advanced Standing status. Advanced Standing status requires a minimum of 42 credits and is granted solely to students who have earned a Bachelor's degree in a program accredited, or acknowledged as being equivalent to a Bachelor's in Social work, by the Council on Social Work Education. Both groups of students must take all required and three of their nine elective credits in social work courses. At least six of these elective credits must be taken during the second half of the program. The policies and standards for maintaining program accreditation do not permit the granting of academic credit toward graduation for life experience.

Curriculum

Course	Credits
SWSS 212: Social Work Practice I	3
SWSS 213: Social Work Practice II	3
SWSS 216: Theoretical Foundations of HBSE* I	3
SWSS 217: Theoretical Foundations of HBSE II	3
SWSS 220: Social Welfare Policies and Services I	3
SWSS 221: Social Welfare Policies and Services II	3
SWSS 227: Foundations of Social Work Research	3
SWSS 290: Field Practicum I	6
An approved elective**	3

Foundation Courses (30 Credits)

*Human Behavior in the Social Environment

**Electives require advanced approval of faculty advisors.

Advanced Courses (30 Credits)

Course	Credits
SWSS 301: Social Work in Health (and)	3
SWSS 302: Social Work in Mental Health (or)	3
SWSS 302: Social Work in Mental Health (and)	3
SWSS 311: Social Work with Children and Families II	3
SWSS 316: Critical Applications of HBSE	
SWSS 320: Advanced Social Welfare Policy Analysis and Practice	3
SWSS 327: Advanced Social Work Research	3
SWSS 390: Field Practicum II	6
SWSS 398: Analytical Paper/Portfolio	3

Two approved electives**

** Electives require advanced approval of faculty advisors.

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Department and Programs

Catalogue 2002-03Wildlife and Fisheries Biology ProgramCoursesColleges: Schoobf Natural Resources, GraduateCollegeAcademic OfferingsColleges: Schoobf Natural Resources, GraduateCollegeColleges & SchoolsFaculty: Wildlifeand Fisheries BiologyColleges & SchoolsCourses: Wildlife and Fisheries Biology (WFB)FacultyContact Information:Policies & GeneralUniversity of VermontInformationWildlife and Fisheries Biology Program

Catalogue Archives

University of Vermont Wildlife and Fisheries Biology Program George D. Aiken Center 81 Carrigan Drive Burlington, VT 05405

Phone: (802) 656-2684 Fax: (802) 656-8683 E-mail: <u>dhirth@zoo.uvm.edu</u> Web Site: <u>http://snr.uvm.edu/academics/wlfb.html</u>

Graduate Degrees and Majors

- Graduate Majors
 - Wildlife and Fisheries Biology (M.S.)

Overview

The areas of wildlife biology and fisheries biology deal with the managementand conservation of animal populations that range from species that are commonenough to be hunted/fished to species that are endangered. Management strategiesmay include manipulation of populations directly or indirectly through alterationof habitat. Courses emphasize applied ecology and provide hands-on experiencein labs and field trips. All Wildlife and Fisheries Biology majors complete thesame core of courses during the first year. As sophomores, students elect either the Wildlife Biology or the Fisheries Biology option. Required courses in themajor satisfy educational requirements of the U.S. Office of Personnel Management for entry-level positions in these fields.

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Wildlife and Fisheries Biology (M.S.)

Department: NaturalResources

Colleges & Schools

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College: Graduate College

Overview

The Master of Science program is designed to provide a vehicle for a wildlifeor fisheries biologist to develop research abilities and pursue a specialized course of study. Current areas of research emphasis include applied avian ecology, behavioral ecology, big game management, nongame wildlife populations, and freshwaterfisheries ecology.

General Requirements

Graduate (Master's)

Specific Requirements

Requirements for Admission to Graduate Studies for theDegree of Master of **Science**

Undergraduate degree in wildlife and fisheries biology or management or infhe biological sciences. Satisfactory scores on the Graduate Record Examination, general (aptitude) section.

Minimum Degree Requirements for the Degree of Master of Science

The Wildlife and Fisheries Biology degree requires 15 to 24 credit hours of course work in wildlife and related fields, including NR 378, a comprehensiveexamination, six to 15 hours of thesis research, and an oral defense of the thesis. The Studies Committee may require additional undergraduate preparation without credit toward the degree in instances of perceived deficiency.

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Degrees and Majors

Graduate Degrees

- Master of Arts (M.A.)
- Master of Arts in Teaching (M.A.T.)
- Master of Business Administration (M.B.A.)
- Master of Education (M.Ed.)
- Master of Physical Therapy (M.P.T.)
- Master of Public Administration (M.P.A.)
- Master of Science (M.S.)
- Master of Science for Teachers (M.S.T.)
- Master of Social Work (M.S.W.)
- Doctor of Education (Ed.D.)
- Doctor of Philosophy (Ph.D.)

Graduate Majors

- Anatomy and Neurobiology (M.S.¹, Ph.D.)
- Animal Science (M.S., Ph.D.)
- Biochemistry (M.S., Ph.D.)
- Biology (M.A.T., M.S., M.S.T., Ph.D.) •
- Biomedical Engineering (M.S.) •
- Biomedical Technology (M.S.)
- Biostatistics (M.S.)
- Botany (M.A.T., M.S., M.S.T., Ph.D.)
- Business Administration (M.B.A.)
- Cell and Molecular Biology (M.S., Ph.D.)
- <u>Chemistry</u> (M.A.T., M.S., M.S.T., Ph.D.)
- <u>Civil and Environmental Engineering (M.S., Ph.D.)</u>
- Communication Sciences (M.S.) •
- Community Development and Applied Economics (M.S.)
- <u>Computer Science</u> (M.S.)

- Counseling (M.S.)
- Curriculum and Instruction (M.Ed.)
 - Secondary Education Option (7-12) (<u>M.Ed./TeacherEicensure</u>)
- Educational Leadership (M.Ed.)
- Educational Leadership and PolicyStudies (Ed.D.)
- Educational Studies (M.Ed.)
- <u>Electrical Engineering</u> (<u>M.S.,Ph.D.</u>)
- <u>English</u> (<u>M.A.,</u><u>M.A.T.</u>)
- Forestry (M.S.)
- <u>French</u> (<u>M.A.,</u><u>M.A.T.</u>)
- Geography (M.A.,M.A.T.)
- <u>Geology</u> (<u>M.S., M.A.T.</u>, <u>M.S.T.</u>)
- <u>German</u> (<u>M.A.,M.A.T.</u>)
- Greek and Latin (M.A.,M.A.T.)
- Higher Education and Student Affairs Administration (M.Ed.)
- Historic Preservation (M.S.)
- <u>History</u> (<u>M.A.,</u><u>M.A.T.</u>)
- Interdisciplinary Major (Self-Designed) (M.Ed.)
- Materials Science (M.S., Ph.D.)
- Mathematics (M.S., M.A.T., M.S.T.)
- Mathematical Sciences (Ph.D.)
- Mechanical Engineering (M.S., Ph.D.)
- Microbiology and Molecular Genetics (M.S.², Ph.D.)
- Molecular Physiology and Biophysics (M.S.^{3,} Ph.D.)
- Movement Sciences and Rehabilitation (M.S.)
- Natural Resources (Ph.D.)
- Natural Resource Planning (M.S.)
- Nursing (M.S.)
- Nutrition and Food Sciences (M.S.)
- Pathology (M.S.)
- Pharmacology (M.S.,Ph.D.)
- Physical Therapy (M.P.T.)
- <u>Physics</u> (<u>M.S., M.A.T.</u>, <u>M.S.T.</u>)
- Plant and Soil Science (M.S., Ph.D.)
- <u>Psychology</u> (M.A.⁴, Ph.D.)
- Public Administration (M.P.A.)
- <u>Reading and Language Arts (M.Ed.)</u>
- <u>Social Work</u> (M.S.W.)
- Special Education (M.Ed.)
- <u>Statistics</u> (M.S.)
- Water Resources (M.S.)
- Wildlife and Fisheries Biology (M.S.)

¹ The Master of Science degree requiresadmittance to the Ph.D. program in Anatomy and Neurobiology.

² MMG normally accepts onlyāpplicants for the Ph.D. program. However, UVM undergraduate students may applyfor the Accelerated Master's Program. Other students who wish to apply to the M.S. program should contact the individual faculty member with whom they wishto study.

³ Except under special circumstances,ādmission and award of financial support will be restricted to Ph.D. applicants.

⁴ Applicants must apply for the Ph.D. degree only. Students whose goal is a terminal master's degree are not accepted.

Concurrent Degree Programs: M.D./M.S. AND M.D./Ph.D.

College: Graduate College

• M.D./M.S. and M.D./Ph.D.

Postbaccalaureate Teacher Preparation Program

College: Graduate College

 <u>Postbaccalaureate Teacher Preparation Program</u>: Grades K-12: Art, Music, Physical Education Grades K-6: General Elementary Education Grades 7-12: English, Foreign Language, Mathematics, Science, and Social Studies.

Post-Master's Certificate

College: Education and Social Services

- Educational Leadership
- Integrated Studies (Counseling, Individually Designed Major)
- <u>Special Education</u> (Consulting Teacher, Early Intervention, Integration, Intensive Special Education)

Accelerated Master's Programs

College: Graduate College

The following Accelerated Bachelors/Masters programs are cooperatively offered by the Graduate College and other Colleges and Schools.

- <u>Animal Science</u>
- <u>Biology</u>
- Biomedical Technologies
- <u>Computer Science</u>
- <u>History</u>
- <u>Materials Science</u>
- <u>Mathematics/Statistics/Biostatistics</u>
- Mechanical Engineering
- Microbiology and Molecular Genetics
- <u>Nursing</u>
- Physics
- Public Administration
- Public Forestry Administration
- Secondary Education (7-12)/Master of Education

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Courses approved for Graduate Credit: A to Z

Courses

The University reserves the right to change course offerings at any time.

- Detailed Information About University Courses
- Academic Offerings

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Policies & General Information

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- <u>Anatomy and Neurobiology (ANNB)</u>
- Animal Sciences (ASCI)
- <u>Anthropology (ANTH)</u>
- <u>Art (ART)</u>
- Biochemistry (BIOC)
- Biology (BIOL)
- Biomedical Technology (BMED)
- Biostatistics (BIOS)
- Botany (BOT)
- Business Administration (BSAD)
- <u>Cell and Molecular Biology (Interdisciplinary)</u>
- Chemistry (CHEM)
- <u>Civil and Environmental Engineering (CE)</u>
- <u>Classics (CLAS)</u>
- <u>Communication Sciences (CMSI)</u>
- <u>Community Development and Applied Economics (CDAE)</u>
- Computer Science (CS)
- Education
 - Counseling (EDCO)
 - Early Childhood Special Education (ECSP)
 - Education (EDSS)
 - Elementary Education (EDEL)
 - Foundations (EDFS)
 - Health Education (EDHE)
 - Higher Education (EDHI)
 - Interdisciplinary Education (EDSS)
 - Library Science (EDLI)
 - Leadership and Policy Studies (EDLP)
 - Music Education (EDMU)

- Physical Education (EDPE)
- Secondary Education (EDSC)
- Special Education (EDSP)
- Electrical Engineering (EE)
- English (ENG)
- Environmental Studies (ENVS)
- French (FREN)
- <u>Geography (GEOG)</u>
- <u>Geology (GEOL)</u>
- German (GERM)
- Graduate College (GRAD)
- Historic Preservation (HP)
- <u>History (HST)</u>
- Human Development and Family Studies (HDFS)
- Humanities (HUMN)
- International Studies (IS)
- <u>Materials Science (Multidisciplinary)</u>
- Mathematics (MATH)
- Mechanical Engineering (ME)
- Microbiology and Molecular Genetics (MMG)
- Molecular Physiology and Biophysics (MPBP)
- Music (MUS)
- Natural Resources
 - Forestry (FOR)
 - Natural Resources (NR)
 - Recreation Management (RM)
 - Water Resources (WR)
 - Wildlife and Fisheries Biology (WFB)
- Nursing (GRNU)
- Nutrition and Food Sciences (NFS)
- Obstetrics and Gynecology (OBGY)
- Orthopaedic Surgery (ORTH)
- Pathology (PATH)
- Pharmacology (PHRM)
- Philosophy (PHIL)
- Physical Therapy
 - Physical Therapy (PT)
 - Movement Sciences and Rehabilitation (MVSR)
- Physics (PHYS)
- Plant and Soil Science (PSS)
- <u>Psychology (PSYC)</u>
- Public Administration (MPA)
- Religion (REL)
- Social Work (SWSS)
- <u>Sociology (SOC)</u>
- Spanish (SPAN)

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- Statistics (STAT)
- Women's Studies (WST)

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Courses of Instruction Details

The University reserves the right to change course offerings at any time.

• Browse and/or Search Courses

A student who lacks the stated prerequisites for a course may be permitted to enroll by the instructor. Such students must inform the instructor that they lack the prerequisites, and the instructor will make appropriate efforts to ascertain that they are properly qualified.

Courses are divided into three levels: introductory, intermediate, and advanced. Where appropriate, a department may limit enrollment in a particular course. Such limitations, other than class size, must be explicitly stated.

Courses numbered from 1 to 99 are introductory courses. Introductory courses emphasize basic concepts of the discipline. In general, they presuppose no previous college work in the subject. The only exceptions to this rule are those cases in which there is a two-semester introductory sequence. In such cases, the second-semester course may have the first-semester course as a prerequisite.

Note for graduate students: Under no circumstances will graduate credit be allowed for a course numbered below 100.

Courses numbered from 100 to 199 are intermediate courses. An intermediate course covers more advanced material than that treated in introductory courses. Students will be expected to be familiar with the basic concepts of the subject, and the course will present more difficult ideas. Intermediate courses will generally be more specialized than introductory courses. An intermediate course will always have a minimum prerequisite of three hours' prior study in the discipline or in another specified discipline.

Note for graduate students: Courses numbered 100 to 199 may not be taken for graduate credit except upon ther recommendation of a student's Studies Committee and with the authorization of the Dean of the Graduate College prior to enrollment. Authorization will be limited to one appropriate course (three credit hours) for a master's program and two appropriate courses (six credit hours) for a doctoral program. Graduate students may take additional 100-level courses beyond those values, but graduate credit will not be allowed for such courses. Graduate programs designed for the Master of Science for Teachers degree (MST) are exempted from this rule. Nondegree students are not permitted to receive graduate credit for courses numbered 100 to 199.

Courses numbered 200 to 299 are advanced courses. An advanced course presents concepts, results, or arguments which are only accessible to students who have taken courses in the discipline (or, occasionally, in a related discipline) at the introductory and intermediate levels. Prior acquaintance with the basic concepts of the subject and with some special areas of the subject will be assumed. An advanced course will always have a minimum prerequisite of three hours of prior study at the intermediate level in the discipline, or in a related discipline, or some specified equivalent preparation.

Note for graduate students: Some, but not all, 200-level courses carry graduate credit. Graduate students should refer to <u>the list of courses approved for graduate credit</u> to identify these courses. To obtain graduate creidt, the graduate student generally is expected to meet higher qualitative and/or quantitative expectations than the undergraduate student. Seniors who wish to take a course for graduate credit must receive permission through the office of their dean (see <u>Undergraduate Enrollment for Graduate Credit</u>) prior to enrolling in the course.

Courses numbered 400 or above are limited to candidates for the degrees of Doctor of Education and Doctor of Philosophy; courses numbered 300 to 399 are generally limited to graduate students.

Some departments will make further subdivisions of courses at some levels.

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Anatomy and Neurobiology (ANNB)

- 201 ANNB Human Gross Anatomy.
- 202 ANNB Human Neuroscience.
- <u>261 ANNB Neurobiology.</u>
- 301 ANNB Medical Gross Anatomy.
- <u>302 ANNB Neuroscience.</u>
- <u>306 ANNB Techniques in Neurobiology.</u>
- 311 ANNB Medical Histology.
- <u>320 ANNB Developmental Neurobiology.</u>
- 323 ANNB Neurochemistry.
- 325 ANNB Advanced Neuroanatomy.
- <u>342 ANNB Special Dissections in Gross Anatomy.</u>
- <u>351 ANNB Biological Electron Microscopy.</u>
- 352 ANNB Scanning Electron Microscopy.
- <u>381 ANNB Seminar in Anatomy and Neurobiology.</u>
- <u>382 ANNB Seminar in Anatomy and Neurobiology.</u>
- <u>391 ANNB Master's Thesis Research.</u>
- <u>395 ANNB Special Topics in Neuroscience.</u>
- <u>396 ANNB Special Topics in Neuroscience.</u>
- <u>491 ANNB Doctoral Dissertation Research.</u>

OFFICIAL 2002/03 CATALOGUE SITE 2002-03 Online Catalogue **Carter** Academics **Approved Courses for Graduate Credit** Catalogue 2002-03 **Animal Sciences (ASCI)** Courses 205 ASCI Equine Reproduction and Management Academic Offerings 215 ASCI Physiology of Reproduction and Lactation 216 ASCI Endocrinology Colleges & Schools 220 ASCI Lactation Physiology 230 ASCI Agricultural Policy and Ethics • Faculty 263 ASCI Clinical Topics in Companion Animal Medicine 264 ASCI Clinical Topics in Livestock Medicine Policies & General • 272 ASCI Advanced Topic in Zoos, Exotics and Endangered Species Information • 282 ASCI Animal Sciences Graduate Seminar **Catalogue Archives** 297 ASCI Special Problems in Animal Sciences • 298 ASCI Special Problems in Animal Sciences • 391 ASCI Master's Thesis Research • 392 ASCI Independent Literature Research •

491 ASCI Doctoral Dissertation Research

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Anthropology (ANTH)

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- 200 ANTH Field Work in Archaeology
- 210 ANTH Archaeological Theory
- <u>220 ANTH Develop & Applied Anthropology</u>
- <u>225 ANTH Anthropological Theory</u>
- <u>228 ANTH Social Organization</u>
- 278 ANTH Microethnography
- 283 ANTH Colonialism
- 290 ANTH Methods of Ethnographic Field Work
- 295 ANTH Advanced Special Topics
- 296 ANTH Advanced Special Topics
- <u>297 ANTH Advanced Readings and Research</u>
- 298 ANTH Advanced Readings and Research

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:: Academics		
Catalogue 2002-03	Approved Courses for Graduate Credit	
Courses	Art (ART)	
Academic Offerings	 <u>ART 201 Arch, Landscape and History</u> <u>ART 282 Seminar in Western Art</u> <u>ART 295 Special Topics in Studio Art</u> 	
Colleges & Schools		
Faculty		
Policies & General Information		
Catalogue Archives		

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Approved Courses for Graduate Credit

Biochemistry (BIOC)

- 212 BIOC Biochemistry of Human Disease
 - 213 BIOC Biomedical Biochemistry Laboratory
 - <u>301 BIOC General Biochemistry</u>
- 302 BIOC General Biochemistry
- <u>303 BIOC Biochemistry Laboratory</u>
- <u>305 BIOC Medical Biochemistry</u>
- <u>306 BIOC Medical Biochemistry</u>
- <u>307 BIOC Special Topics Biochemistry</u>
- <u>308 BIOC Special Topics Biochemistry</u>
- 320 BIOC General Enzymology
- 331 BIOC Nucleic Acids
- <u>352 BIOC Protien: Nucleic Acid Interact</u>
- 371 BIOC Physical Biochemistry
- 375 BIOC Cancer Biology
- 381 BIOC Seminar
- 391 BIOC Master's Thesis Research
- <u>392 BIOC Independent Literature Research</u>
- <u>491 BIOC Doctoral Dissertation Research</u>

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Approved Courses for Graduate Credit

Biology (BIOL)

- 202 BIOL Quantitative Biology
- <u>203 BIOL Population Ecology</u>
- <u>205 BIOL Advanced Genetics Laboratory</u>
- <u>208 BIOL Morphology and Evolution of Insects</u>
- 209 BIOL Field Zoology
- <u>212 BIOL Comparative Histology</u>
- <u>217 BIOL Mammalogy</u>
- 219 BIOL Comparative and Functional Vertebrate Anatomy
- <u>223 BIOL Developmental Biology</u>
- <u>225 BIOL Physiological Ecology</u>
- 238 BIOL Winter Ecology
- <u>246 BIOL Ecological Parasitology</u>
- <u>254 BIOL Population Genetics</u>
- <u>255 BIOL Comparative Reproductive Physiology</u>
- <u>261 BIOL Neurobiology</u>
- <u>263 BIOL Genetics of Cell Cycle Regulation</u>
- <u>264 BIOL Community Ecology</u>
- <u>265 BIOL Developmental Molecular Genetics</u>
- 267 BIOL Molecular Endocrinology
- 270 BIOL Speciation and Phylogeny
- 281 BIOL Seminar
- 282 BIOL Eco Lunch
- 283 BIOL Ecology-Evolution Journal Club
- 284 BIOL Cell Lunch
- 295 BIOL Special Topics
- 296 BIOL Special Topics
- <u>301 BIOL Cell and Molecular Biology</u>
- <u>302 BIOL Specialized Cells and Cell Processes</u>
- <u>371 BIOL Graduate Colloquia</u>
- <u>381 BIOL Special Topics</u>
- 391 BIOL Master's Thesis Research

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• 491 BIOL Doctoral Dissertation Research

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Biomedical Technology (BMED)

- 281 BMED Molecular Applications
- 293 BMED Research Concepts
- 229 BMT Seminar: Clinical Chemistry.
- 239 BMT Seminar: Hematology.
- 242 BMT Immunology.
- 244 BMT Immunology Laboratory.
- 249 BMT Seminar: Immunology.
- 259 BMT Seminar: Microbiology.
- 269 BMT Seminar: Immunohematology.
- 381 BMT Special Topics Seminar.
- <u>391 BMT Master's Thesis Research.</u>
- <u>395 BMT Advanced Topics.</u>

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- 200 BIOS Medical Biostatistics and Epidemiology.
- 308 BIOS Applied Biostatistics

Biostatistics (BIOS)

- <u>352 BIOS Modeling and Estimation of Animal Populations</u>
- <u>381 BIOS Statistical Research</u>
- <u>385 BIOS Consulting Practicum</u>
- 391 BIOS Master's Thesis Research
- <u>395 BIOS Advanced Topics in Biostatistics</u>
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Catalogue 2002-03	Approved Courses for Graduate Credit	
Courses	Business Administration (BSAD)	
Academic Offerings	222 BSAD Human Resource Management 226 RSAD Current Issues in Management and Organizational Theory	
Colleges & Schools	 <u>226 BSAD Current Issues in Management and Organizational Theory</u> <u>234 BSAD Canadian-U.S. Business Relations</u> 	
	<u>251 BSAD Marketing Research</u>	
Faculty	 <u>252 BSAD Marketing Research Practicum</u> <u>258 BSAD International Market Analysis</u> 	
Policies & General	260 BSAD Financial Statement Analysis	
Information	 <u>263 BSAD Accounting and the Environment</u> 	
information	266 BSAD Advanced Accounting	
Catalogue Archives	<u>267 BSAD Auditing</u>	
	270 BSAD Quantitative Analysis for Managerial Decisions	
	282 BSAD Security Valuation and Portfolio Management	
	285 BSAD Options and Futures	
	 293 BSAD Integrated Product Development 	
	295 BSAD Special Topics	
	<u>302 BSAD Business Economics</u>	
	<u>304 BSAD Managerial Economics</u>	
	 <u>305 BSAD Fundamentals of Marketing Management</u> 	
	<u>306 BSAD Fundamentals of Accounting</u>	
	 307 BSAD Organization and Management Studies 	
	<u>308 BSAD Corporate Finance</u>	
	 <u>309 BSAD Fundamentals of Legal Environment of Business</u> 	
	<u>331 BSAD Health Care Management</u>	
	<u>337 BSAD International Trade and Investment Policy</u>	
	<u>340 BSAD Production and Operations Management</u>	
	<u>341 BSAD Forecasting</u>	
	 <u>345 BSAD Management Information Systems</u> 	
	<u>346 BSAD Decision-Making Models</u>	

- <u>347 BSAD Analysis of Decision Support Systems</u>
- 352 BSAD Business to Business Marketing
- 359 BSAD Marketing Policy

- 360 BSAD Contemporary Financial Accounting and Reporting
- 365 BSAD Management Accounting
- 375 BSAD Organization Theory
- 376 BSAD The Management of Change in Organizations
- 379 BSAD Strategic Management
- <u>380 BSAD Managerial Finance</u>
- 394 BSAD Independent Readings and Research
- <u>395 BSAD Special Topics</u>
- <u>396 BSAD Business Policy</u>

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Cell and Molecular Biology (Interdisciplinary)

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- 295 BIOL Special Topics
- 301 BIOL Cell and Molecular Biology
- <u>302 BIOL Specialized Cells and Cell Processes</u>
- 381 BIOL Seminar
- 391 BIOL Master's Thesis Research
- <u>395 BIOL Special Topics</u>
- 491 BIOL Doctoral Dissertation Research
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Chemistry (CHEM)

- 201 CHEM Advanced Chemistry Laboratory (1-6)
 - 202 CHEM Advanced Chemistry Laboratory (0-6)
 - 205 CHEM Biochemistry I
 - 206 CHEM Biochemistry II
 - 207 CHEM Biochemistry Lab
 - 214 CHEM Polymer Chemistry
 - 221 CHEM Instrumental Analysis
 - 222 CHEM Advanced Analytical Chemistry
 - 223 CHEM Mass Spectrometry •
 - 224 CHEM Chemical Separations
 - 225 CHEM Electroanalytical Chemistry •
 - 226 CHEM Analytical Spectroscopy
 - 227 CHEM Special Topics in Analytical Chemistry •
 - 228 CHEM Special Topics in Analytical Chemistry
 - 231 CHEM Advanced Inorganic Chemistry •
 - 234 CHEM Organometallic Chemistry
 - 236 CHEM Physical Inorganic Chemistry •
 - 237 CHEM Special Topics in Inorganic Chemistry
 - 238 CHEM Special Topics in Inorganic Chemistry •
 - 241 CHEM Advanced Organic Chemistry
 - 242 CHEM Advanced Organic Chemistry •
 - 251 CHEM Physical Organic Chemistry
 - 257 CHEM Special Topics in Organic Chemistry •
 - 258 CHEM Special Topics in Organic Chemistry
 - 262 CHEM Chemical Thermodynamics •
 - 263 CHEM Introduction to Quantum Mechanics
 - 264 CHEM Fundamentals of Spectroscopy •
 - 265 CHEM Statistical Mechanics
 - 267 CHEM Special Topics in Physical Chemistry
 - 268 CHEM Special Topics in Physical Chemistry
 - 285 CHEM Special Topics

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- 286 CHEM Special Topics
- <u>342 CHEM Natural Products The Alkaloids</u>
- <u>344 CHEM Natural Products The Terpenes</u>
- 363 CHEM Quantum Chemistry
- 381 CHEM Seminar
- <u>382 CHEM Seminar</u>
- <u>386 CHEM Methods of Chem Investigation</u>
- 388 CHEM Research Problem Conception and Solution
- 391 CHEM Master's Thesis Research
- 395 CHEM Independent Literature Research Project
- 491 CHEM Doctoral Dissertation Research

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• 210 CE Airphoto Interpretation

Civil and Environmental Engineering (CE)

- 220 CE Introduction to Finite Element Analysis
- <u>226 CE Civil Engineering Systems Analysis</u>
- <u>241 CE Traffic Operations & Design</u>
- <u>248 CE Hazardous Waste Management Engineering</u>
- <u>251 CE Environmental Facilities Design Wastewater</u>
- <u>252 CE Industrial Hygiene</u>
- <u>253 CE Air Pollution</u>
- <u>254 CE Environmental Quantitative Analysis</u>
- 255 CE Physical/Chemical Processes for Water & Wastewater Treatment
- <u>256 CE Biological Processes for Water & Wastewater Treatment</u>
- <u>259 CE Measurement of Airborne Contaminants</u>
- 260 CE Hydrology
- <u>261 CE Open Channel Flow</u>
- <u>265 CE Ground Water Hydrology</u>
- 272 CE Structural Dynamics
- 280 CE Applied Soil Mechanics
- 282 CE Engineering Properties of Soils
- 283 CE Designing with Geosynthetics
- <u>290 CE Engineering Investigation</u>
- 295 CE Special Topics
- <u>304 CE Advanced Engineering Analysis I</u>
- 305 CE Advanced Engineering Analysis II
- <u>321 CE Engineering Computations on Advanced Architectures</u>
- 360 CE Advanced Hydrology
- 365 CE Contaminant Hydrogeology & Remediation
- <u>366 CE Numerical Methods for Surface Water Processes</u>
- 390 CE Advanced Topics in Civil and Environmental Engineering
- <u>391 CE Master's Thesis Research</u>
- <u>395 CE Advanced Special Topics</u>
- <u>491 CE Doctoral Dissertation Research</u>

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Communication Sciences (CMSI)

- 208 CMSI Cognition and Language
- 215 CMSI Cognition and Aging
- <u>281 CMSI Cognitive Neuroscience</u>
- <u>282 CMSI Medical Speech-Language Pathology</u>
- <u>283 CMSI Swallowing Disorders</u>
- <u>284 CMSI Augmentative Communication</u>
- <u>285 CMSI Collaborative Intervention within School Settings</u>
- 287 CMSI Early Language and Communication Intervention
- 291 CMSI Clinical Study
- 292 CMSI Clinical Study
- 293 CMSI Seminar
- 294 CMSI Seminar
- 299 CMSI Autism Spectrum Disorders
- <u>310 CMSI Clinical Preparation and Management</u>
- <u>311 CMSI Interdisciplinary Leadership Training for Health Professionals: Research</u> Seminar I
- <u>312 CMSI Interdisciplinary Leadership Training for Health Professionals: Research</u> Seminar II
- 371 CMSI Audiological Assessment for Speech-Language Pathologists
- <u>372 CMSI Management and Habilitation of Children with Hearing Impairment</u>
- <u>380 CMSI Research Methods in Communication Disorders</u>
- <u>381 CMSI Advanced Readings</u>
- <u>382 CMSI Advanced Readings</u>
- <u>383 CMSI Seminar in Language/Learning Disabilities</u>
- <u>384 CMSI Articulation-Phonological Disorders</u>
- <u>385 CMSI Voice Disorders</u>
- <u>386 CMSI Adult Neuropathologies</u>
- 387 CMSI Language Disorders
- <u>388 CMSI Stuttering</u>
- 389 CMSI Adult Aphasia
- 391 CMSI Master's Thesis Research

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• 392 CMSI Non-Thesis Research

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Catalogue 2002-03	 Approved Courses for Graduate Credit Community Development and Applied Economics (CDAE) 		
Courses			
Academic Offerings	 205 CDAE Rural Communities in Modern Society 207 CDAE Markets, Food, and Consumers 		
Colleges & Schools	 208 CDAE Agricultural Policy and Ethics 218 CDAE Community Leadership, Organization, and Institutional Development 		
Faculty	 237 CDAE Economics of Sustainable Agriculture 253 CDAE Macroeconomics for Applied Economists 		
Policies & General Information	 <u>254 CDAE Microeconomics for Applied Economists</u> <u>264 CDAE Risk Analysis and Forecasting Procedures</u> 		
Catalogue Archives	 <u>265 CDAE Decision Making for Agricultural and Resource Entrepreneurs</u> <u>266 CDAE Decision Making for Agricultural and Resource Entrepreneurs</u> <u>267 CDAE Strategic Planning for Agricultural and Resource Entrepreneurs</u> 		
	 272 CDAE International Economic Development 273 CDAE Project Development and Planning 287 CDAE Spatial Analysis 295 CDAE Special Topics 351 CDAE Research Methods 354 CDAE Advanced Microeconomics 391 CDAE Master's Thesis Research 392 CDAE Graduate Seminars 395 CDAE Special Topics 		

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201 CS Operating System

Computer Science (CS)

- 202 CS Compiler Construction
- 204 CS Database Systems
- 205 CS Software Engineering
- 222 CS Computer Architecture
- 224 CS Analysis of Algorithms
- 243 CS Theory of Computation
- <u>251 CS Artificial Intelligence</u>
- 256 CS Neural Computation
- 260 CS Parallel Algorithms
- <u>265 CS Computer Networks</u>
- <u>266 CS Network Security and Cryptography</u>
- 274 CS Computer Graphics
- <u>294 CS Independent Readings and Research</u>
- 295 CS Special Topics in Computer Science
- <u>303 CS Advanced Topics in Programing Environments and Languages</u>
- 316 CS Advanced Topics in Computational Science
- <u>321 CS Advanced Topics in Computer Architecture</u>
- <u>331 CS Advanced Topics in Database and Knowledge Base Systems</u>
- <u>346 CS Advanced Topics in Theory of Computation</u>
- 351 CS Advanced Topics in Pattern Analysis and Artificial Intelligence
- <u>361 CS Advanced Topics in Systems Software</u>
- 363 CS Advanced Topics in Computer System Performance
- <u>365 CS Advanced Topics in Network Design and Analysis</u>
- <u>374 CS Advanced Topics in Computer Graphics and Visualization</u>
- 381 CS Seminar
- 391 CS Master's Thesis Research
- <u>394 CS Independent Study</u>
- <u>395 CS Advanced Topics in Computer Science</u>

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Counseling (EDCO)

- 220 EDCO Developmental Perspectives in Counseling
- <u>291 EDCO Special Topics in Counseling</u>
- <u>310 EDCO Counseling Strategies for Teachers</u>
- <u>340 EDCO Developmental Guidance in Schools</u>
- <u>344 EDCO Counseling Children & Adolescent</u>
- <u>350 EDCO Professional Issues in Counseling</u>
- <u>351 EDCO Using Tests in Counseling</u>
- <u>361 EDCO The Practice of Mental Health Counseling</u>
- <u>363 EDCO School Counseling Practicum</u>
- <u>364 EDCO Internship in School Counseling</u>
- <u>374 EDCO Counseling Theory and Practice</u>
- <u>375 EDCO Laboratory Experience in Counseling</u>
- <u>376 EDCO Chemical Dependency: Etiology & Treatment</u>
- <u>377 EDCO Diversity Issues in Counseling</u>
- 378 EDCO Diagnosis and Treatment Planning with Children an Adolescents
- 379 EDCO Diagnosis and Treatment Planning with Adults
- <u>380 EDCO Professional Problems in Counseling</u>
- <u>381 EDCO Counseling for Career and Lifestyle Development</u>
- <u>383 EDCO Mental Health Counseling Practicum</u>
- <u>384 EDCO Internship in Mental Health Counseling</u>
- <u>386 EDCO Organizational Development for Counseling and Related Services</u>
- <u>387 EDCO Therapeutic Psychopharmacology for Counselors</u>
- <u>388 EDCO Family Counseling: Systems</u>
- 389 EDCO Family Counseling: Interventions
- <u>390 EDCO Advanced Counseling Seminar</u>
- 391 EDCO Master's Thesis Research
- <u>392 EDCO Group Dynamics: Theory and Experience</u>
- <u>393 EDCO Advanced Group Counseling</u>
- <u>394 EDCO Special Topics in Counseling</u>
- <u>397 EDCO Independent Study in Counseling</u>
- <u>399 EDCO Program Completion Seminar</u>

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Catalogue 2002-03	Approved Courses for Graduate Credit
Courses	Early Childhood Special Education (ECSP)
Academic Offerings	 <u>200 ECSP Contemporary Issues</u> <u>310 ECSP Curriculum and Technology in Special Education</u>
Colleges & Schools	 <u>311 ECSP Curriculum and Technology in Special Education</u> <u>386 ECSP Teaching Internship: Management of Learning Environments for the</u>
Faculty	Disabled
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Academics	
Catalogue 2002-03	 Approved Courses for Graduate Credit
Courses	Education (EDSS)
Academic Offerings	 200 EDSS Contemporary Issues 211 EDSS Educational Measurements
Colleges & Schools	 215 EDSS The Gifted Child 238 EDSS Teaching with a Global Perspective
Faculty	245 EDSS Applications of Microcomputers in Elementary and Secondary School Curricula
Policies & General Information	 <u>248 EDSS Educational Media</u> <u>261 EDSS Current Directions in Curriculum and Instruction</u>
Catalogue Archives	 <u>295 EDSS Laboratory Experience in Education</u> <u>309 EDSS Interdisciplinary Seminar: Social Policy, Education, Social Services</u> 313 EDSS Statistical Methods in Education and Social Services
	 <u>319 EDSS Internship for Specialized Personnel in Education</u> <u>321 EDSS School Improvement: Theory and Practice</u> <u>333 EDSS Curriculum Concepts, Planning and Development</u>
	 <u>336 EDSS Professional Writing</u> <u>343 EDSS The Study of Teaching</u> <u>363 EDSS Seminar in the Analysis of Curriculum and Instruction</u>
	 <u>349 EDSS Quasi-Experimentation in Education and Social Services</u> <u>380 EDSS Professional Problems in Education</u>
	 <u>382 EDSS Teaching Internships</u> <u>387 EDSS Collaborative Consultation</u> <u>391 EDSS Master's Thesis Research</u>
	<u>397 EDSS Problems in Education</u>

OFFICIAL 2002 CATALOGUE SI	/ 0 3 T E
2002-03 Online	e Catalogue
:: Academics	Approved Courses for Creduate Credit
::Catalogue 2002-03	 Approved Courses for Graduate Credit
Courses	Elementary Education (EDEL)
Academic Offerings	 <u>200 EDEL Contemporary Issues</u> <u>222 EDEL Cultivating Children's Literacy in the Elementary/Middle School</u>
Colleges & Schools	 <u>Classroom</u> <u>234 EDEL Literature and Language for Children and Youth</u>
Faculty	 236 EDEL Multicultural Children's Literature 241 EDEL Science for the Elementary School
Policies & General Information	 244 EDEL Social Studies in the Elementary School 256 EDEL Methods and Materials in Elementary School Mathematics 270 EDEL Kindergarten Methods and Organization
Catalogue Archives	 270 EDEL Kindergarten Methods and Organization 295 EDEL Laboratory Experience in Education 271 EDEL Kindergarten Education with Laboratory Experiences
	 319 EDEL Internship for Specialized Personnel in Education 375 EDEL Literacy Assessment: Understanding Individual Differences. 376 EDEL Laboratory Experiences in Reading and Related Language Instruction 378 EDEL Advanced Study and Research in Reading and Related Language Arts 379 EDEL Seminar in Reading Instruction 380 EDEL Professional Problems in Education 382 EDEL Teaching Internship 391 EDEL Master's Thesis Research 397 EDEL Problems in Education

OFFICIAL 2002/03 CATALOGUE SITE 2002-03 Online Catalogue : Academics **Approved Courses for Graduate Credit** Catalogue 2002-03 Foundations (EDFS) Courses 200 EDFS Contemporary Issues Academic Offerings 203 EDFS Social, Historical and Philosophical Foundations of Education 204 EDFS Seminar in Educational History **Colleges & Schools** 205 EDFS History of American Education 206 EDFS Comparative Education • Faculty 209 EDFS Introduction to Research Methods in Education and Social Services 255 EDFS School as a Social Institution Policies & General • 295 EDFS Laboratory Experience in Education Information 302 EDFS Philosophy of Education • **Catalogue Archives** 303 EDFS The Ethics of Helping Relationships 304 EDFS Religion, Spirituality, and Education • 309 EDFS Scholarly Personal Narrative Writing for Education and Social Services 314 EDFS Modes of Inquiry • 322 EDFS The Challenge of Multiculturalism for Education and Social Institutions 347 EDFS Qualitative Research Methods • 348 EDFS Analyzing and Writing Qualitative Research • 352 EDFS Aesthetic Education and Social Justice • 354 EDFS Anthropological Perspectives on Education and Social Services 369 EDFS Ethics in Educational and Social Services Administration • 377 EDFS Seminar in Educational Psychology 380 EDFS Professional Problems in Education • 391 EDFS Master's Thesis Research 397 EDFS Problems in Education • 455 EDFS Social Processes and Institutional Change

Information

Catalogue Archives

OFFICIAL 2002/03 CATALOGUE SITE 2002-03 Online Catalogue **Carter Approved Courses for Graduate Credit** :: Catalogue 2002-03 Health Education (EDHE) Courses 200 EDHE Contemporary Issues Academic Offerings 208 EDHE School Health Programs 211 EDHE Community Health Education • Colleges & Schools 220 EDHE Stress Management for Health Professionals 295 EDHE Laboratory Experience in Education • Faculty 319 EDHE Internship for Specialized Personnel in Education • 380 EDHE Professional Problems in Education Policies & General •

- <u>382 EDHE Teaching Internship</u>
- 391 EDHE Master's Thesis Research
- 397 EDHE Problems in Education

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Approved Courses for Graduate Credit

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

• 200 EDHI Contemporary Issues

Higher Education (EDHI)

- 295 EDHI Laboratory Experience in Education
- 297 EDHI Learning Module
- 319 EDHI Internship for Specialized Personnel in Education
- 332 EDHI Adult Development and Education
- <u>360 EDHI Higher Education in America</u>
- 361 EDHI The (Un)Changing Academy
- <u>362 EDHI College Students in America</u>
- 375 EDHI Cultural Pluralism in Higher Education
- <u>380 EDHI Professional Problems in Education</u>
- 383 EDHI Higher Education Administration and Organization
- <u>385 EDHI Student Affairs Profession</u>
- 387 EDHI Seminar in Higher Education
- 391 EDHI Master's Thesis Research
- <u>395 EDHI Laboratory Experience</u>
- <u>396 EDHI Capstone Seminar: Ethics, Values, and Meaning in Higher Education</u> Administration
- <u>397 EDHI Problems in Higher Education</u>
- <u>491 EDHI Dissertation Research</u>

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Approved Courses for Graduate Credit

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

• 200 EDSS Contemporary Issues

Interdisciplinary Education

- 295 EDSS Laboratory Experience in Education
- 319 EDSS Internship for Specialized Personnel in Education
- <u>380 EDSS Professional Problems in Education</u>
- <u>382 EDSS Teaching Internship</u>
- <u>391 EDSS Master's Thesis Research</u>
- 397 EDSS Problems in Education
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Approved Courses for Graduate Credit

Library Science (EDLI)

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- <u>200 EDLI Contemporary Issues</u>
 <u>272 EDLI Managing School Library Media Centers</u>
 - 273 EDLI Organizing School Library Media Center Collections
 - 274 EDLI Designing Instruction for School Library Media Centers
 - 275 EDLI Developing School Library Media Center Collections
 - 276 EDLI Information Sources and Services for School Library Media Centers
 - 277 EDLI Information Technologies for School Library Media Centers
 - 295 EDLI Laboratory Experience in Education
 - 319 EDLI Internship for Specialized Personnel in Education
 - <u>380 EDLI Professional Problems in Education</u>
 - <u>391 EDLI Master's Thesis Research</u>
 - <u>397 EDLI Problems in Education</u>

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2002-03 Online (Catalogue
::Academics	Approved Courses for Graduate Credit
::Catalogue 2002-03	Approved courses for Graduate creat
Courses	Leadership and Policy Studies (EDLP)
Academic Offerings	 <u>200 EDLP Contemporary Issues</u> <u>264 EDLP Evaluation in Education and Social Services</u>
Colleges & Schools	 <u>266 EDLP Educational Finance</u> <u>268 EDLP Educational Law</u>
Faculty	 280 EDLP School Business Management 291 EDLP Special Topics in Organizational and Human Resource Development
Policies & General Information	 <u>295 EDLP Laboratory Experience in Education</u> <u>319 EDLP Internship for Specialized Personnel in Education</u> <u>332 EDLP Seminar in Administration and Planning</u>
Catalogue Archives	 332 EDLP Seminar in Administration and Planning 334 EDLP Effecting and Managing Change in Educational and Social-Service Organizations 335 EDLP Staff Evaluation and Development 336 EDLP Curriculum Management in Educational and Social Service Organizations 337 EDLP Political Processes in Education and Social Service Organizations 352 EDLP Analysis of Educational and Social Service Organizations 353 EDLP Seminar in Organizational Leadership 354 EDLP General and Social Systems Theory 355 EDLP System Analysis and Planning 356 EDLP Seminar in Futurism and Planning 357 EDLP Seminar in Futurism and Planning 358 EDLP Seminar in Community Education 367 EDLP Human Behavior in Education Systems 372 EDLP Leadership and the Creative Imagination 380 EDLP Professional Problems in Education 387 EDLP Organization and Human Resource Development 387 EDLP Collaborative Consultation 391 EDLP Master's Thesis Research

- 409 EDLP Applied Educational Research
- 431 EDLP Advanced Seminar in Organizational Leadership

- <u>432 EDLP Advanced Seminar in Organizational Change and Human Resource</u>
 <u>Development</u>
- 437 EDLP Seminar on Education Policy
- 491 EDLP Doctoral Dissertation Research

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Approved Courses for Graduate Credit

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- 240 EDMU Musical Creativity in the General Music Class
- <u>243 EDMU Recent Trends in Music Education</u>
- <u>253 EDMU Practicum in Music Education</u>

Music Education (EDMU)

- 290 EDMU Basic Concepts in Music Education
- 390 EDMU Organization and Administration of Music Education

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::Catalogue 2002-03

Approved Courses for Graduate Credit

Courses

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Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- Physical Education (EDPE)
 - 200 EDPE Contemporary Issues
 - 201 EDPE Administration of Athletic Program
 - 203 EDPE Principles of Physical Education
 - 220 EDPE Sport in Society
 - 240 EDPE Principles of Motor Learning and Human Performance
 - 241 EDPE Seminar in Physical Education and Athletics
 - 253 EDPE Curriculum Design in Health and Physical Education
 - 260 EDPE Adaptive Physical Education
 - 295 EDPE Laboratory Experience in Education
 - <u>319 EDPE Internship for Specialized Personnel in Education</u>
 - <u>380 EDPE Professional Problems in Education</u>
 - 382 EDPE Teaching Internships
 - <u>391 EDPE Master's Thesis Research</u>
 - <u>397 EDPE Problems in Education</u>

OFFICIAL 2002/ CATALOGUE SI	/ 0 3 T E
2002-03 Online	Catalogue
Academics	Approved Courses for Graduate Credit
::Catalogue 2002-03	
Courses	Secondary Education (EDSC)
Academic Offerings	 <u>200 EDSC Contemporary Issues</u> <u>207 EDSC Adolescent Learning from a Behavioral and Cognitive Perspective</u>
Colleges & Schools	 <u>209 EDSC Practicum in Teaching</u> <u>215 EDSC Reading in the Secondary School</u>
Faculty	 <u>216 EDSC General Methods for Secondary Teachers</u> <u>217 EDSC Secondary School Curriculum</u>
Policies & General Information	 223 EDSC Reading Programs in Secondary Schools and Colleges 225 EDSC Teaching Social Studies in Secondary Schools 226 EDSC Teaching Internship
Catalogue Archives	 <u>220 LDSC Teaching Internship</u> <u>227 EDSC Teaching Science in Secondary Schools</u> <u>228 EDSC Literature in the Junior-Senior High School Curriculum</u>
	 229 EDSC Communicative Arts in Secondary Schools 230 EDSC Teaching for Results 240 EDSC Teaching English in Secondary School 257 EDSC Teaching Mathematics in Secondary Schools 259 EDSC Teaching Foreign Language in the School 282 EDSC Seminar for Prospective Teachers of English 294 EDSC Seminar for Prospective Teachers of Communications 295 EDSC Laboratory Experience in Education 319 EDSC Internship for Specialized Personnel in Education 391 EDSC Master's Thesis Research 397 EDSC Problems in Education

OFFICIAL 2002	/ 0 3 T E
2002-03 Online	
Academics	Approved Courses for Creducts Credit
Catalogue 2002-03	Approved Courses for Graduate Credit
Courses	Special Education (EDSP)
Academic Offerings	 <u>200 EDSP Contemporary Issues</u> <u>201 EDSP Foundations of Special Education</u>
Colleges & Schools	 207 EDSP Cooperative Learning 216 EDSP Meeting the Curriculum and Instructional Needs of All Students
Faculty	 <u>217 EDSP Instruction for Individuals with Significant Disabilities</u> <u>221 EDSP Family Centered Services for Children with Special Needs</u>
Policies & General Information	 <u>224 EDSP Meeting the Instructional Needs of All Students</u> <u>228 EDSP Advanced Instruction for Individuals with Severe Disabilities</u>
Catalogue Archives	 275 EDSP Developing Vocational Instruction for Students with Special Needs 280 EDSP Assessment in Special Education 290 EDSP Meeting the Curriculum Needs of All Students 295 EDSP Laboratory Experience in Education 296 EDSP Special Education Practica for Classroom Teachers. 297 EDSP Curriculum for Individuals with Disabilities 298 EDSP Special Education Practicum 301 EDSP History and Systems of Services for Individuals with Disabilities 302 EDSP Students with Significant Disabilities 305 EDSP Resource Development and Collaborative Teaming. 306 EDSP Survey and Assessment of Emotional and Behavioral Disorders of Childhood and Adolescence 307 EDSP Curriculum and Technology in Special Education. 311 EDSP Curriculum and Technology in Special Education. 312 EDSP Advanced Behavior Principles in Special Education 313 EDSP Advanced Behavior Principles in Special Education 316 EDSP Research Seminar in Special Education 317 EDSP Design and Evaluation of Education for Individuals with Severe

- <u>320 EDSP Laboratory Experience in Education</u>
- 322 EDSP Internship in Special Education: The Triadic Model of Consultation

- 323 EDSP Internship in Special Education: Systems Development
- <u>380 EDSP Professional Problems in Education</u>
- <u>382 EDSP Teaching Internships</u>
- <u>384 EDSP Teaching-Internship in Special Education: Course Development and</u> <u>Implementation</u>
- <u>385 EDSP Teaching Internship: Advanced Systems Development and</u> <u>Management in Special Education</u>
- <u>386 EDSP Teaching Internship: Management of Learning Environments for the</u>
 <u>Disabled</u>
- 387 EDSP Collaborative Consultation
- 391 EDSP Master's Thesis Research
- 397 EDSP Problems in Education

OFFICIAL 2002/03 CATALOGUE SITE 2002-03 Online Catalogue Academics **Approved Courses for Graduate Credit** Catalogue 2002-03 **Electrical Engineering (EE)** Courses 201 EE Linear System Theory Academic Offerings 209 EE Transient Phenomena 210 EE Introduction to Control Systems **Colleges & Schools** 221 EE Principles of VLSI Digital Circuit Design 222 EE Principles of VLSI Analog Circuit Design Faculty 224 EE Principles of VLSI System Design 227 EE Biomedical Measurements, Instrumentation, and Systems Policies & General 228 EE Sensors Information 231 EE Digital Computer Design I • **Catalogue Archives** 232 EE Digital Computer Design II 233 EE Microprocessor-Based Systems and Applications • 241 EE Electromagnetic Theory I 242 EE Electromagnetic Theory II • 245 EE Lasers and Electro-Optical Devices 246 EE Engineering Optics • 247 EE Physical Optics I 248 EE Physical Optics II • 250 EE Test Engineering 251 EE Digital System Testing and Testable Design • 261 EE Solid State Materials and Devices I 262 EE Solid State Materials and Devices II • 266 EE Science and Technology of Integrated Circuits 270 EE Probability Theory and Stochastic Processes • 271 EE Least Squares Estimation and Filtering 272 EE Information Theory. Three hours. • 274 EE Introduction to Wavelets and Filter Banks 275 EE Digital Signal Processing and Filtering •

- 276 EE Image Processing and Coding
- 277 EE Image Analysis and Pattern Recognition
- <u>281 EE Seminar</u>
- <u>282 EE Seminar</u>

- 283 EE Seminar
- <u>284 EE Seminar</u>
- <u>285 EE Engineering Design Analysis and Synthesis</u>
- 295 EE Special Topics
- 310 EE Digital Control Systems
- <u>312 EE Introduction to Optimal Control Systems</u>
- 314 EE Nonlinear System Theory
- 315 EE Nonlinear System Theory
- <u>317 EE Theory of Optimum Control Systems</u>
- 318 EE Theory of Optimum Control Systems
- <u>319 EE Special Topics in Control System Theory</u>
- <u>320 EE Special Topics in Control System Theory</u>
- <u>338 EE Semiconductor Device Modeling and Simulation</u>
- 340 EE Special Topics in Electromagnetic Field Theory
- 341 EE Special Topics in Electromagnetic Field Theory
- 345 EE Electromagnetic Antennas and Propagation
- 352 EE Advanced Semiconductor Device Physics and Design
- 354 EE MOS Analog Integrated Circuit Design
- <u>365 EE Optical Properties of Solids</u>
- <u>366 EE Solid State and Semiconductor Theory I</u>
- 367 EE Solid State and Semiconductor Theory II
- 373 EE Digital Communication
- <u>374 EE Digital Communication</u>
- 378 EE Special Topics in Statistical Communication and Related Fields
- <u>391 EE Master's Thesis Research</u>
- <u>395 EE Advanced Special Topics</u>
- 491 EE Doctoral Dissertation Research

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roved Courses for Graduate Credit sh (ENG)
sh (ENG)
201 ENG Seminar in English Language or Critical Theory 202 ENG Seminar in English Language or Critical Theory
211 ENG Seminar in Composition and Rhetoric. 212 ENG Seminar in Composition and Rhetoric.
221 ENG Seminar in Literature to 1800.
222 ENG Seminar in Literature to 1800. 241 ENG Seminar in 19th Century Literature. 242 ENG Seminar in 19th Century Literature.
251 ENG Seminar in 20th Century Literature. 252 ENG Seminar in 20th Century Literature.
 281 ENG Seminar in Literary Themes, Genres, and Folklore. 282 ENG Seminar in Literary Themes, Genres, and Folklore. 290 ENG Seminar for Prospective Teachers of English 295 ENG Advanced Special Topics 296 ENG Advanced Special Topics 320 ENG Seminar: Major Author 330 ENG Seminar: Literary Period 340 ENG Studies in Rhetoric and Composition 350 ENG Survey of Literary Theory and Criticism 360 ENG Seminar: Special Topics 370 ENG Principles of Literary Research

- 391 ENG Master's Thesis Research
- 392 ENG Seminar Paper Review
- 397 ENG Special Readings and Research

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Approved Courses for Graduate Credit

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- 291 ENVS Special Topics. Credit as arranged
- 293 ENVS Environmental Law

Environmental Studies (ENVS)

- 294 ENVS Environmental Education
- <u>295 ENVS Advanced Seminar</u>

Academics	
Catalogue 2002-03	Approved Courses for Graduate Credit
Courses	French (FREN)
Academic Offerings	 French Language 209 FREN Advanced Grammar
Colleges & Schools	 <u>209 FREN Advanced Grammar</u> <u>211 FREN History of the French Language</u>
Colleges & Schools	 215 FREN Methods of Text Analysis
Faculty	• 216 FREN Stylistics
,	 French and Francophone Literature and Culture
Policies & General	 <u>225 FREN Medieval French Literature</u>
Information	 <u>226 FREN Medieval French Literature</u>
	 235 FREN Literature of the French Renaissance
Catalogue Archives	 <u>245 FREN The Baroque Age, 1600-1650</u>
	 <u>246 FREN Seventeenth Century Prose</u>
	 <u>247 FREN Seventeenth Century Theatre</u>
	 255 FREN 18th Century Literature
	 256 FREN 18th Century Literature
	 265 FREN Romanticism, Symbolism, Decadence in 19th Century Literature
	 266 FREN Revolution and Reaction in 19th Century Narrative
	 275 FREN 20th Century Literature
	 276 FREN 20th Century Literature
	 277 FREN Topics in 20th Century French Theatre
	285 FREN Quebec Literature I
	 289 FREN African Literature of French Expression
	 290 FREN Contemporary French Thought: The Linguistic Model
	 292 FREN Topics in French Culture
	 293 FREN Quebec Culture
	 295 FREN Advanced Special Topics
	 296 FREN Advanced Special Topics
	 297 FREN Advanced Readings and Research
	 298 FREN Advanced Readings and Research

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Approved Courses for Graduate Credit

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Geography (GEOG)

- 202 GEOG Research Methods
- 203 GEOG Contemporary Geographic Thought in Context
- 204 GEOG Spatial Analysis
- 245 GEOG Advanced Topics in Human-Environment Interactions
- 246 GEOG Advanced Topics in Climate and Water Resources
- 272 GEOG Advanced Topics in Space, Power and Identity
- 273 GEOG Advanced Topics in Political Economy and Ecology
- 274 GEOG Advanced Topics in Critical Urban and Social Geographies
- <u>281 GEOG Advanced Topics in GIS and Remote Sensing</u>
- <u>295 GEOG Advanced Special Topics</u>
- <u>296 GEOG Advanced Special Topics</u>
- <u>297 GEOG Readings and Research</u>
- <u>298 GEOG Readings and Research</u>
- <u>300 GEOG Graduate Tutorial</u>
- <u>391 GEOG Master's Thesis Research</u>

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Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Approved Courses for Graduate Credit

Geology (GEOL)

- 201 GEOL Advanced Field Geology 230 GEOL Advanced Igneous and Metamorphic Petrology 233 GEOL Environmental Isotope Geochemistry 234 GEOL Global Biogeochemical Cycles 235 GEOL Geochemistry of Natural Waters 240 GEOL Tectonics 241 GEOL Clastic Depositional Systems 243 GEOL Clastic Petrology Laboratory 245 GEOL Carbonate Depositional Environments • 247 GEOL Carbonate Petrology Laboratory 255 GEOL Geohydrology • 260 GEOL Structural Geology 272 GEOL Regional Geology • 273 GEOL Geology of the Appalachians 278 GEOL Principles of Aquatic Systems • 295 GEOL Special Topics 296 GEOL Special Topics • 301 GEOL Introduction to Graduate Studies in Geology 302 GEOL Introduction to Graduate Studies in Geology • 350 GEOL Paleogeography 351 GEOL Surface Processes and Quaternary Geology Seminar • 352 GEOL Environmental Geology Seminar 353 GEOL Critical Writing in Earth and Environmental Science • 360 GEOL Structural Analysis of Deformed Rocks 361 GEOL Advanced Structural Geology •
 - 371 GEOL Advanced Readings
 - 391 GEOL Master's Thesis Research

OFFICIAL 2002/03 CATALOGUE SITE 2002-03 Online Catalogue : Academics **Approved Courses for Graduate Credit** Catalogue 2002-03 German (GERM) Courses 201 GERM Methods of Research and Bibliography Academic Offerings 202 GERM Expository Writing 213 GERM History of the German Language Colleges & Schools 214 GERM Middle Ages 225 GERM Goethe Faculty 226 GERM Schiller 237 GERM 19th Century Prose Policies & General 238 GERM 19th Century Drama Information 247 GERM German Literature from 1890 to 1945 • **Catalogue Archives** 248 GERM Contemporary German Literature 251 GERM German Folklore • 252 GERM Faust 263 GERM German Romanticism • 264 GERM German Lyric Poetry 271 GERM Proverbs • 273 GERM German Intellectual Movements 275 GERM Fin de Siccle • 276 GERM Brecht and the Modern Drama 278 GERM GDR Fiction • 279 GERM The German Short Story After 1945 281 GERM Seminar on Literary Genre, Period, or Theme • 282 GERM Seminar on a Particular Author or Authors 295 GERM Advanced Special Topics • 296 GERM Advanced Special Topics 391 GERM Master's Thesis Research • | Burlington, VT 05405 | (802) 656-3131 | <u>Contact UVM</u> © 2018

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Approved Courses for Graduate Credit

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- Graduate College (GRAD)
 - 385 GRAD Master's Language Examination
 - 395 GRAD Special Topics
 - 397 GRAD Master's Comprehensive Examination
 - <u>485 GRAD Doctoral Language Examination</u>
 - 497 GRAD Doctoral Comprehensive Examination
 - 499 GRAD Dissertation Defense
 - <u>900 GRAD Continuous Registration Fee</u>
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Courses

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Academic Offerings

Colleges & Schools

- 304 HP Seminar in Contemporary Preservation Planning and Policy
- <u>305 HP Historic Preservation Practice Methods</u>
- 306 HP Architectural Conservation I
- <u>307 HP Architectural Conservation II</u>
- 391 HP Master's Thesis Research
- <u>395 HP Special Topics</u>
- <u>397 HP Special Readings and Research</u>

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Catalogue			
Approved Courses for Graduate Credit Historic Preservation (HP)			
 <u>200 HP History of American Architecture</u> <u>201 HP History on the Land</u> 			
204 HP Development Economics			
202 HP Special Topics			
205 HP Historic Preservation Law			
 <u>206 HP Researching Historic Structures and Sites</u> 			
 <u>302 HP Community Preservation Project</u> 			
<u>303 HP Internship</u>			

Faculty

Policies & General Information

Catalogue Archives

2002-03 Online Catalogue

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Catalogue 2002-03

Courses

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

Approved Courses for Graduate Credit

201 HST History on the Land

History (HST)

- 209 HST Seminar in Global History 210 HST Seminar in Global History 221 HST Seminar in Ancient History 222 HST Seminar in Ancient History 224 HST Seminar in Medieval Europe 225 HST Seminar in Early Modern Europe 226 HST Seminar in Modern Europe 227 HST Seminar in Modern Europe • 228 HST Seminar on Popular Culture 237 HST Seminar in Russian History before 1917 • 238 HST Seminar in Soviet History 240 HST Comparative Slavery: An Historical Perspective • 241 HST Seminar in African History 250 HST Seminar in East Asian History • 252 HST Seminar on China 262 HST Seminar in Caribbean & Latin American History • 265 HST Seminar in Canadian History 271 HST Seminar in U.S. Social History • 272 HST Seminar in U.S. Social History 273 HST Seminar in Modern U.S. History • 274 HST Seminar in Modern U.S. History 284 HST Seminar in Vermont History • 285 HST Seminar in History of Science
- 287 HST Seminar in Historiography
- 295 HST Special Topics Seminar
- 296 HST Special Topics Seminar
- 300 HST Graduate Tutorial
- <u>301 HST Introduction to Graduate Study in History</u>
- <u>351 HST Proseminar in American Cultural History</u>
- <u>391 HST Master's Thesis Research</u>
- <u>397 HST Special Readings and Research</u>

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Courses

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Approved Courses for Graduate Credit

Human Development and Family Studies (HDFS)

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- 260 HDFS Family Ecosystem
- <u>263 HDFS Advanced Child Development</u>
- <u>264 HDFS Contemporary Issues in Parenting</u>
- <u>265 HDFS Teaching Human Development</u>
- <u>266 HDFS Seminar in Human Development</u>
- <u>267 HDFS Advanced Seminar in Sexual Identities</u>
- <u>268 HDFS Seminar in Close Relationships</u>
- 281 HDFS Infancy
- 282 HDFS Seminar in Physical Development and Health in Later Life
- 283 HDFS Personal and Family Development in Later Life
- <u>284 HDFS Public Policy and Programs for Elders</u>
- 291 HDFS Special Problems
- 295 HDFS Special Topics
- 296 HDFS Field Experience

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Approved Courses for Graduate Credit

Courses

Humanities (HUMN)

Academic Offerings

Colleges & Schools

Faculty

Policies & General Information

Catalogue Archives

- <u>300 HUMN Modern Literary Theory</u>
- 301 HUMN Humanities Graduate Seminar

CFFICIAL 2002/03 2002-03 Courses for Graduate Credit International Studies (IS) Courses - 297 IS Advanced Readings and Research Academic Offerings - 297 IS Advanced Readings and Research Colleges & Schools - 298 IS Advanced Readings and Research Faculty Policies & General Information Catalogue Archives - 200 Information

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# Academics	Approved Courses for Graduate Credit	
Catalogue 2002-03	Approved Courses for Graduate Credit	
Courses	Materials Science (Multidisciplinary)	
Academic Offerings	 <u>391 MATS Master's Thesis Research.</u> <u>491 MATS Doctoral Dissertation Research.</u> 	
Colleges & Schools		
Faculty		
Policies & General Information		

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Approved Courses for Graduate Credit

Mathematics (MATH)

207 MATH Probability Theory
• 221 MATH Deterministic Models in Operations Research
 <u>222 MATH Stochastic Models in Operations Research</u>
 <u>224 MATH Analysis of Algorithms</u>
 <u>230 MATH Ordinary Differential Equations</u>
 <u>236 MATH Calculus of Variations</u>
 <u>237 MATH Introduction to Numerical Analysis</u>
 <u>238 MATH Numerical Differential Equations</u>
 <u>240 MATH Fourier Series and Integral Transforms</u>
 <u>241 MATH Analysis in Several Real Variables I</u>
 242 MATH Analysis in Several Real Variables II
 <u>243 MATH Theory of Computation</u>
<u>251 MATH Abstract Algebra I</u>
<u>252 MATH Abstract Algebra II</u>
 <u>255 MATH Elementary Number Theory</u>
<u>257 MATH Topics in Group Theory</u>
 <u>260 MATH Foundations of Geometry</u>
<u>264 MATH Vector Analysis</u>
 <u>268 MATH Mathematical Biology and Ecology</u>
271 MATH Applied Mathematics for Engineers and Scientists
<u>272 MATH Applied Analysis</u>
 <u>273 MATH Combinatorial Graph Theory</u>
274 MATH Numerical Linear Algebra
 275 MATH Advanced Engineering Analysis I
 276 MATH Advanced Engineering Analysis II
295 MATH Special Topics
 <u>330 MATH Advanced Ordinary Differential Equations</u>

- <u>331 MATH Theory of Functions of Complex Variables</u>
- 332 MATH Approximation Theory •
- 333 MATH Theory of Functions of Real Variables •
- 335 MATH Advanced Real Analysis

Academic Offerings

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Catalogue Archives

http://www.uvm.edu/academics/catalogue2002-03/?Page=gcourses/mathlist.html[9/21/2018 2:53:12 PM]

Information

- 336 MATH Advanced Real Analysis
- <u>339 MATH Partial Differential Equations</u>
- 351 MATH Topics in Algebra
- 353 MATH Math Point Set Topology
- 354 MATH Algebraic Topology
- 373 MATH Topics in Combinatorics
- 382 MATH Seminar
- 391 MATH Master's Thesis Research
- <u>395 MATH Special Topics</u>
- 491 MATH Doctoral Dissertation Research

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Mechanical Engineering (ME)

- 203 ME Machinery Analysis and Synthesis
- 207 ME Biomechanics I
- 208 ME Biomechanics II
- 209 ME Biofluid Dynamics
- <u>234 ME Mechanical Vibrations</u>
- <u>235 ME Turbomachinery Vibration Analysis and Testing</u>
- <u>241 ME Combustion Processes</u>
- 242 ME Advanced Engineering Thermodynamics I
- 243 ME Inviscid Flow
- 244 ME Introduction to Turbomachinery Analysis
- <u>245 ME Advanced Heat Transfer I</u>
- <u>246 ME Centrifugal Compressors</u>
- 247 ME Centrifugal Pumps
- 248 ME Turbomachinery Special Topics
- <u>249 ME Computational Fluids Engineering</u>
- 252 ME Mechanical Behavior of Materials
- 253 ME Corrosion of Materials
- <u>255 ME Advanced Engineering Materials</u>
- 257 ME Composite Materials
- <u>265 ME Integrated Product Development</u>
- 270 ME Structual Dynamics
- 281 ME Seminar
- 282 ME Seminar
- 283 ME Laboratory Techniques for Turbomachinery Development
- 295 ME Special Topics
- <u>301 ME Introduction to Biomedical Engineering</u>
- 304 ME Advanced Engineering Analysis I
- 305 ME Advanced Engineering Analysis II
- <u>320 ME Special Problems in Elasticity</u>
- <u>321 ME Special Problems in Fluid Mechanics</u>
- <u>322 ME Special Problems in Dynamics</u>

- 323 ME Special Problems in Thermodynamics
- 324 ME Special Problems in Heat Transfer
- 325 ME Special Problems in Materials
- 330 ME Matrix Methods in Structural Dynamics
- 332 ME Engineering Elasticity
- 333 ME Stress Analysis (Theory and Experiment)
- <u>336 ME Continuum Mechanics</u>
- <u>338 ME Advanced Dynamics</u>
- 342 ME Advanced Combustion
- 343 ME Advanced Fluid Dynamics
- 344 ME Advanced Engineering Thermodynamics II
- 345 ME Advanced Heat Transfer II
- <u>346 ME Advanced Gas Dynamics</u>
- 371 ME Advanced Engineering Design Analysis and Synthesis
- 372 ME Systems Engineering
- 373 ME Integrated Mechanism Design Analysis
- 391 ME Master's Thesis Research
- <u>395 ME Advanced Special Topics</u>
- <u>491 ME Doctoral Dissertation Research</u>

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Microbiology and Molecular Genetics (MMG)

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- 201 MMG Molecular Cloning Lab
- 203 MMG Mammalian Cell Culture in Molecular Biology
- <u>211 MMG Prokaryotic Molecular Genetics</u>
- <u>220 MMG Environmental Microbiology</u>
- <u>222 MMG Clinical Microbiology</u>
- <u>223 MMG Immunology</u>
- 225 MMG Eukaryotic Virology
- 231 MMG Bioinformatics
- 295 MMG Special Topics
- <u>302 MMG Medical Microbiology</u>
- 310 MMG Graduate Seminar
- <u>312 MMG Yeast Molecular Genetics</u>
- <u>320 MMG Cellular Microbiology</u>
- <u>332 MMG Critical Reading</u>
- <u>352 MMG Protein: Nucleic Acid Interactions</u>
- 391 MMG Master's Thesis Research
- 491 MMG Doctoral Dissertation Research

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Academics	Approved Courses for Graduate Credit
Catalogue 2002-03	
Courses	Molecular Physiology and Biophysics (MPBP)
Academic Offerings	<u>301 MPBP Medical Physiology and Biophysics</u>
	<u>302 MPBP Neuroscience</u>
Colleges & Schools	 <u>303 MPBP Special Topics in Physiology</u>
	 <u>308 MPBP Biometrics and Applied Statistics</u>
Faculty	 <u>310 MPBP Molecular Basis of Biological Motility</u>
	 <u>313 MPBP Seminar on Endocrine Physiology</u>
Policies & General Information	 <u>323 MPBP Principles and Elements of Biomedical Instrumentation</u>
	<u>381 MPBP Seminar</u>
	<u>391 MPBP Master's Thesis Research</u>
Catalogue Archives	 491 MPBP Doctoral Dissertation Research

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Approved Courses for Graduate Credit

Music (MUS)

- 211 MUS Seminar in Music Literature
- 212 MUS Seminar in Music Literature
- 213 MUS Seminar in Music Literature
- <u>214 MUS Seminar in Music Literature</u>
- 215 MUS Seminar in Music Literature
- 216 MUS Bibliography Seminar
- <u>231 MUS Advanced Theory</u>
- <u>232 MUS Advanced Theory</u>
- 233 MUS Arranging
- 234 MUS Orchestration
- 235 MUS Fugal Composition
- 237 MUS Composition
- 238 MUS Composition
- 240 MUS Seminar in Musical Analysis
- <u>259 MUS Conducting</u>
- <u>265 MUS Vermont Wind Ensemble</u>
- 281 MUS Kodaly Institute
- <u>297 MUS Advanced Readings and Research</u>
- <u>298 MUS Advanced Readings and Research</u>

OFFICIAL 2002/03 CATALOGUE SITE 2002-03 Online Catalogue **Carter Approved Courses for Graduate Credit** Catalogue 2002-03 Forestry (FOR) Courses 205 FOR Mineral Nutrition of Plants • Academic Offerings 222 FOR Advanced Silviculture 225 FOR Tree Structure and Function Colleges & Schools 228 FOR Ecosystem Ecology 231 FOR Integrated Forest Protection • Faculty 242 FOR Advance Forest Biometry • 272 FOR Sustainable Management of Forest Ecosystems Policies & General • 285 FOR Advanced Special Topics Information • 382 FOR Seminar in Research Planning • **Catalogue Archives** 385 FOR Selected Problems in Forestry • 391 FOR Master's Thesis Research • 392 FOR Master's Project Research •

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Approved Courses for Graduate Credit

Natural Resources (NR)

- 220 NR Landscape Ecology 235 NR Legal Aspects of Planning and Zoning 240 NR Wilderness and Wilderness Management 244 NR Quantitative Assessments of Natural Resources 250 NR Limnology 252 NR Visual Resource Planning and Management 254 NR Adv Natural Resource Policy 255 NR Field Methods in Water Resources 256 NR Ecology of a Large Lake • 260 NR Wetlands Ecology and Management 261 NR Wetlands Ecology Laboratory • 262 NR International Problems in Natural Resource Management 270 NR Toxic and Hazardous Substances in Surface Waters • 275 NR Natural Resource Planning: Theory and Methods 276 NR Water Quality Analysis and Interpretation • 278 NR Principles of Aquatic Systems 279 NR Watershed Management Hydrology • 280 NR Stream Ecology 285 NR Advanced Special Topics in Natural Resource Planning • 360 NR Environmental Sociology 361 NR Politics of Landscape, Place, and Nature • 370 NR Special Topics in Aquatic Toxicology 375 NR Natural Resource Planning: Laboratory • 378 NR Integrating Analyses of Natural Resource Issues 380 NR Seminars in Natural Resources • 382 NR Seminar in Research Planning
 - <u>384 NR Independent Studies in Natural Resources</u>
 <u>385 NR Special Topics in Natural Resources</u>
 - <u>391 NR Master's Thesis Research</u>
 - 392 NR Master's Project Research
 - 491 NR Doctoral Dissertation Research

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Recreation Management (RM)

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- 235 RM Outdoor Recreation Planning
- <u>240 RM Wilderness and Wilderness Management</u>
- <u>255 RM Environmental Interpretation</u>

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:: Academics	Approved Courses for Creducts Credit			
::Catalogue 2002-03	Approved Courses for Graduate Credit			
Courses	Water Resources (WR)			
Academic Offerings	<u>391 WR Master's Thesis Research</u>			
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- Wildlife and Fisheries Biology (WFB)
 - 232 WFB Ichthyology
 - 271 WFB Wetlands Wildlife
 - 272 WFB Wetlands Wildlife Laboratory
 - 273 WFB Terrestrial Wildlife
 - 274 WFB Terrestrial Wildlife Laboratory
 - 275 WFB Wildlife Behavior
 - 279 WFB Marine Ecology
 - <u>285 WFB Advanced Special Topics</u>
 - 286 WFB Advanced Special Topics
 - <u>311 WFB Ecology of Fishes</u>
 - <u>352 WFB Population Dynamics and Modeling</u>
 - 387 WFB Graduate Special Problems
 - <u>388 WFB Graduate Special Problems</u>
 - 391 WFB Master's Thesis Research

Academics	
Catalogue 2002-03	Approved Courses for Graduate Credit
Courses	Nursing (GRNU)
Acadomic Offerings	296 GRNU Special Topics in Graduate Nursing
Academic Offerings	 <u>300 GRNU Nursing Research - Application of Quantitative Methods</u>
Colleges & Schools	 <u>305 GRNU Pathophysiology</u>
	<u>306 GRNU Pharmacotherapeutics I</u>
Faculty	<u>307 GRNU Pharmacotherapeutics II</u>
	<u>308 GRNU Family Focused Advanced Practice Nursing</u>
Policies & General	<u>310 GRNU Nursing Theory</u>
Information	<u>315 GRNU Nursing Issues and Health Care Trends</u>
Ostalamus Anakiusa	<u>318 GRNU Health Care Environ & Finance</u>
Catalogue Archives	<u>320 GRNU Nursing Research: Application of Qualitative Methods</u>
	<u>324 GRNU Nurse as Administrator - Theory</u>
	<u>326 GRNU Nurse as Administrator: Practicum</u>
	<u>328 GRNU Curriculum and Instruction in Nursing</u>
	<u>330 GRNU Theory and Practicum in Adult Health Nursing I</u>
	<u>331 GRNU Theory and Practicum in Adult Health Nursing II</u>
	<u>332 GRNU Theory and Practicum in Adult Health Nursing III</u>
	<u>333 GRNU Advanced Health Assessment</u>
	<u>340 GRNU Theory and Practicum in Advanced Population-Focused Nursing I</u>
	<u>341 GRNU Theory and Practicum in Advanced Population-Focused Nursing II</u>
	342 GRNU Theory and Practicum in Advanced Population-Focused Nursing III
	<u>348 GRNU Practicum in Nursing Education</u>
	<u>350 GRNU Theory and Practicum of the Primary Care of Children</u>
	<u>351 GRNU Assessment and Health Maintenance of Adults: Practicum</u>
	<u>352 GRNU Theory and Practicum of the Primary Care of Women (FNP)</u>
	<u>353 GRNU Theory and Practicum of the Primary Care of Women (ANP)</u>
	<u>354 GRNU Theory and Practicum of the Primary Care of Families I</u>
	<u>355 GRNU Theory and Practicum of the Primary Care of Families II (FNP)</u>
	<u>356 GRNU Theory and Practicum Care of Families II (ANP)</u>
	<u>357 GRNU Advanced Nursing Practice of Older Adults</u>
	 <u>358 GRNU Practicum of Primary Care of Adults (Special Populations)</u> <u>359 GRNU Primary Care in a Family Practice Setting: Clinical Integration</u>

- 362 GRNU Theory & Practicum in Nursing Administration
- <u>372 GRNU Theory & Practicum in Nursing Education</u>
- 390 GRNU Master's Project
- 391 GRNU Master's Thesis Research
- 395 GRNU Independent Study in Graduate Nursing
- <u>396 GRNU Special Topics in Graduate Nursing</u>

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Academics	Ammound Courses for Creducto Credit		
Catalogue 2002-03	Approved Courses for Graduate Credit		
Courses	Nutrition and Food Sciences (NFS)		
Acadamia Offeringe	201 NFS Fermented Dairy Foods		
Academic Offerings	 203 NFS Food Microbiology 		
Colleges & Schools	 206 NFS Principles of Food Engineering 		
Colleges & Schools	 <u>208 NFS Sensory Evaluation of Foods</u> 		
Faculty	 <u>222 NFS Curriculum Development in the Human Sciences</u> 		
	 <u>223 NFS Methods of Education in the Human Services</u> 		
Policies & General	 <u>224 NFS Evaluation Techniques in the Human Sciences</u> 		
Information	 <u>238 NFS Food Service Systems Management</u> 		
	<u>243 NFS Advance Nutrition</u>		
Catalogue Archives	 <u>253 NFS Food Safety and Regulation</u> 		
	<u>260 NFS Diet and Disease</u>		
	<u>261 NFS Clinical Nutrition</u>		
	<u>262 NFS Community Nutrition</u>		
	 <u>263 NFS Nutritional Biochemistry</u> 		
	 <u>295 NFS Special Topics Lectures</u> 		
	<u>296 NFS Field Experience</u>		
	 <u>350 NFS Nutrition and Food Sciences Seminar</u> 		
	 <u>360 NFS Research Methods in Nutrition and Food Sciences</u> 		
	 391 NFS Master's Thesis Research 		

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Obstetrics and Gynecology (OBGY)

• 295 OBGY Special Topics

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- Orthopaedic Surgery (ORTH)
 - 291 ORTH Research in Orthopaedics and Rehabilitation
 - 292 ORTH Research in Orthopaedics and Rehabilitation
 - <u>381 ORTH Readings and Research in Musculoskeletal Biomechanics</u>
 - 382 ORTH Readings and Research in Musculoskeletal Biomechanics
 - 383 ORTH Readings and Research in Musculoskeletal Biomechanics
 - 384 ORTH Readings and Research in Musculoskeletal Biomechanics

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Pathology (PATH)

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- 295 PATH Special Topics
- 301 PATH General Pathology
- 302 PATH Systemic Pathology
- 305 PATH Molecular Mechanisms of Environmental Disease
- <u>306 PATH Lab Pathology of Environmental Disease</u>
- <u>375 PATH Special Topics in Molecular Pathobiology</u>
- 391 PATH Master's Thesis Research
- 395 PATH Special Topics in Pathology: Immunopathology

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Pharmacology (PHRM)

- 272 PHRM Toxicology
- 290 PHRM Topics in Molecular and Cellular Pharmacology
- <u>301 PHRM Medical Pharmacology</u>
- <u>302 PHRM Pharmacological Techniques</u>
- <u>303 PHRM Pharmacological Techniques</u>
- <u>328 PHRM Introduction to Medicinal Chemistry</u>
- 372 PHRM Special Topics
- <u>373 PHRM Readings in Pharmacology</u>
- 381 PHRM Seminar
- 391 PHRM Master's Thesis Research
- 491 PHRM Doctoral Dissertation Research

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Philosophy (PHIL)

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- 201 PHIL Theory of Knowledge
- 202 PHIL Metaphysics
- 210 PHIL Philosophy of Mind
- 217 PHIL Philosophy of Language
- 221 PHIL Topics in Chinese Philosophy
- 235 PHIL Topics in the Philosophy of Religion
- <u>240 PHIL Contemporary Ethical Theory</u>
- <u>241 PHIL Contemporary Social and Political Philosophy</u>
- 242 PHIL Justice and Equality
- 260 PHIL Topics in Continental Philosophy
- 265 PHIL American Philosophy
- 271 PHIL Seminar: Major Philosophical Author of School
- 272 PHIL Seminar: Major Philosophical Author or School
- <u>295 PHIL Advanced Special Topics</u>
- 296 PHIL Advanced Special Topics
- 297 PHIL Readings and Research
- <u>298 PHIL Readings and Research</u>
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Physical Therapy (PT)

- 201 PT Clinical Science & Practice Seminar
- 202 PT Cinical Science and Practice Seminar II
- 211 PT Clinical Skills Laboratory I
- 212 PT Clinical Skills Labs II
- 221 PT Tutorial I Clinical Care Issues I
- 222 PT Tutorials II
- 232 PT Clinical Education I
- <u>255 PT Professional Abilities Assessment</u>
- <u>315 PT Clinical Skills Laboratory III</u>
- <u>316 PT Clinical Skills Laboratory IV</u>
- <u>317 PT Clinical Skills Laboratory V</u>
- <u>323 PT Tutorial III</u>
- <u>324 PT Tutorial IV</u>
- <u>325 PT_Tutorials V</u>
- <u>333 PT Clinical Education II</u>
- <u>334 PT Clinical Education III</u>
- <u>335 PT Clinical Education IV</u>
- <u>336 PT Clinical Education V</u>
- <u>341 PT Clinical Science and Practice and Seminar III</u>
- 342 PT Clinical Science and Practice Seminar IV
- <u>343 PT Clinical Science and Practice Seminar V</u>

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Academics	Ammanad Courses for Creducts Credit			
Catalogue 2002-03	Approved Courses for Graduate Credit			
Courses	Movement Sciences and Rehabilitation (MVSR)			
Academic Offerings	 <u>300 MVSR Research Tutorial</u> <u>304 MVSR Professional Practice Practicum</u> 			
Colleges & Schools	 <u>311 MVSR Motor Function and Dysfunction: Muscle</u> <u>312 MVSR Motor Function: Connective Tissue</u> 			
Faculty	 <u>313 MVSR Motor Function and Dysfunction: Energetics & Clinical Application of Exercise Physiology</u> 			
Policies & General Information	 <u>314 MVSR Motor Function and Dysfunction: Movement Science</u> <u>381 MVSR Special Topics Seminar</u> 			
Catalogue Archives	 <u>391 MVSR Master's Thesis Research</u> <u>397 MVSR Special Readings and Research</u> 			

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Physics (PHYS)

- 201 PHYS Experimental Physics
 202 PHYS Experimental Physics
 211 PHYS Mechanics
 213 PHYS Electricity and Magnetism
 214 PHYS Electromagnetism
 222 PHYS Biological Physics
 242 PHYS Introduction to Solid State Physics
 257 PHYS Modern Astrophysics
- 258 PHYS Relativity
- 264 PHYS Nuclear and Elementary Particle Physics
- 265 PHYS Thermal Physics
- 273 PHYS Quantum Mechanics I
- <u>295 PHYS Special Topics</u>
- <u>296 PHYS Special Topics</u>
- <u>301 PHYS Mathematical Physics</u>
- <u>305 PHYS Teaching of College Physics</u>
- 311 PHYS Advanced Dynamics
- <u>313 PHYS Electromagnetic Theory</u>
- 321 PHYS Seminar in Theoretical Physics
- <u>323 PHYS Seminar in Contemporary Physics</u>
- 331 PHYS Seminar in Biological Physics
- <u>341 PHYS Solid State Physics</u>
- 342 PHYS Solid State Physics
- <u>351 PHYS Seminar in Physics of Materials</u>
- <u>362 PHYS Quantum Mechanics II</u>
- <u>381 PHYS Problems in Engineering Physics</u>
- 382 PHYS Problems in Engineering Physics
- <u>391 PHYS Master's Thesis Research</u>

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:: Academics	Armound Courses for Creducts Credit	
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Courses	Plant and Soil Science (PSS)	
Academic Offerings	 <u>205 PSS Mineral Nutrition of Plants</u> <u>210 PSS Ecological Soil Management</u> 	
Colleges & Schools	 <u>215 PSS Weed/Crop Ecology</u> <u>217 PSS Pasture Production and Management</u> 	
Faculty	 <u>221 PSS Tree Fruit Culture</u> <u>232 PSS Biological Control</u> 	
Policies & General Information	 <u>261 PSS Soil Morphology Classification and Land Use</u> <u>264 PSS Chemistry of Soil and Water</u> 266 PSS Soil Water Movement 	
Catalogue Archives	 <u>269 PSS Soil water Movement</u> <u>269 PSS Soil and Water Pollution and Bioremediation</u> <u>281 PSS Seminar</u> 	
	 <u>297 PSS Special Topics</u> <u>301 PSS Plant Science Colloquium</u> 	
	 <u>302 PSS Soil Science Colloquium</u> <u>381 PSS Graduate Special Topics</u> 201 PSS Marfarla Thesis Research 	
	 <u>391 PSS Master's Thesis Research</u> <u>491 PSS Doctoral Dissertation Research</u> 	

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Psychology (PSYC)

- 205 PSYC Learning
- <u>206 PSYC Motivation</u>
- 207 PSYC Thinking
- 208 PSYC Cognition and Language
- <u>210 PSYC Principles of Human Perception</u>
- 215 PSYC Cognition and Aging
- <u>220 PSYC Animal Behavior</u>
- 221 PSYC Physiological Psychology I
- 222 PSYC Selected Topics in Behavioral Neuroscience
- <u>223 PSYC Psychopharmacology</u>
- <u>230 PSYC Advanced Social Psychology</u>
- <u>231 PSYC Psychology of Women</u>
- <u>233 PSYC Psychology of Experience and Creativity Enhancement</u>
- 234 PSYC Psychology of Social and Environmental Change
- <u>236 PSYC Theories of Human Communication</u>
- <u>237 PSYC Cross-Cultural Communication</u>
- <u>240 PSYC Organizational Psychology</u>
- 241 PSYC Organizational Psychology: Global, Cultural, and Local Forces
- 250 PSYC Introduction to Clinical Psychology
- 251 PSYC Behavior Disorders of Childhood
- <u>253 PSYC Introduction to Behavior Modification</u>
- 257 PSYC Personality
- 258 PSYC Workshop in Primary Prevention
- <u>259 PSYC Chemical Dependency: Etiology and Treatment</u>
- <u>261 PSYC Cognitive Development</u>
- 262 PSYC Social Development
- <u>263 PSYC Disabilities of Learning and Development</u>
- 265 PSYC Infant Development
- <u>266 PSYC Communication and Children</u>
- <u>268 PSYC Psychology of Adult Development and Aging</u>
- <u>269 PSYC Cross-Cultural Psyc: Clin Persp</u>

- 295 PSYC Advanced Special Topics
- 296 PSYC Advanced Special Topics
- <u>301 PSYC Faculty Seminar</u>
- 302 PSYC Faculty Seminar

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- <u>305 PSYC Seminar in Learning Theory</u>
- 308 PSYC Seminar in Operant Conditioning
- 310 PSYC Seminar in Perception
- 315 PSYC Seminar in Alcohol and Behavior
- <u>326 PSYC Central Processes: Cortical Mechanisms</u>
- 332 PSYC Interpersonal Processes: Cognition in Social Behavior
- <u>333 PSYC Interpersonal Processes: Motivation in Human Interaction</u>
- <u>334 PSYC Organizational Behaviors and Cultures</u>
- <u>340 PSYC Advanced Statistical Methods I</u>
- <u>341 PSYC Advanced Statistical Methods II</u>
- <u>344 PSYC Experimental Design</u>
- <u>347 PSYC Measurement and Scaling</u>
- 349 PSYC Seminar in Psychology Research Methodology
- 350 PSYC Family Therapy
- 351 PSYC Behavior Therapy: Adults
- 352 PSYC Behavior Therapy: Children
- 353 PSYC Introduction to Clinical Human Neuropsychology
- <u>354 PSYC Psychopathology I</u>
- <u>355 PSYC Psychopathology II</u>
- 356 PSYC Mental Retardation
- <u>357 PSYC Cross Cultural Clinical Intervention and Research</u>
- <u>358 PSYC Feminist Therapy</u>
- <u>359 PSYC Interpersonal Psychotherapy</u>
- <u>360 PSYC Methods and Models of Clinical Prediction</u>
- 361 PSYC Advanced Personality Theory
- <u>362 PSYC Community Clinical Psychology</u>
- <u>363 PSYC Advanced Primary Prevention</u>
- <u>364 PSYC Professional Affairs and Ethics</u>
- <u>365 PSYC Group Therapy</u>
- <u>366 PSYC Seminar in Advanced Developmental Psychology</u>
- <u>367 PSYC Human Sexual Behavior</u>
- <u>368 PSYC Psychology and Law</u>
- 369 PSYC Health Psychology
- <u>370 PSYC Adult Psychological Assessment</u>
- <u>371 PSYC Child and Adolescent Psychological Assessment</u>
- <u>372 PSYC Psychological Intervention I</u>
- <u>373 PSYC Psychological Intervention II</u>
- <u>374 PSYC Advanced Clinical Practicum</u>
- 375 PSYC Internship in Clinical Psychology
- 380 PSYC Contemporary Topics including Proseminar
- <u>381 PSYC Clinical Research Seminar</u>
- <u>382 PSYC Advanced Professional Research Seminar</u>

- 385 PSYC Advanced Readings and Research
- 391 PSYC Master's Thesis Research
- 491 PSYC Doctoral Dissertation Research

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Public Administration (MPA)

- 206 PA Introduction to Contemporary Public Affairs
- 295 PA Intermediate Special Topics
- 296 PA Intermediate Special Topics
- 299 PA Fund Quantitative & Econ Anyl
- 301 PA Fundamentals of Public Administration
- <u>302 PA Public Sector Organizations</u>
- <u>303 PA Research Methods</u>
- <u>305 PA Public Budgeting and Finance</u>
- <u>306 PA Introduction to Public Policy</u>
- 307 PA Administrative Ethics
- <u>308 PA Decision Making Models</u>
- <u>311 PA Policy Analysis and Planning</u>
- 312 PA Management in Health Services and Medical Care
- <u>313 PA Public Policy Implementation</u>
- <u>314 PA Administrative Law</u>
- 315 PA Health Services and Medical Care in the United States
- <u>316 PA Effective Management Techniques</u>
- <u>317 PA Systems Anly & Strategic Mgmt</u>
- <u>318 PA Administrative Theory and Practice</u>
- 319 PA State Administration
- 321 PA Negotiation and Mediation
- <u>334 PA Organizational Behav & Cultures</u>
- <u>380 PA Internship</u>
- 391 PA Master's Thesis Research
- <u>395 PA Special Topics</u>
- 397 PA Readings and Research

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Academics	Ammend Commen for Credente Credit	
Catalogue 2002-03	Approved Courses for Graduate Credit	
Courses	Religion (REL)	
Academic Offerings	 291 REL Topics in the History and Phenomenology of Religion 292 REL Topics in the History and Phenomenology of Religion 	
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Courses	Social Work (SWSS)	
Academic Offerings	 200 SWSS Contemporary Issues 212 SWSS Social Work Practice I 	
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Faculty	 <u>216 SWSS Theoretical Foundations of Human Behavior and the Social</u> <u>Environment I (HBSE)</u> 	
Policies & General Information	 <u>217 SWSS Theoretical Foundations of Human Behavior and the Social</u> <u>Environment II (HBSE)</u> <u>220 SWSS Social Welfare Policies and Services I</u> 	
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	 225 SWSS Transforming Ourselves and Our Communities: Social Work Perspectives 226 SWSS Assessment Theories in Social Work 227 SWSS Foundations of Social Work Research 228 SWSS Aging: A Strengths and Human Rights Perspective 290 SWSS Foundation Year Field Practicum 296 SWSS Social Work in A Global Context 301 SWSS Social Work in Health 302 SWSS Social Work in Mental Health 310 SWSS Social Work with Children and Families I 311 SWSS Social Work with Children and Families II 316 SWSS Critical Applications of Human Behavior and the Social Environment 320 SWSS Advanced Social Work Research 330 SWSS Assessment Theories in Social Work 331 SWSS Feminist Social Work Practice 	

- 380 SWSS Professional Issues in Social Work
- 390 SWSS Concentration Year Field Practicum
- <u>395 SWSS Advanced Special Topics</u>

- <u>397 SWSS Independent Study in Social Work</u>
- <u>398 SWSS Final Project</u>

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Sociology (SOC)

- 202 SOC Population Dynamics 205 SOC Rural Communities in Modern Society 206 SOC Urban Communities in Modern Society 207 SOC Community Organization and Development 209 SOC Small Groups 211 SOC Social Movements and Collective Behavior 213 SOC Women in Development in Third World Countries 214 SOC Delinquency 216 SOC Criminal Justice 217 SOC Corrections 219 SOC Race Relations • 221 SOC Aging and Social Change 222 SOC Aging and Ethical Issues • 225 SOC Organizations in Modern Society 229 SOC The Family as a Social Institution 232 SOC Social Class and Mobility 239 SOC Women and Public Policy in Vermont • 240 SOC Political Sociology 243 SOC Mass Media in Modern Society 250 SOC The Sociology of Culture 254 SOC Sociology of Health and Medicine • 255 SOC Sociology of Mental Health 258 SOC Sociology of Law • 272 SOC Sociology of African Societies 274 SOC Research Seminar • 275 SOC Methods of Data Analysis in Social Research 279 SOC Contemporary Sociological Theory 281 SOC Seminar
 - 282 SOC Seminar
 - 288 SOC Seminar: Research and Methods of Teaching Sociology
 - 289 SOC Seminar: Research and Methods of Teaching Sociology
- http://www.uvm.edu/academics/catalogue2002-03/?Page=gcourses/soclist.html[9/21/2018 3:15:32 PM]

- 295 SOC Special Topics
- 296 SOC Special Topics
- 297 SOC Readings and Research
- 298 SOC Readings and Research

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Statistics (STAT)

- 200 STAT Medical Biostatistics and Epidemiology
- 201 STAT Statistical Analysis Via Computer
- <u>211 STAT</u> Statistical Methods I
- 221 STAT Statistical Methods II
- <u>223 STAT Applied Multivariate Analysis</u>
- <u>224 STAT Statistics for Quality and Productivity</u>
- <u>225 STAT Applied Regression Analysis</u>
- <u>227 STAT Statistical Methods for the Behavioral Sciences</u>
- 229 STAT Survival Analysis
- 231 STAT Experimental Design
- 233 STAT Survey Sampling
- <u>235 STAT Categorical Data Analysis</u>
- <u>237 STAT Nonparametric Statistical Methods</u>
- 241 STAT Statistical Inference
- <u>251 STAT Probability Theory</u>
- <u>252 STATa Applied Discrete Stochastic Process Models</u>
- 252 STATb Applied Continuous Stochastic Process Models
- 253 STAT Applied Time Series and Forecasting
- <u>256 STAT Neural Computation</u>
- 261 STAT Statistical Theory I
- 262 STAT Statistical Theory II
- <u>265 STAT Integrated Product Development</u>
- 270 STAT Stochastic Theory in Electrical Engineering
- 271 STAT Least Squares Estimation and Filtering of Time Series
- 281 STAT Statistics Practicum
- 295 STAT Special Topics in Statistics
- 308 STAT Applied Biostatistics
- <u>313 STAT Statistical Analysis for Management</u>
- <u>321 STAT</u> Seminars in Advanced Statistics
- <u>323 STAT Seminars in Advanced Statistics</u>
- <u>324 STAT Seminars in Advanced Statistics</u>

- <u>325 STAT Seminars in Advanced Statistics</u>
- <u>329 STAT Seminars in Advanced Statistics</u>
- <u>380 STAT Seminars Statistics & Biostatistics</u>
- <u>381 STAT Statistical Research</u>
- <u>385 STAT Consulting Practicum</u>
- 391 STAT Master's Thesis Research
- <u>395 STAT Advanced Topics in Statistics</u>

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Concurrent Degree Programs: M.D./M.S. AND M.D./Ph.D.

College: Graduate College

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Postsophomore students in the Doctor of Medicine program who have been acceptedinto a Graduate College program are permitted to apply credit from appropriatemedical courses in which a letter grade of A, B, or C is earned toward a M.S.or a Ph.D. degree. Such students are enrolled in the Graduate College for oneor more years to pursue research and enroll in those courses that normally arenot included within their medical program of study. While students are workingtoward both the M.D. and M.S. or Ph.D., completion of each degree need not occurat the same time.

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Accelerated Master's Programs

College: Graduate College

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The following Accelerated Bachelors/Masters programs are cooperatively offered by the Graduate College and other Colleges and Schools.

- Animal Science
- Biology
- Biomedical Technologies
- Computer Science
- <u>History</u>
- Materials Science •
- Mathematics/Statistics/Biostatistics
- Mechanical Engineering •
- <u>Microbiology and Molecular Genetics</u>
- Nursing •
- <u>Physics</u>
- Public Administration
- Public Forestry Administration •
- Secondary Education (7-12)/Master of Education •

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B.S. Program for Registered Nurses

College: <u>Nursing and Health Sciences</u> Department: <u>Nursing</u>

The program for registered nurses has been designed in light of changes in the health care delivery system and to better serve the registered nurse returning to school.

In this program, the Bachelor of Science degree with a major in nursing is awarded upon completion of a minimum of 127 credit hours (125 if the student is over 25 years of age) in full or part-time study. The major components of the curriculum are: required non-nursing courses, elective courses, and major nursing courses. The curriculum plan may vary for each student depending on the type and number of credits transferred to UVM.

The focus of the **baccalaureate program** component is on health and health promotion for individuals, families, groups, and communities; and the factors that influence delivery of health care services.

The program is an RN-BS-MS accelerated program, with an option for students to "step out" after completion of the baccalaureate requirements with a B.S. degree. Separate application is required for the graduate program.

The baccalaureate nursing courses are available on-line or through interactive TV and include:

Course	Hours
Professional Nursing 111	2
Professional Nursing 112	1
Professional Nursing 151	4
Professional Nursing 152	4
Professional Nursing 261	4
Professional Nursing 262	4
Graduate Nursing 310	3
Graduate Nursing 315	3

The baccalaureate non-nursing courses include:

Course	Hours
Chemistry 23	4
Chemistry 26	4
Environmental Studies 1,2,7 or Environmental Sciences 1 or Natural Resources 185	3/4
Statistics 111 or 141	3
Human Development 5	3
Microbiology and Molecular Genetics 65	4
Nutrition 43	3
Anatomy and Neurobiology 19 and 20	8
Philosophy, Religion, or Ethics elective	3
English 1	3
English elective	3
Psychology 1	3
Psychology 152	3
Sociology elective	3
General Education electives	15-16
Physical Education	2
Race and Culture	3

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	Change of Program
	Change of Program
	Continuous Registration
	Continuous Registration
	Leave of Absence
	Leave of Absence Eligibility, Procedure
	Deactivation and Reactivation

Deactivation and Reactivation

Withdrawal from Degree Program

Withdrawal from Degree Program

Transfer Credit and Credit by Examination

<u>Transfer Credit and Credit by Examination</u> Approval of Credit, Number of Credits, Appropriateness of Credit, Currency of Credit <u>Concurrent Master's and Doctor of Philosophy Credit</u>

Maximum Time Limits for Degree Completion

Maximum Time Limits for Degree Completion

Degree Requirements

Master's Degree Requirements

Master's degree requirements, including Thesis format and defense <u>Doctor of Education Degree.</u> <u>Doctor of Philosophy Degree</u>

Doctor of Philosophy degree requirements, including Dissertation format and defense.

Student Rights and Responsibilities

Student Rights and Graduate Student Responsibilities.

UVM Responsibilities

Notification of Rights under FERPA for Postsecondary Institutions Name and Address Exclusion Conferral of Graduate Degrees

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Graduate College Application

Area: Graduate College Policies

Application Policies, Deadlines, and Procedures

Eligibility

To be eligible for admission to any program, applicants must hold a U.S. baccalaureate degree earned prior to the date of first graduate enrollment at The University of Vermont or a degree from a foreign institution judged to be equivalent by the Graduate College. Individual degree programs may have additional requirements as described in the program listings in the back section of this catalogue. A number of departments and programs provide opportunities for selected UVM undergraduates to participate in Accelerated Master's Programs (AMPs).

Applicants are expected to be fluent in English. There is no English as a second language program at the University, although limited instruction is available to enhance speaking fluency in English.

Application and Financial Aid Deadlines

Admission

It is in the applicant's best interest to make sure that application materials are filed well in advance of deadlines. Most programs can accommodate only a limited number of new graduate students each year.

April 1 is the application deadline for fall enrollment in all programs, except the following:

Anatomy and Neurobiology	February 15
Botany and Agricultural Biochemistry	February 15
Cell and Molecular Biology	January 15
Civil and Environmental Engineering	February 1
Communication Sciences	February 1

Counseling	February 1
Curriculum and Instruction	August 1
Educational Leadership	August 1
Educational Leadership and Policy Studies	May 1
Educational Studies	August 1
English (Fellowship deadline)	February 15
Field Naturalist.	February 15
Forestry	March 1
French	August 1
Geography	March 1
Geology	February 15
Higher Education and Student Affairs	January 1
Historic Preservation	March 1
Interdisciplinary	August 1
Microbiology and Molecular Genetics	February 1
Natural Resource Planning	March 1
Natural Resources	March 1
Pharmacology	January 15
Physical Therapy	January 15
Psychology	January 15
Public Administration	February 1
Reading and Language Art	August 1
Social Work	February 1
Special Education	August 1
Water Resources	March 1
Wildlife and Fisheries Biology	March 1

Although some programs are willing, on occasion, to review late applications, we urge you to contact specific programs before filing a late application. Some programs accept applications for January admission. Please contact the program of interest regarding its policy on spring admissions.

Financial Aid

The deadline for all students seeking financial aid in the form of fellowships or assistantships is March 1, or the program application deadline, whichever is earlier. For information regarding financial assistance consult <u>Fellowships, Assistantships,</u> <u>Traineeships, Stipends, and Grants</u> and <u>Financial Aid</u>.

Admission Procedure for Full- or Part-Time Students

Degree Students

Application forms are available from the Graduate Admissions Office, 333 Waterman Building, The University of Vermont, Burlington, VT 05405-0160 and at <u>online</u>.

Applicants who are *U.S. citizens* must provide the following material. All but the test scores must be submitted together in one package.

- a. The original and two copies of the completed application form and the statement of purpose.
- b. Scores from appropriate standard graduate admission test(s) taken within five years of the date of application. Test scores are required for any applicant seeking financial aid in the form of fellowships or assistantships. For additional information, see Graduate Admission Tests go below and consult the program listings that follow.
- c. Two official transcripts from each college or university attended. UVM students must request official transcripts from the Registrar.
- d. Letters of recommendation from three persons qualified to assess your potential for graduate work. College or university placement files are accepted. Photocopied references are acceptable only with original signatures; facsimile references are not acceptable.
- e. Check individual department listing for specific requirements such as a resume, or a paper.
- f. A \$25 nonrefundable application fee.

International applicants must provide the following materials. All but the test scores must be submitted in one package.

- a. The original and two copies of the completed application form and the statement of purpose.
- b. Scores from appropriate standard graduate admission test(s) taken within five years of the date of application. Test scores are required for all applicants seeking financial aid in the form of a fellowship or assistantship. For additional information, see Graduate Admission Tests
- c. Scores from the Test of English as a Second Language (TOEFL) if your native language is not English or if your formal education has been conducted in a language other than English. A score of at least 550 (213 Computer-based test) is required for admission; a minimum score of 600 (250 Computer-based test) is required by some departments and for any applicant seeking fellowships or assistantships. Information about the TOEFL examination is available from the Educational Testing Service ♥, Box 6155, Princeton, NJ 08541-6155, U.S.A.
- d. Two official transcripts from each college or university attended and, if necessary, an English translation of the transcripts.
- e. Letters of recommendation from three persons qualified to assess your potential for graduate work. College or university placement files are accepted. Photocopied references are acceptable only with original signatures; facsimile references are not acceptable.
- f. A \$25 nonrefundable application fee, in U.S. dollars, by check or money order

made payable to The University of Vermont.

g. For purposes of obtaining a visa, the United States Immigration and Naturalization Service requires that all international students submit evidence of independent financial support in the form of a signed statement from a bank or scholarship source.

Application Review Process

As soon as an application is received in the Graduate College Admissions Office, a file is established. Completed files are forwarded to the appropriate program.

Committees in each program review applications thoroughly. The statement of purpose is extremely important, as are test scores and past academic performance. Letters of support are weighed carefully. Programs must also consider external factors, such as the number of spaces they can make available to new applicants.

Recommendations to admit or not admit, to provide financial aid or not, are made by the programs and forwarded to the Graduate College where they are reviewed. Letters of acceptance or denial are sent from the Graduate College. Offers of financial support are made directly by programs.

If you do not hear anything regarding your application after a sufficient amount of time, please call the Graduate College Admissions Office (802-656-2699). Questions about admission to individual programs should be directed to the appropriate program.

All documents received in support of an application, except irreplaceable foreign materials or term paper and essays required by some departments, become the property of the Graduate College and cannot be returned, copied, or transferred.

It is the applicant is responsibility to ensure that all supporting materials for an application are received by the appropriate deadline.

Acceptance and Candidacy for Advanced Degrees

Applicants for the master s degree may be admitted to graduate studies or accepted to candidacy for the degree concurrent with admission. Acceptance to candidacy for the master s degree is granted only to those students who have met fully all undergraduate course prerequisites required for the graduate degree program and all departmental requirements for candidacy (e.g. course work, examinations, professional certification where applicable). The approval of the department and the Dean is required for concurrent admission and acceptance to candidacy.

Candidacy for the doctoral degree requires a full year of graduate study in residence at The University of Vermont. In addition, most programs require satisfactory completion of a qualifying examination. A doctoral student is accepted to candidacy upon the approval of the student student student or departments concerned, and the Dean of the Graduate College.

Nondegree Students

Persons who have completed a baccalaureate degree and wish to take courses that do not carry graduate credit or wish to take courses for graduate credit but do not seek a degree, do not need to make formal application to the Graduate College, but may enroll through Continuing Education. For more information, contact Continuing Education, 322 South Prospect Street, Burlington, VT 05405; (802-656-2085); 1-800-639-3210 or email, EveningUniversity@uvm.edu.

Nondegree students are limited to a maximum of six course credit hours per semester unless additional enrollment is approved by the Dean of the Graduate College. A nondegree student who has accumulated nine credit hours of graduate course work at the University must seek approval for further enrollment from the Dean of the Graduate College.

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Graduate Admission Tests

Area: Graduate College Policies

Information about admission tests is available from most college testing centers or as follows: Graduate Record Examinations, Educational Testing Service, Box 6000, Princeton, NJ 08541-6000 or Graduate Management Admission Test, Educational Testing Service, P.O. Box 6103, Princeton, NJ 08541-6103. The GRE can be taken in computerized or paper versions. Information is also available from the GRE web site **2**. Those considering application to a graduate program must remember that it can take four to six weeks for the Graduate College to receive the results of test scores from paper and pencil examinations.

Applicants should consult the listing of the program to which they are applying to determine exactly which test scores are required. Scores must be from tests taken within five years of the date of application. Students who are seeking financial aid in the form of assistantships or fellowships are required to submit GRE or GMAT scores from tests taken within five years of the date of application.

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Graduate Enrollment Policies and Procedures

Area: Graduate College Policies

Health Record

The University requires that all students file a personal health and immunization record with the Center for Health and Wellbeing Student Health/Medical Clinic at the time of first enrollment. Appropriate forms are sent directly to newly enrolled students. They are also available at the Student Health/Medical Clinic, 425 Pearl Street.

Registration

Consult the Academic Calendar printed in the front of this catalogue for registration dates. Students register for courses at the time and in the manner designated by the University Registrar. Course lists are published each semester by the Registrar so Office. Early registration is encouraged for presently enrolled graduate students.

Students should consult with their program advisor before using touch tone telephone or web registration. All charges for the ensuing semester must be paid, or otherwise provided for, before registration is completed.

Graduate Course Levels

Courses which may apply towards a graduate program are generally numbered 200 and above. Courses numbered 400 or above are limited to candidates for the degree of Doctor of Philosophy; courses numbered 300 to 399 are limited to graduate students unless special permission is given by the appropriate department or program. Please consult individual programs for possible exceptions.

Course Loads

Normally, full-time nonfunded graduate students enroll for nine to 12 credit hours per semester; full-time funded students, six to ten hours. Maximum enrollment is 15 hours per semester, and nine hours summer. Enrollment in excess of the normal full-time course load requires written approval from the advisor and the Dean of the Graduate

College.

Auditing Classes

Courses may be taken for audit; however, tuition for the credit hours is charged as usual. Under no circumstances will graduate credit or a grade be allowed for audited courses. A student wishing to audit a course must meet minimum levels of performance set by the instructor at the time of registration in order to receive an audit grade on a transcript. Tuition scholarships funded by the Graduate College do not cover tuition for audited courses.

Physical Education Classes

Students may not enroll in physical education classes without prior approval by the Dean of the Graduate College. Graduate College tuition scholarships do not cover any fees for physical education activities.

Credit by Examination

A student may, under certain circumstances, receive credit for a course by taking an examination. A fee of \$50 per credit is charged for each examination. Any credit earned by examination applies to the total number of credit hours allowed for validation and transfer. Appropriate forms to initiate the process of credit by examination are available in the Registrar s Office.

Add/Drop

Courses may be added or dropped, using touch tone telephone, the web, or a paper form, only during the first ten days of instruction of the University semester. Appropriate add/drop forms are available from the Registrar so Office. After the first week of classes an instructor may refuse admission to a course if certain material (such as laboratories) cannot be made up and the loss of this work would seriously affect the quality of the educational experience of the student seeking to enter the course. Faculty are not required to give make-up examinations, papers, or quizzes. No drops are allowed after the second week of classes except in cases where a student is enrolled by administrative error and has not attended the course.

Withdrawal from Courses

From the end of the tenth day to the end of the ninth week of classes, students may withdraw from courses. Students who wish to withdraw fill out the course withdrawal form, consult with their advisor, and submit the form to the instructor for signature. The student is then responsible for delivering the form to the Registrar's Office no later than 4 p.m. on Friday of the ninth week of classes. Students give a copy to their dean for information purposes. The instructor also records the withdrawal grade (W) on the final grade sheet which is sent to the Registrar.

Between the ninth week and the last day of classes, withdrawal requires students to

petition the Dean of the Graduate College explaining that they are unable to continue in the course due to circumstances beyond their control. Such a petition must contain conclusive evidence, properly documented, of the situation which prevents completion of the course. Acceptable reasons do not include dissatisfaction with performance in a course or with an expected grade, with the course or the instructor, or the desire to change a major or program. If the petition is approved, the withdrawal procedure follows that process described above.

Undergraduate Enrollment for Graduate Credit

UVM senior undergraduates may enroll for graduate credit at UVM under the following circumstances: the course must be available for graduate credit; total enrollment including the graduate course must not exceed 12 credit hours in the semester in which the course is taken; the course must not be computed as part of the bachelor s degree; permission to seek such graduate credit must be requested of the Dean of the Graduate College in writing by the Dean of the undergraduate college or school prior to enrollment for such credit. Such graduate credit is limited to six hours. It can be used only at UVM if and when the student is admitted to a UVM graduate program and only if the course is judged appropriate by the student s advisor for the graduate program. Generally, other institutions will not accept such credit, earned before award of the bachelor s degree, in transfer to their graduate programs.

Accelerated Master s Degree Programs (AMPs)

It is possible for highly qualified UVM undergraduates to be accepted into some UVM graduate programs prior to the awarding of the baccalaureate degree. This Accelerated Master s Program (AMP) option is available for admission to UVM graduate programs in Animal and Food Sciences, Biology, Biomedical Technology, Biostatistics, Computer Science, Curriculum and Instruction, History, Materials Science, Mathematics, Mechanical Engineering, Microbiology and Molecular Genetics, Nursing, Public Administration, and Statistics. Please consult the program listing in the UVM undergraduate catalogue and in this Graduate Catalogue for details.

Grading Policies

Letter grades are used to indicate levels of performance in courses as follows: A, excellent; B, good; C, fair; F, failure. (Graduate students do not receive a grade of D.) Designations of S, satisfactory, and U, unsatisfactory, are used to indicate levels of performance for credits received in Thesis or Dissertation Research and may be used to indicate levels of performance in a Seminar. There are no quality points associated with the letter grades of S and U.

A candidate for a graduate degree must complete the program with a minimum overall grade-point average of 3.00. For the purpose of determining a grade-point average, the following applies: A+, 4.00; A, 4.00; A-, 3.67; B+, 3.33; B, 3.00; B-, 2.67; C+, 2.33; C, 2.00; C-, 1.67; F, 0.00. A course may be repeated for credit only when failed and only once; only the second grade is then considered. Both grades remain on the student s

transcript.

A student may be dismissed from the Graduate College if two grades or more below a B (3.00), or the designation of U in Thesis or Dissertation Research or Seminar are received.

The designation Inco or I applies to work of acceptable quality when the full amount is not completed because of illness or emergency. It can be awarded only with the prior permission of the Dean of the Graduate College. The Dean may set the limit of time when the work of the course is to be completed. In no case shall this time be set longer than the beginning of the corresponding semester of the next academic year.

The grade of XC (Extended Course) is awarded at the end of the semester to a student who is enrolled in an identified course the nature of which makes it unreasonable or impossible for the student to complete the required work within the regular semester. Students who withdraw from a course will receive the grade of W \clubsuit withdrawn. The grade W does not enter into the grade-point average (GPA).

Graduate students may elect to take an undergraduate course on a satisfactory (S) \clubsuit unsatisfactory (U) basis provided permission is obtained, prior to enrollment, from the department or program chairperson and the Dean of the Graduate College and a letter grade is not required by the Studies Committee for purposes of evaluation. Courses at the 200 level or above other than Seminar or Thesis/Dissertation Research may not be taken on a satisfactory (S) \clubsuit unsatisfactory (U) basis for graduate credit.

A grade, other than Inc/I or XC, may be changed only if there was an error in its calculation. In cases in which a student requests reconsideration of a grade for a course already taken, the grade change, if any, must be made by the instructor and approved by the Dean by the end of the first month of the following semester unless an extension has been granted by the Dean within the first month of the following semester.

Dismissal

Students whose academic progress is deemed unsatisfactory at any time may be dismissed from the Graduate College by the Dean upon consultation with the student s department or program. In addition, students may be dismissed if (a) they receive two grades or more below a B (3.00), or (b) they receive a U (Unsatisfactory) in Thesis or Dissertation Research or Seminar.

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Change of Program

Area: Graduate College Policies

If an admitted student wishes to change to a different program offered at UVM, a request must be made by the student, in writing, to the Dean of the Graduate College. Upon receipt of the request, the student s file will be forwarded to the Chairperson of the desired program for review. If both the faculty of the desired program and the Dean of the Graduate College approve, the formal transfer of program is made in the Graduate College Office with notification to the former program chairperson, new program chairperson, the student, and the Registrar. The time limit for completion of the degree runs from the date of matriculation in the new program, with credit brought in subject to the appropriate transfer limitation.

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Area: Graduate College Policies

Students who have completed all credits required for the degree but have not completed all graduation requirements must enroll each semester for Continuous Registration (GRAD 900) and pay a \$100 Continuous Registration fee each semester until all degree requirements are completed, including removing incomplete grades; passing the comprehensive examination; or completing a thesis or dissertation.

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Leave of Absence

Area: Graduate College Policies

A leave of absence suspends the time limit for degree completion for the duration of the leave. It does not suspend the time limit for the completion of individual courses.

Eligibility

Only students who have not enrolled for all course credit requirements may request a leave of absence. The maximum leave is one year. Students who have enrolled for all required credits but have not completed all degree requirements, such as passing the comprehensive examination or completing a thesis or dissertation, are not eligible for a leave of absence but must register for Continuous Registration.

Procedure

Students request a leave of absence from their program director or chairperson. If the program approves the request, the chairperson or director completes the Leave of Absence form available in the Graduate College Blue Book or from the Graduate College Office and forwards it to the Dean for approval. A leave of absence does not take effect until after approval has been received from both the program chairperson or director and the Dean of the Graduate College.

Any student who does not enroll following termination of a leave of absence will be deactivated from the Graduate College.

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Graduate Deactivation and Reactivation

Area: Graduate College Policies

Deactivation is equivalent to withdrawal from a graduate program. Students who do not enroll in their program following the termination of a leave of absence will be deactivated from the Graduate College by the Graduate Dean. Students who, prior to completing enrollment for all credit requirements for a graduate program, do not enroll for one or more credits for a period of one calendar year and are not on an approved leave of absence will be deactivated from the College by the Graduate Dean.

Reactivation into a program requires the approval of the program and the Graduate College. Students seeking reactivation must complete the Reactivation Form and pay a \$25 Reactivation fee and all other fees, including current and back Continuous Registration fees, if applicable.

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Withdrawal from a Graduate Degree Program

Area: Graduate College Policies

Students must notify the Graduate Dean s Office in writing of their intent to withdraw from a degree program. However, if a student does not register at The University of Vermont for course work, thesis or dissertation research, or continuous registration for a period of more than one calendar year, and does not notify the department or the Graduate Dean s Office, in writing, the student will be considered to have withdrawn from the degree program. It will be necessary to apply for reactivation and pay a reactivation fee if the student wishes to resume the graduate program.

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Graduate Credit: Transfer Credit and Credit by Examination

Area: Graduate College Policies

A limited number of graduate course credits acquired elsewhere, at UVM prior to admission to a graduate program, or by credit by examination may be included as part of a student s program of study, with approval of the program faculty and the Dean of the Graduate College. Credit by examination is earned by arranging through a program faculty member to take an examination that tests the student s skills and knowledge in a particular UVM course appropriate for inclusion in the student s degree program.

If credit is transferred, only the credit is transferred, not the grade.

Graduate Credit earned at UVM after completion of the bachelor's degree but prior to admission to a graduate program is transfer credit and is subject to the requirements and limits that follow.

Approval of credit: Approval of credit is granted by the graduate program based on the specific program requirements described in the Graduate College Catalogue, as well as (1) the number of credits requested, (2) the appropriateness of credit for inclusion in the degree program, and (3) the currency of the credit. These criteria are described below. Any exceptions must be approved by the program faculty and the Dean of the Graduate College.

Number of credits: Master s degree and Doctor of Education students are allowed a maximum total of nine hours of transfer credit, and/or credit by examination; Doctor of Philosophy students are allowed a maximum total of 24 credits. This means that all Master s students take at least 21 credits at The University of Vermont after admission; Doctor of Philosophy at least 51 credits; and Doctor of Education at least 47 credits. For Master s programs that require more than 40 credits, program faculty may, in individual cases, allow more than nine transfer credits. In all cases, students must take at least one half of their degree credits at The University of Vermont after admission and adhere to all requirements stipulated by the graduate program.

If an applicant is enrolled as a UVM nondegree student in appropriate graduate courses under the advisement of the program during the semester in which the application is approved for admission, up to six hours of credit from that semester may be applied to the degree program. This credit will not reduce the number of transfer credit hours available.

Appropriateness of credit: Transfer credit and credit by examination must be approved by the program faculty as appropriate for inclusion as part of the student s degree requirements. Credit cannot be awarded for (1) courses taken prior to completion of an undergraduate degree program, (2) courses that would not receive graduate credit if taken at The University of Vermont, (3) courses with a grade lower than B (3.00), (4) thesis or dissertation research credits received at another institution, and (5) credit by examination given by another institution.

Currency of credit: Transfer credit and credit by examination must be taken within seven years of completion of the master s degree and within nine years of completion of the doctoral degree. Students wishing to apply for readmission to a program after deactivation must demonstrate currency of knowledge in the field of study to which they are applying. Currency of knowledge must be formally evaluated by the program faculty. In addition, the returning student must complete a program of study including at least two courses in the current program.

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Catalogue 2002-03	Concurrent Master's and Doctor of Philosophy Credit
Courses	Area: Graduate College Policies
Academic Offerings	Concurrent Master s and Doctor of Philosophy Credit
Colleges & Schools	Up to 24 hours of course work for which graduate credit is earned at UVM in a master s degree program, whether a master s degree is received or not, may be applied toward
Faculty	a Ph.D. at UVM, provided that the credit is appropriate for the Ph.D. program.
Policies & General Information	No provision is made for a person to employ the same credit to satisfy two master so degrees at The University of Vermont.
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Catalogue 2002-03	Maximum Time Limits for Degree Completion
Courses	Area: University Policies and Information MASTER S DEGREE
Academic Offerings	Full-Time Student 3 years
Colleges & Schools	 Part-Time Student 5 years
Faculty	DOCTORAL DEGREE
Policies & General Information	All students 9 years Individual departments may set deadlines within these time limits
Catalogue Archives	Individual departments may set deadlines within these time limits.

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Graduate College Requirements for the Master's Degree

College: <u>Graduate College</u> Area: <u>Graduate College Policies</u>

In addition to the requirements described below, individual programs may have their own specific requirements. Students should read and familiarize themselves with their program's requirements. Some of them are detailed in this catalogue under individual program listings and other requirements are available from the director or chairperson of each program.

Credit Hours

Most master's degrees require a minimum of 30 hours of credit. A minimum of 15 graded credits used in compilation of the graduate GPA must be taken in residence at UVM. Consult individual program descriptions for exceptions. In programs that require a thesis, the number of credit hours earned in thesis research may vary between six (minimum) and 15 (maximum). Thesis credit is included as part of the 30-hour minimum. Consult individual programs for specific information. With the prior approval of their department and the Graduate College, students may apply one 100/200 level, three-credit undergraduate course towards their graduate program. A student's advisor must petition the Graduate College for approval before the student enrolls in the course. Consult individual programs for further limitations. Under no circumstances will a course numbered below 100 be applicable to a master's program.

Minimum Residence Requirements

Candidates for the master's degree must satisfactorily complete 21 hours in residence. The residency requirement is completed by courses that (1) are taken for graduate credit through The University of Vermont either in the academic year or summer on the main campus or at off-campus locations, and (2) are taken after the student has been admitted to the Graduate College. Some programs may require more than the above minimum hours in residence. Consult with the individual program.

Comprehensive Examination

All master's degree students are required to pass a written and/or oral comprehensive examination in their field of specialization. If both formats are used, satisfactory completion of the written examination is prerequisite to standing for the oral examination. All comprehensive examinations are to be taken on The University of Vermont campus in Burlington. One re-examination only is permitted for any comprehensive examination. The comprehensive examination is not the same as an oral thesis defense, and must be passed satisfactorily before defending the thesis. Consult individual program descriptions for specific information.

When students plan to take their comprehensive examination they should enroll in GRAD 397: Master's Comprehensive Examination. There is no fee. A grade of "S" or "U" is recorded.

Research and Thesis

Consult the program description to determine whether or not a thesis is required. If a thesis is required, the candidate for the master's degree undertakes a problem of original research under the supervision of a member of the Graduate College Faculty in the department of specialization. At the conclusion of the research, the student must present a thesis which embodies the results of the work and demonstrates the capability for independent research.

Forms

Submit the Defense Committee Membership form and the Defense Notice form to the Graduate College by the designated deadlines. A Public Notice of the defense is required in order to defend. The Intent to Graduate form must be submitted to the candidate's department before the List of Potential Graduates is due.

Thesis Format

Students are required by the Graduate College to use a computer software program appropriate to the discipline to create the Table of Contents and the Lists of Tables and Figures from the thesis text headings. An unformatted thesis will not be accepted by the Graduate College for the Format/Record Check.

A thesis must be prepared and submitted in compliance with the "Guidelines for Writing a Thesis or Dissertation" available from the Graduate College Office. A formatted copy of the thesis must be submitted to the Graduate College for a Format/Record Check at least three weeks prior to the scheduled defense. Students must also provide defendable copies of the thesis to members of their Thesis Defense Examination Committee at least two weeks before the scheduled examination. Individual departments may require earlier deadlines.

Students must enroll in GRAD 399: Thesis Defense prior to defending their thesis.

The oral defense of a thesis can be scheduled only after successful completion of the comprehensive examination and the submission of an original copy of the thesis to the Graduate College for a Format/Record Check.

Thesis Defense Examination Committee

The Thesis Defense Committee consists of at least three University of Vermont faculty members, at least two of whom must be regular members of the Graduate Faculty. Ordinarily, two committee members will be from the candidate's program, including the thesis advisor. The third member, who acts as chair of the committee, must be a member of the Graduate Faculty, must be from a different program and department than the candidate, and must be approved by the Graduate Dean upon nomination by the thesis advisor.

The Chairperson of the Thesis Defense Committee has the responsibility for ensuring proper conduct of the examination, appropriate documentation of the results, and that the signatures of endorsement are added to the acceptance page of the thesis following a successful defense.

The acceptability of the thesis is determined by the Thesis Defense Committee. A grade of "S" or "U" is awarded. If a student's Defense Examination performance is not satisfactory, then only one reexamination is permitted.

After a successful thesis defense, candidates must forward an original and two copies of the corrected thesis to the Graduate College within the time period specified by the Thesis Defense Examination Committee, and/or the Graduate College.

Options within Master of Arts Programs

At least 21 hours of graduate credit, including credit for the thesis and research leading to the thesis, must be earned in the field of specialization. All course credit included in these 21 hours must be earned in courses which have been approved for graduate credit. Students may wish to include in their programs up to nine hours of graduate level courses outside their fields of specialization. These courses must be approved in advance by the student's advisor or studies committee.

Additional Requirements for the Master of Arts in Teaching

The MAT degree is intended for people who are already licensed as secondary school teachers or who will complete teacher licensure requirements before graduation. For already licensed teachers, the program requires a minimum of 30 credit hours of course work; at least 21 hours in the field of specialization and at least six in education. For those seeking teacher licensure, the program requires at least 30 credit hours of education course work and at least 21 hours in the field of specialization. The individual program of study for each MAT student must be approved by their faculty advisor in their field of specialization.

In addition to the comprehensive examination in the field of specialization, students must also take a comprehensive examination in the field of education. Consult specific program listings for additional requirements for this degree program.

Additional Requirement for the Master of Science for Teachers

Applicants for the Master of Science for Teachers must be licensed teachers. Students in a Master of Science for Teachers program may apply more than one three-hour, 100level course toward their degree. Consult specific department listings for additional requirements and policies related to this degree program.

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General Requirements for the Master of Education Degree

College: <u>Graduate College</u> Department: <u>Education</u>

The graduate program of each student admitted to candidacy for the degree of Master of Education is planned and supervised by an advisor in the respective program area. Program planning is based upon the student's undergraduate curriculum, professional experience, and aims and purposes in pursuing the master's degree. Before the degree is awarded, the candidate must have completed one year of successful teaching experience or other educational service. This requirement may be fulfilled by satisfactory completion of student teaching, an internship, or a practicum.

Each program must include a minimum of either 30 semester hours of approvedcourse work or 24 hours earned in courses and six hours in thesis research.Contingent on a candidate's background and interests and on program specification,additional credit hours may be required. If a student's preparation is inadequateto begin study at the graduate level, additional undergraduate courses willbe required. Each Master of Education degree program must include a minimumof six semester hours of graduate work in the foundations of education unlessthis requirement or its equivalent has been met previously. Graduate courses which currently fulfill this requirement include: EDFS 203, 204, 205, 206, 209,255, 302, 303, 314, 347, 352, 354, and EDSS 313 and EDLS 377.

To insure effective planning of a graduate program for the degree of Masterof Education, no more than nine hours credit will be accepted in partial fulfillmentof degree requirements for courses taken prior to acceptance to the GraduateCollege.

Comprehensive Examination

A comprehensive examination is required. However, it may be written, oral, \overline{o} r both. The choice of the examination format will be made by faculty membersin the area of specialization after consultation with the advisor and the candidate.

- a. The written comprehensive examination will cover the field of education with emphasis on the area of specialization.
- b. The oral comprehensive examination will emphasize the area of specialization.

All examinations are taken on the University campus in Burlington. Only one **r**eexamination is permitted for any final comprehensive examination. It is the **r**esponsibility of the candidate to schedule the required examination with the College of Education and Social Services. Since each program has different options for meeting the oral and written comprehensive requirements, candidates must **c**ontact the respective program chairperson or advisor regarding program policy.

Thesis Option

If the thesis option is elected, there must be an oral or written comprehensiveexamination prior to the oral examination in defense of the thesis.

Requirements for Admission to Graduate Studies forthe Degree of Master of Education

Eighteen hours of Education and related areas or appropriate professional certification. The Education courses prerequisites may not apply to the Higher Education and Student Affairs Administration, Educational Leadership, or Interdisciplinary MajorProgram in the Department of Integrated Professional Studies. This is particularlytimue of persons seeking positions which do not require public school certification.

Minimum Degree Requirements

Eighteen hours in courses in Education numbered above 200, including a minimumof six graduate hours in the foundations of education,* 12 additional hours in approved courses or six additional hours and thesis research; a year of successfulexperience in teaching or in a related educational activity.

* This requirement no longer applies to the program in SpecialEducation.

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Graduate College Requirements for the Doctor of Philosophy Degree

College: <u>Graduate College</u> Area: <u>Graduate College Policies</u>

In addition to the requirements described below, individual programs may have their own specific requirements. Students should consult and familiarize themselves with their program requirements. Some of them are detailed in this catalogue under individual program listings and other requirements are available from the director or chairperson of each program.

Credit Hours

The degree of Doctor of Philosophy requires a minimum of 75 credit hours earned in courses and in dissertation research. A minimum of 15 hours in courses used in compilation of the grade-point average must be taken in residence at The University of Vermont. Consult individual programs for additional information. Generally, the first year of each doctoral program consists of required courses. With the prior approval of their department and the Graduate College, doctoral students may apply two 100-level, three-credit courses towards their graduate programs. A student's advisor must petition the Graduate College for approval before the student enrolls in the course. Consult individual programs for further limitations. Under no circumstances will a course numbered below 100 be applicable to a doctoral program.

Minimum Residence Requirements

Candidates for the doctoral degree must satisfactorily complete a minimum of 51 hours in residence. The residency requirement is completed by courses that (1) are taken for graduate credit through The University of Vermont either in the academic year or summer on the main campus or at off-campus locations, and (2) are taken after the student has been admitted to the Graduate College. Some programs may require more than the above minimum hours in residence.

Teaching Requirement

All doctoral candidates must acquire appropriate teaching experience in their chosen fields prior to the award of the degree. The nature and amount of teaching, for which no academic credit is allowed, will be determined by each candidate's program.

Language Requirement

Consult the program listings to determine whether demonstration of competency in one or more foreign languages is required. The requirement is generally fulfilled by an examination administered by the program or in conjunction with the appropriate language department. Enroll for the examination as GRAD 485. There is no fee for taking the exam. The examination is awarded the grade of "S" (Satisfactory) or "U" (Unsatisfactory). It may be taken more than once if a grade of "U" is awarded.

If department policy permits, the language requirement may be fulfilled through competence in computer literacy, either by completing appropriate Computer Science courses with a grade of B (3.00) or better, or by satisfactorily completing an examination composed and graded by the staff of Computing and Information Technologies. Individual programs may set additional requirements.

Studies Committee

It is the responsibility of the Studies Committee to supervise the graduate student's program and to review progress at regular intervals. A Studies Committee consisting of at least three regular members of the Graduate Faculty is appointed by the department chairperson or designated departmental representative and approved by the Dean of the Graduate College soon after first enrollment in the Graduate College, unless the student's department employs an alternative approved procedure. The Chairperson of the Studies Committee serves as the student's academic advisor and also as the dissertation advisor or supervisor. Only a regular member of the Graduate Faculty can serve as an advisor of a doctoral dissertation. On occasion, it may be appropriate for a professional other than a regular member of the Graduate Faculty to serve as a member of a Studies Committee. In such cases, written approval must be obtained from the Dean of the Graduate College prior to the student's beginning dissertation research.

Comprehensive Examination

A written comprehensive examination in the field of study must be passed by the candidate at least six months before the dissertation is submitted. The examination must be prepared by the program concerned, in consultation with the candidate's Studies Committee. Only one reexamination is permitted. Success in the written comprehensive examination is prerequisite to standing for the Dissertation Defense Examination. All examinations are taken on The University of Vermont campus in Burlington. Some programs also require an oral comprehensive examination.

Students must enroll in GRAD 497: Doctoral Comprehensive Examination prior to taking the comprehensive examination. There is no fee. A grade of "S" or "U" is recorded.

Research and Dissertation

Each candidate, while in residence at The University of Vermont, must complete an acceptable original research project which contributes new knowledge or techniques in an academic field. Each candidate must enroll in a minimum of 20 credits of dissertation research. Only a member of the Graduate Faculty may supervise dissertation research for the Ph.D.

Forms

Submit the Defense Committee Membership form and the Defense Notice form to the Graduate College by the designated deadlines. A Public Notice of the defense is required in order to defend. The Intent to Graduate form must be submitted to the candidate's department before the List of Potential Graduates is due.

Dissertation Format

Students are required by the Graduate College to use a computer software program appropriate to the discipline to create the Table of Contents and the Lists of Tables and Figures from the dissertation text headings. An unformatted dissertation will not be accepted by the Graduate College for the Format/Record Check.

A dissertation must be prepared and submitted in compliance with the "Guidelines for Writing a Thesis or Dissertation" available from the Graduate College Office and the program. A formatted copy of the dissertation must be submitted to the Graduate College for a Format/Record Check at least three weeks prior to the scheduled oral defense. Each student must also provide defendable copies of the dissertation to members of the Dissertation Defense Examination Committee at least two weeks before the scheduled examination. Individual departments may require earlier deadlines.

Students must enroll in GRAD 499: Dissertation Defense prior to defending their thesis.

The oral defense of a dissertation can be scheduled only after successful completion of the comprehensive examination and the submission of an original copy of the dissertation to the Graduate College for a Format/Record Check.

Dissertation Defense Examination Committee

Upon receipt of a completed dissertation, the Dean of the Graduate College will appoint a Dissertation Defense Committee based upon nominations submitted by the candidate's advisor. The Dissertation Defense Committee consists of a minimum of four University of Vermont faculty members, all regular members of the Graduate Faculty. At least two Graduate Faculty members must be from inside the department. The Chairperson must be both a member of the Graduate Faculty and from outside the candidate's department and program. The Chairperson will be designated by the Graduate Dean upon nomination by the dissertation advisor. Individual programs may require more than four committee members or have other specific membership requirements.

The Chairperson of the Dissertation Defense Committee has the responsibility for ensuring proper conduct of the examination, appropriate documentation of the results, and that the signatures of endorsement are added to the acceptance page of the dissertation following a successful defense.

The acceptability of the dissertation is determined by the Dissertation Defense Committee. A grade of "S" or "U" is awarded. If a student's Defense Examination performance is not satisfactory, then one reexamination, and one only, is permitted.

After a successful dissertation defense, candidates must forward an original and three copies of the corrected dissertation to the Graduate College within the time period specified by the Dissertation Defense Committee and/or the Graduate College.

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Graduate Student Rights and Responsibilities

Area: Graduate College Policies

Students have the responsibility to familiarize themselves with the policies and procedures of the University, the Graduate College, and their department or program. Students are primarily responsible for knowing the degree requirements and following the policies that govern their academic program. If students have concerns or doubts about individual policies and procedures, they may contact their advisor, their program or department chairperson, or the Graduate College Office, which is the ultimate arbiter of policies and procedures.

University policies and those of the Graduate College are contained in The Catos Tale and this Catalogue, respectively. Copies of The Catos Tale are available to new graduate students and may also be obtained from the Office of the Vice President for Student Affairs. In cases of conflict, the Graduate Catalogue supersedes academic policies in The Catos Tale.

Advising. Unless a department or program employs an alternative approved procedure, each graduate student will have a faculty advisor to advise on matters of course selection, research direction, and overall guidance from admission to the Graduate College to completion of degree requirements. The initial advisor is assigned by the Department Chairperson or the Graduate Program Coordinator prior to or shortly after enrolling in the Graduate College. If an initial advisor is not assigned by either of the above parties within two weeks after the initiation of course work in a given graduate program, the student is encouraged to contact the Graduate College. Many times, one faculty member serves as an initial advisor for several students, and the advisor may change as the student s program and research interests become refined and definite.

Another common model, especially in doctoral programs, is a Studies Committee comprised of appropriate faculty who share a student scholarly and professional interests. The committee meets regularly to discuss the student sprogress and consult with the student regarding academic development.

While there are a variety of advising models, in each case students have the right to consult regularly with their academic advisor or studies committee.

Professional Ethics and Academic Honesty. Graduate students are required to adhere to the highest standards of professionalism as students, researchers, and teachers, and the University, in order to encourage a positive atmosphere in all phases of academic learning, teaching and research, created specific guidelines and policies regarding academic honesty. They are outlined in The Cat state and are also available from the Office of the Provost.

Sexual Harassment. No member of the University community may sexually harass another. Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

- a. submission to such conduct is made either explicitly or implicitly a term or condition of an individual s employment or education;
- b. submission to or rejection of such conduct by an individual is used as the basis for academic oremployment decisions affecting that individual; or
- c. such conduct has the purpose or effect of substantially interfering with an individual s academic or professional performance or creating an intimidating, hostile, or offensive employment, educational, or living environment.

Any University of Vermont student having a complaint of sexual harassment should notify the Office of Affirmative Action and Equal Opportunity; students may also contact the Vice President for Student Affairs. If a student has personal concerns regarding sexual harassment, confidential counseling can be arranged through the Counseling and Testing Center. Policies and procedures governing complaints of sexual harassment are available in the office of each dean, department head, and chairperson as well as in the Bailey/Howe Library.

Discrimination. The University community will not tolerate discrimination. The Notice of Nondiscrimination, including a statement regarding policies, is published in the front of this catalogue. *Appeals.* The Graduate College is ultimately responsible for grievances regarding policies and procedures related to graduate education. Specifically excluded are grievances that contest grades on grounds other than those enumerated above.

A grievance properly begins within the student so own department by an appeal to a program director or chair. If this does not resolve the grievance, the student can present the grievance in writing to the dean of the unit in which the program resides, and thereafter to the Dean of the Graduate College. Grievances must state clearly and precisely the basis for appeal and provide supporting evidence that astudent is rights have been jeopardized. The Dean may recommend that the grievance be reviewed by the Graduate College Executive Committee. The Dean is the final arbiter of Graduate College regulations. Students retain the right to appeal the Dean s decision to the Provost.

Transcripts. An official transcript is the reproduction of a complete, unabridged permanent academic record validated with the University seal, facsimile signature of the Registrar, and date of issue. A Key to Transcript is included. Currently enrolled as well as former graduate students may obtain an official transcript of their permanent academic record by writing the Office of the Registrar, 360 Waterman Building. Please allow a

minimum of one week for normal processing and three weeks following the end of a semester. Transcripts are not released when there is an indebtedness to the University.

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Notification of Rights Under FERPA for Postsecondary Institutions

Area: Graduate College Policies

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

- 1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
- 2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading. Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
- 3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official

committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by The University of Vermont to comply with the requirements of FERPA. The name and address of the office that administers FERPA: Family Policy Compliance Office U.S. Department of Education 600 Independence Avenue, SW Washington, DC 20202-4605

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Area: Graduate College Policies

The Family Educational Rights and Privacy Act of 1974 grants to all students the right not to have personal information contained in the records of the University released to any individual, agency, or organization. UVM feels that the following constitutes such personal information.

Name Address (including e-mail address) Telephone number Dates of attendance Class Previous institution(s) attended Major field of study Enrollment status Awards Honors (including Dean s list) Degree(s) conferred (including dates) Past and present participation in officially recognized sports and activities Physical factors (height, weight of athletes) Date and place of birth

Students who do not wish to have the above information released should fill out an information exclusion card at the Registrar s Office.

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Courses	Area: <u>Graduate College Policies</u>
Academic Offerings	Degrees are conferred only in October, March, and May of each year. Diplomas are issued only in May.
Colleges & Schools	It is the graduate student s responsibility to make sure that their name has been
Faculty	submitted by their department or program, to the Dean so Office of the Graduate College for Graduation.
Policies & General Information	Departments with graduate programs must submit a List of Potential Graduate Students along with an Intent to Graduate form for each student by July 1, November 1, and January 1 for the October, March, and May graduation deadlines.
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- James Pizzagalli, B.S., J.D., Shelburne, Vermont
- Helen B. Spaulding, Boston, Massachusetts

Term Ending March 2007

- Kathleen C. Hoyt, B.A., Norwich, Vermont
- Richard W. Hube, B.A., South Londonderry, Vermont
- Thomas A. Little, A.B., J.D., Shelburne, Vermont
- Mark S. Young, Orwell, Vermont

Term Ending March 2008

Faculty

Policies & General Information

Catalogue Archives

- Robert F. Cioffi, B.A., M.B.A., Rowayton, Connecticut
- Carl H. Lisman, A.B., J.D., Charlotte, Vermont
- Raymond C. Pecor, A.B.A., Shelburne, Vermont

Term Ending March 2009

- Edwin H. Amidon, Jr., B.A., LL.B. Charlotte, Vermont
- Martha P. Heath, B.S., Westford, Vermont
- James P. Leddy, B.A., M.S.W. South Burlington, Vermont
- Robert H. Young, B.A., M.B.A., Rutland, Vermont

See also, the Board of Trustees Web site **2**.

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Administration The University of Vermont

- Fogel, Daniel Mark, Ph.D. (2002), President
- Bramley, A. John, Ph.D. (1990), Senior Vice President & Provost
- Parke, E. Lauck, Ph.D. (1977), Vice President for Undergraduate Education
- Frances E. Carr, Ph.D. (2003), Vice President for Research & Dean of Graduate Studies
- DeHayes, Donald H., Ph.D. (1977), Dean, School of Natural Resources
- DeWitt, Rocki-Lee, Ph.D. (2002), Dean, School of Business Administration
- Evans, John N., Ph.D. (1976), Acting Dean, College of Medicine
- Jenkins, Robert G., Ph.D. (1999), Dean, College of Engineering and Mathematics
- Johnson, Rachel N., Ph.D. (1991), Dean, College of Agriculture and Life Sciences
- Rambur, Betty, DNS (2000), Dean, College of Nursing and Health Sciences
- Saule, Mara R., M.L.S. (1985), Dean, Libraries & Information Technologies
- Smith, Joan M., Ph.D. (1990), Dean, College of Arts and Sciences
- Tarule, Jill M., Ed.D. (1992), Dean, College of Education and Social Services
- Taylor, Robert, Ph.D. (1986), Dean, Honors College
- Belliveau, C. (2000) and Vallett, C. (1999), Co-Directors, Continuing Education
- Lantagne, Douglas O., Ph.D. (1977), Interim Director, Extension System
- Bazluke, Francine T., J.D. (1985), Vice President for Legal Affairs & General Counsel
- Gower, J. Michael (2003), Vice President for Finance and Administration
- Gustafson, Thomas J., Ed.D. (1978), Vice President for Student & Campus Life
- Nestor, David A., Ed.D. (1994), Associate Vice President for Campus Life & Student Affairs
- deGroot, Ian W., B.S. (1984), Vice President for University Development & Alumni Relations
- Meyer, Karen N. (2002), Vice President for State and Federal Relations

UVM organizational chart. 🔊

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University Professorships

The Williams Professorship of Mathematics, 1853, honorsAzarias Williams of Concord, Vermont, merchant andjudge, native of Sheffield, England, who in 1839 deeded tothe University extensive land holdings.

The Marsh Professorship of Intellectual and Moral Philosophy wasestablished in 1867 to honor James Marsh, distinguished UVM president and philosopherof the 1830's. William E. Mann is the Marsh Professor.

The Pomeroy Professorship of Chemistry was established in 1878by John N. Pomeroy, A.B., 1809, who lectured on chemistryand served as trustee of the University. William E. Geiger isthe Pomeroy Professor.

The Howard Professorship of Natural History and Zoology was establishedin 1881 by John Purple Howard, a generous benefactor of the University. William Kilpatrick is the Howard Professor.

The Flint Professorship of Mathematics, Natural or Technic Science was established in 1895 by a bequest from Edwin Flint.

The Converse Professorship in Commerce and Economics was establishedin 1899 by John H. Converse, A.B., 1861, LL.D., 1897, who as a trustee of the University proposed the teaching of Latin, modern languages, history, and other subjects. William Gibson is the Converse Professor.

The Thayer Professorship of Anatomy was established in 1910 tobonor Dr. Samuel White Thayer, Dean of the College of Medicine from 1854-71 and 1880-82, from contributions made by alumni of the College of Medicine. Professor of Anatomy Rodney L. Parsons is the Thayer Professor.

The McCullough Professorship of Political Science wasestablished in 1926 through grants made by Gov. and Mrs. John G. McCullough. Alan P. Wertheimer, Professor of PoliticalScience, is the McCullough Professor.

The Perkins Professorship of Zoology was established in 1931 tohonor George H. Perkins, a teacher of science and dean of the College of Arts and Sciences. Judith L. Van Houten, Professor of Biology, is the Perkins Professor. *The Shipman Professorship of Ophthalmology* was established in 1934by a bequest from Dr. Elliot W. Shipman, M.D., 1885 and is held by Robert Millay, M.D..

The Lyman-Roberts Professorship of Classical Languages and Literature was established in 1941 to honor Robert Roberts, mayor of Burlington in the1890's and a University trustee from 1895-1939. Z. Philip Ambrose, Professorof Classics, is the Lyman-Roberts Professor.

The Corse Professorship of English Language and Literature wasestablished in 1952 by Frederick M. and Fannie C.P. Corse. Anthony G. Bradley, Professor of English, is the FrederickM. and Fannie C.P. Corse Professor.

The Lawrence Forensic Professorship of Speech was established in 1965 by Edwin W. Lawrence, lawyer and financier of Rutland, Vermont, A.B., 1901. Alfred C. Snider, Associate Professorof Theatre, is the Lawrence Professor.

The Sanders Professorship was established in 1968 by UVMālumni, honoring the Rev. Daniel Clarke Sanders, firstpresident of the University.

The John L. Beckley Professorship in American Business was establishedin 1983 by John L. Beckley, 1934 graduate of UVM a trustee from 1966 to 1970, to encourage economiceducation. James M. Sinkula, Professor of Business Administration, is the Beckley Professor.

The Bishop Robert F. Joyce Distinguished University Professorship of *Gerontology* was established in 1983 by alumni and friends, honoring Robert F. Joyce, 1917 graduate, a trustee from 1948 to 1954, and Bishop of the R. C. Diocese of Burlington for 15 years. Stephen J. Cutler is the Joyce Professor.

The Buttles Professorship in Pathology was established in 1984to honor Ernest Hiram Buttles, Professor of Pathology andBacteriology, 1921 to 1946. Bruce R. MacPherson is theButtles Professor.

The McClure Professorship in Musculoskeletal Research was establishedin 1988 by J. Warren and Lois H. McClure. Robert J.Johnson is the McClure Professor.

The E. L. Amidon Professorship in Medicine was established in1989 to honor Dr. E.L. Amidon, a revered teacher andformer chair of the Department of Medicine. Dr. Burton E. Sobel is the Amidon Professor.

The Roger H. Allbee Endowed Research Fellowship in Surgery wascreated in 1992 by Roger Allbee, M.D., '31, to provide support for a research fellow in the Department of Surgery. Michael A. Ricci is the Allbee Fellow in Surgery.

The Robert F. and Genevieve B. Patrick Endowed Professorship wascreated in 1999 through a generous bequest from the estateof Genevieve Patrick. The endowment is intended tosupport the study or specialty of nephrology. Dr. F. John Gennari is the Patrick Professor.

Established in 1995 by Gordon and Lulie Gund, *The GundChair in Liberal Arts* provides the College of Arts and Scienceswith the opportunity to attract a leading teacher-scholar to one of the liberal arts disciplines. Phillip J. Cooper, Professorof Political Science, is the first Gund professor.

The Wallace Professorship in the Department of Pediatrics was establishedin 1995 by the family of Harry W. Wallace to represent Mr. Wallace's philanthropic interests. Jerold F. Lucey is the Wallace Professor of Neonatology.

The Dorothean Professorship was established in 1996 by Dr. StuartMartin in memory of his wife, Dorothy Webster Martin, to support an outstandingindividual in the field of engineering or a related science.

The Henry and Carleen Tufo Chair in General Internal Medicine was created in 1999 by Henry M. and Carleen Ann Tufo to support continued excellence in teaching, research and patient care in General Internal Medicine. The Tufo Chair is held by Benjamin Littenberg, M.D.

The S.D. Ireland Family Professorship in Surgical Oncology was established in 1999 in recognition of the cancer research being conducted at the University of Vermont by David N. Krag, M.D., who serves as the S.D. Ireland Family Professor.

The Patrick Chair in Watershed Planning and Science was established in 2000 from a \$1.5 million gift from the estate of Genevieve Patrick, part of a \$9 million bequest to the University. W. "Breck" Bowden is the first Patrick chair.

The John Van Sicklen Maeck, M.D. Chair in Obstetrics and Gynecology was established in 2000. It is the expressed wish of the Maeck family that thechair of the Department of Obstetrics and Gynecology hold this endowed facultyposition. This position is currently held by Mark Phillippe, M.D., Chair andProfessor of Obstetrics and Gynecology, he is the second person to hold theMaeck chair.

The Gund Professorship of Ecological Economics was established in 2001 from part of a \$7.5 million gift from Gordon and Lulie Gund and their sons, Grant and Zachary. The first Gund professor is Robert Costanza, who also directs the Gund Institute of Ecological Economics.

The Stanley S. Fieber, M.D.'48 Chair in Surgery was created in 2002 by Stanley S. Fieber, M.D. to enhance the research and educational activities of the Department of Surgery. Steven R. Shackford, M.D. is the Fieber Chair in Surgery.

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As of October 2018, this is the list of Faculty that we were able to recover. When the catalogue was published, the Faculty list was complete.

A B С D E F G H IJ Μ P Κ L Ν 0 Т Ζ 0 R S X Y U V W

- Abate III, Joseph Anthony Assistant Professor of Orthopaedic Rehabilitan
- Abrams, Sarah Elise Assistant Professor of Nursing
- Abruscato, Joseph Anthony Professor of Education Department
- Absher, Richard Gaylon Professor of Electrical & Computer Eng
- Achenbach, Thomas Max Professor of Psychiatry
- Adams, Denise Martin Assistant Professor of Pediatrics
- Adams, Elizabeth Jean Clinical Instructor of Communication Sciences
- Ades, Philip A. Professor of Medicine
- Agne, Russell Maynard Professor of Education Department
- Aguiar, Neil W. Lecturer of Mathematics & Statistics
- Aiken, Judith A. Associate Professor of Education Department
- Ainsworth, Pamela J. Extension Professor of Ext Southern Regn
- Aleong, John Professor of Plant & Soil Science
- Alexandra, Eve M. Lecturer of English
- Ali, Saleem Hassan Assistant Professor of Sch of Natural Resources
- Allegretta, Mark Research Assistant Professor of Pathology
- Allen III, Gilman B. Research Assistant Professor of Medicine
- Allen, Christopher Whitney Professor of Chemistry
- Alpert, Jamie Allison Clinical Assistant Professor of Medicine

- Alston, Wallace Kemper Associate Professor of Medicine
- Ambrose, Z. Philip Professor of Classics
- Ames, Suzanne Elizabeth Assistant Professor of Orthopaedic Rehabilitan
- Anderson, Sharon Eylar Assistant Professor of Nursing
- Archdeacon, Dan Steven Professor of Mathematics & Statistics
- Arnez, John G. Research Assistant Professor of Biochemistry
- Aronsson, David Douglas Professor of Orthopaedic Rehabilitan
- Arslan, Abdullah Necip Assistant Professor of Computer Science
- Ashman, Jay Irwin Lecturer of Comm Dvlpmnt & Applied Ec
- Ashman, Marguerite Gemson Extension Professor of Ext Northwest Rgn
- Asiedu-Addo, Samuel K. Lecturer of Mathematics & Statistics
- Averyt, William Franklin Associate Professor of Sch Business Adminstrn

Β

- Backus, Linda H. Research Assistant Professor of Education Department
- Baege, Monika Ingeborg Extension Assistant Professor of Ext-Central/Northeast Rgn
- Bailly, Jacques A. Assistant Professor of Classics
- Baker, Daniel H. Lecturer of Comm Dvlpmnt & Applied Ec
- Baker, Susan M. Lecturer of Education Department
- Barna, Jacquelyn Lee Lecturer of Social Work
- Barnaby, Andrew Thomas Associate Professor of English
- Barrington, David Stanley Professor of Botany
- Baruth, Philip Edward Associate Professor of English
- Bateman, Erik Alan Research Associate Professor of Microbio & Moleclr Genetc
- Bates, Jason H.T. Research Professor of Medicine
- Battelle, Peter Erle Assistant Professor of Sch Business Adminstrn
- Bavly, Gideon Lecturer of German & Russian
- Beatson, Jean E. Visiting Assistant Professor of Nursing
- Beatty, Barbara G. Research Associate Professor of Pathology
- Beatty, J. David Professor of Surgery
- Becker, Kenneth Maver Lecturer of Comm Dvlpmnt & Applied Ec
- Beer, Caroline Charlotte Assistant Professor of Political Science
- Belin, Gayle M. Clinical Instructor of Communication Sciences
- Beliveau, Jean-Guy Lionel Professor of Civil & Environmental Eng
- Benoit, Michel Yves Assistant Professor of Orthopaedic Rehabilitan
- Benson, Daisy S. Library Assistant Professor of Bailey/Howe Library
- Bentil, Daniel E. Associate Professor of Mathematics & Statistics
- Bergdahl, Dale Roger Professor of Sch of Natural Resources
- Berger, Christopher Lewis Associate Professor of Moleculr Physolgy & Bioph

- Berger, Claudia A. Assistant Professor of Medicine
- Bergmann, James R. Assistant Professor of Family Practice
- Berkett, Lorraine Pachuta Extension Professor of Plant & Soil Science
- Berlin, Linda Extension Instructor of Nutrition & Food Sciences
- Bernard, Emily E. Assistant Professor of English
- Bernstein, Ira Mark Professor of Obstetrics & Gynecology
- Bernstein, Richard Alan Associate Professor of Psychiatry
- Bertsch, Tania Fernandez Associate Professor of Medicine
- Beynnon, Bonnie Lecturer of Nutrition & Food Sciences
- Beynnon, Bruce David Associate Professor of Orthopaedic Rehabilitan
- Bianchi, Nancy A. Library Associate Professor of Medical Library
- Bickel, Warren Kurt Professor of Psychiatry
- Bielawski-Branch, Karen E. Lecturer of Social Work
- Bierman, Paul Robert Professor of Geology
- Bingham, Peter M. Associate Professor of Neurology
- Birnn, Jane T. Clinical Assistant Professor of Nursing
- Bishop, Penny A. Assistant Professor of Education Department
- Bitner, Brooke A. Lecturer of Communication Sciences
- Blair, Linda Lecturer of Social Work
- Blom, Deborah Eileen Assistant Professor of Anthropology
- Boland Chira, Sheila Lecturer of English
- Bond, Jeffrey P. Research Assistant Professor of Microbio & Moleclr Genetc
- Bond, Lynne Anne Professor of Psychology
- Bonev, Adrian Dimitrov Research Assistant Professor of Pharmacology
- Bongiorno, Anne E.W. Lecturer of Nursing
- Bonifield, Carolyn Marie Assistant Professor of Sch Business Adminstrn
- Borra, Adriana Eva Lecturer of Romance Languages
- Borra, Antonello Assistant Professor of Romance Languages
- Borrazzo, Edward C. Assistant Professor of Surgery
- Bosenberg, Marcus Wolfram Assistant Professor of Pathology
- Bossange, Janet H. Lecturer of Education Department
- Bosworth, Sidney Carl Extension Associate Professor. of Plant & Soil Science
- Bouchard, Peter Francis Adjunct Lecturer of Music
- Bouchey, Heather Ann Assistant Professor of Psychology
- Boumans, Roelof M. Research Associate Professor of Sch of Natural Resources
- Bousquet, Daniel William Extension Associate Professor. of Ext-Central/Northeast Rgn
- Bouton, Mark Earhart Professor of Psychology
- Bovill, Edwin Gladstone Professor of Pathology
- Bowden, William B. Professor of Sch of Natural Resources

- Boyd, Babette J. Lecturer of Sociology
- Braas, Karen Marie Research Associate Professor of Anatomy & Neurobiology
- Bradley, Anthony G. Professor of English
- Branch, Judy H. Extension Associate Professor. of Ext-Central/Northeast Rgn
- Branda, Richard Frank Professor of Medicine
- Brayden, Joseph Elliott Professor of Pharmacology
- Brennan, Thomas Associate Professor of Art
- Brew, Linda S. Library Associate Professor of Bailey/Howe Library
- Bridges, Karl F. Library Associate Professor of Bailey/Howe Library
- Brody, Alison Kay Associate Professor of Biology
- Broer, Stephen Michael Research Assistant Professor of Education Department
- Bronstein, Phyllis Professor of Psychology
- Brook, Judy Tenney Extension Assistant Professor. of Ext Northwest Rgn
- Brookes, Timothy J. Lecturer of English
- Brooks, Nancy Elizabeth Assistant Professor of Economics
- Broughton, Laurel Ginter Lecturer of English
- Brown, Dona L. Associate Professor of History
- Brown, Kenneth A. Professor of Medicine
- Brownbridge, Michael Research Associate Professor of Plant & Soil Science
- Bruce, Melissa Cathey Clinical Instructor of Communication Sciences
- Brummel, Kathleen E. Research Assistant Professor of Biochemistry
- Brumsted, John Robert Professor of Obstetrics & Gynecology
- Brundage, William John Assistant Professor of Surgery
- Bryan, Frank MacLlewellyn Professor of Political Science
- Bucci, David John Assistant Professor of Psychology
- Buck-Rolland, Carol L. Clinical Assistant Professor of Nursing
- Budd, Ralph Charles Professor of Medicine
- Budney, Alan Jeffrey Associate Professor of Psychiatry
- Bunn, Janice Yanushka Research Assistant Professor of Mathematics & Statistics
- Burchard, John David Professor of Psychology
- Burchard, Sara N. Associate Professor of Psychology
- Burczy, Sara Ann Extension Professor of Ext-Central/Northeast Rgn
- Burford, Gale E. Professor of Social Work
- Burgin, Eileen Kay Associate Professor of Political Science
- Burgmeier, James William Professor of Mathematics & Statistics
- Burke, John MacKenzie Professor of Microbio & Moleclr Genetc
- Burke, John Patrick Professor of Political Science
- Burke, Leah Weyerts Associate Professor of Pediatrics
- Burns, Christopher David Library Assistant Professor of Bailey/Howe Library

- Busier, Holly L. Lecturer of Education Department
- Butenas, Saulius Research Associate Professor of Biochemistry
- Buzas, Jeff Sandor Associate Professor of Mathematics & Statistics
- Byerly, Priscilla Morse Lecturer of Romance Languages

С

- Callahan, Elizabeth Frazier Assistant Professor of Medicine
- Callas, Peter W. Research Assistant Professor of Mathematics & Statistics
- Campbell, Christine Lecturer of Art
- Campo, Antonio Associate Professor of Mechanical Engineering
- Canales, Mary K. Assistant Professor of Nursing
- Capeless, Eleanor Lacava Professor of Obstetrics & Gynecology
- Capeless, Mark Atlee Professor of Medicine
- Capps, Joseph Martin Adjunct Lecturer of Music
- Carew, Lyndon Belmont Professor of Animal Sciences
- Carey, Peggy Assistant Professor of Family Practice
- Carleton, Sarah E. Assistant Professor of Theatre
- Carling, Oliver S. Lecturer of Philosophy
- Carlson, Mary Caroline Extension Assistant Professor. of Ext Northwest Rgn
- Carr, Jeanine M. Associate Professor of Nursing
- Carson, Wade Michael Lecturer of Biomedical Technology
- Carter, Jeffrey Earle Extension Assistant Professor. of Ext Northwest Rgn
- Carter, Stephen Michael Associate Professor of Art
- Casey, Theresa Marie Lecturer of Animal Sciences
- Casson, Peter R. Associate Professor of Obstetrics & Gynecology
- Cataldo, Peter A. Associate Professor of Surgery
- Cats-Baril, William Lawrence Associate Professor of Sch Business Adminstrn
- Cefalu, William Thomas Associate Professor of Medicine
- Ceroni, Marta Research Assistant Professor of Sch of Natural Resources
- Chan, Sin-Yee Associate Professor of Philosophy
- Chapman, James Gliem Professor Emeritus of Music
- Chapple-Sokol, Anne Library Assistant Professor of Medical Library
- Chase, Lisa Cheryl Extension Assistant Professor. of Ext Southern Regn
- Chaudhry, Muhammad Ahmad Research Assistant Professor of Microbio & Moleclr Genetc
- Chen, Weigang Assistant Professor of Religion
- Cherouny, Peter Herbert Associate Professor of Obstetrics & Gynecology
- Chien, Edward K.S. Associate Professor of Obstetrics & Gynecology
- Chiola, Louise A. Lecturer of Social Work
- Christensen, David Phiroze Professor of Philosophy

- Christensen, Judith A. Lecturer of Psychology
- Chu, Kelvin Assistant Professor of Physics
- Cichoskikelly, Eileen M. Research Assistant Professor of Family Practice
- Cipolla, Marilyn Jo Assistant Professor of Neurology
- Clark, Anne L. Associate Professor of Religion
- Clark, Kelly A. Research Assistant Professor of Education Department
- Clauss, David Ward Associate Professor of Surgery
- Cleary, Thomas G. Adjunct Lecturer of Music
- Cleaver, William M. Visiting Assistant Professor of Chemistry
- Clougherty, Dennis Paul Associate Professor of Physics
- Cody, Rayden C. Assistant Professor of Orthopaedic Rehabilitan
- Coffey, Dianne Assistant Professor of Integratd Profssnl Stdies
- Cohen, Judith Ann Associate Professor of Nursing
- Cole, Yaa Adubea Lecturer of Education Department
- Coleman, Willi Associate Professor of History
- Colletti, Richard B. Professor of Pediatrics
- Comerford, Susan Ann Assistant Professor of Social Work
- Comstock Jr, Carlton R. Extension Assistant Professor. of Ext Southern Regn
- Connolly, Declan A. Associate Professor of Education Department
- Connor, Catherine Professor of Romance Languages
- Contompasis, Stephen H. Associate Professor of Pediatrics
- Cook, Deborah L. Assistant Professor of Pathology
- Cook, George Leslie Extension Associate Professor. of Ext-Central/Northeast Rgn
- Cooke, Roger Lee Professor of Mathematics & Statistics
- Cooper, Kumarasen Professor of Pathology
- Cooper, Phillip J. Professor of Political Science
- Cooper, Sheldon Mark Professor of Medicine
- Cornbrooks, Carson Justis Associate Professor of Anatomy & Neurobiology
- Cornbrooks, Ellen Black Lecturer of Anatomy & Neurobiology
- Corson, Mutsumi Matsubara Lecturer of Classics
- Costanza, Robert Professor of Sch of Natural Resources
- Cowan, D. Brookes Lecturer of Sociology
- Cravedi-Cheng, Lia Lecturer of Education Department
- Crichfield, Grant Associate Professor of Romance Languages
- Critchlow, Dale L. Research Professor of Electrical & Computer Eng
- Crock, John Gordon Research Assistant Professor of Anthropology
- Crockenberg, Susan Claire Professor of Psychology
- Cromwell, Susan Jane Clinical Assistant Professor. of Physical Therapy
- Currier, William Wesley Associate Professor of Agricultural Biochemistry

- Cushman, Mary Associate Professor of Medicine
- Cutler, Stephen Joel Professor of Sociology
- Cutroneo, Kenneth Robert Professor of Biochemistry

D

- Damon, Craig A. Assistant Professor of Computer Science
- Damon, Deborah H. Research Assistant Professor of Pharmacology
- Danigelis, Nicholas Louis Professor of Sociology
- Danks, Cecilia Marie Assistant Professor of Sch of Natural Resources
- Dauerman, Harold Lee Associate Professor of Medicine
- Daugherty, Margaret Anne Assistant Professor of Biochemistry
- Davila, Jose Benigno Visiting Assistant Professor of Mechanical Engineering
- Davis, Cameron Lecturer of Art
- Davis, Gerald Sundt Professor of Medicine
- Davis, Howard Extension Assistant Professor. of Extension
- Davis, Jeffrey B. Associate Professor of Medicine
- Davis, Josie H. Lecturer of Animal Sciences
- Davis, Wendy Sue Professor of Pediatrics
- Davison, William Earl Professor of Art
- Dee, Justine M. Clinical Assistant Professor. of Physical Therapy
- Delaney, Carol Lynn Extension Instructor of Animal Sciences
- Delay, Rona J. Assistant Professor of Biology
- Delwiche, Frances Anne Library Assistant Professor of Medical Library
- Dempsey, Stephen Jeffrey Associate Professor of Sch Business Adminstrn
- Dennis, Ruth E. Research Assistant Professor of Education Department
- DeSantis, David M. Lecturer of Biomedical Technology
- DeVoe-Talluto, James Aaron Lecturer of Sch Business Adminstrn
- Dewees, Martha P. Associate Professor of Social Work
- Deziel, Gary Roger Extension Assistant Professor. of Ext Northwest Rgn
- Dickerman, Joseph David Professor of Pediatrics
- Dickinson, Jennifer A. Assistant Professor of Anthropology
- Dinitz, Jeffrey Howard Professor of Mathematics & Statistics
- Dinitz, Susan Marie Lecturer of English
- Diouf, Moustapha Associate Professor of Sociology
- Dixon, Anne Elizabeth Assistant Professor of Medicine
- Donnelly, Catherine Wright Professor of Nutrition & Food Sciences
- Donnelly, John Robert Professor Emeritus of Sch of Natural Resources
- Donnelly, L. Scott Adjunct Assistant Professor of Nutrition & Food Sciences
- Doolan, Barry Lee Associate Professor of Geology
- Dostmann, Wolfgang R.G. Assistant Professor of Pharmacology

- Doublie, Sylvie Assistant Professor of Microbio & Moleclr Genetc
- Douglas, Jeanne M. Lecturer of Computer Science
- Drake, John Craig Associate Professor of Geology
- Drolet, Suzanne Lynne Lecturer of Romance Languages
- Drucker, Nancy Ann Associate Professor of Pediatrics
- Dumenci, Levent Research Assistant Professor of Psychiatry
- Dummit, David Steven Professor of Mathematics & Statistics
- Duncan, Paula M. Professor of Pediatrics
- Dungy, Kathryn R. Assistant Professor of History
- Dunkling, Gregory D. Extension Instructor of Extension
- Dupigny-Giroux, Lesley-Ann Assistant Professor of Geography
- Dye, Sean M. Lecturer of Art

Ε

- Eckenstein, Felix Professor of Neurology
- Edelman, Susan Wilson Research Assistant Professor of Education Department
- Eicker, Joan N. Assistant Professor of Medicine
- Eisinger, Maj Associate Professor of Surgery
- Elder, Glen Strauch Associate Professor of Geography
- Elliott, Carolyn Margaret Professor of Political Science
- Ellis, Nancy E. Lecturer of Education Department
- El-Zaru, Mohamad R. Assistant Professor of Medicine
- Emery III, E. Stanley Professor of Neurology
- Emery, Meaghan Elizabeth Assistant Professor of Romance Languages
- Eppstein, Margaret Jean Assistant Professor of Computer Science
- Ergene, Bogac A. Assistant Professor of History
- Erickson, Jon D. Associate Professor of Sch of Natural Resources
- Erickson, Patricia Ann Lecturer of Animal Sciences
- Erickson, Robert Michael Lecturer of Computer Science
- Escaja, Tina Fernandez Associate Professor of Romance Languages
- Eschholz, Paul Anderson Professor of English
- Esenler, A. Cengiz Assistant Professor of Surgery
- Esparza, Vivian R. Research Assistant Professor of Family Practice
- Evans, Mark Francis Research Assistant Professor of Pathology
- Everse, Stephen Jay Assistant Professor of Biochemistry
- Ezerman, Elizabeth Booth Lecturer of Anatomy & Neurobiology

F

- Falls, William A. Assistant Professor of Psychology
- Farley, Joshua C. Research Assistant Professor of Sch of Natural Resources

- Farrell, Joanne M. Lecturer of English
- Favro, Mary Alice Clinical Instructor of Communication Sciences
- Feldman, Jan L. Associate Professor of Political Science
- Felt, Jeremy Pollard Professor Emeritus of History
- Fengler, Alfred Paul Associate Professor of Sociology
- Fengler-Stephany, Christie K. Associate Professor of Art
- Ferreira, Charles William Associate Professor of Comm Dvlpmnt & Applied Ec
- Ferrentino, Nicholas Assistant Professor of Medicine
- Fiekers, Jerome Francis Associate Professor of Anatomy & Neurobiology
- Finette, Barry Alan Associate Professor of Pediatrics
- First, Lewis R. Professor of Pediatrics
- Fishman, Laura T. Associate Professor of Sociology
- Fitzgerald, Martha D. Research Professor of Education Department
- Fives-Taylor, Paula M. Professor of Microbio & Moleclr Genetc
- Flanagan, Ted Benjamin Professor of Chemistry
- Fleming, Braden Campbell Research Assistant Professor of Orthopaedic Rehabilitan
- Flores, Yolanda Assistant Professor of Romance Languages
- Flynn, Brian Stephen Research Professor of Family Practice
- Flynn, John J. Visiting Assistant Professor of Mathematics & Statistics
- Fogarty, John P. Professor of Family Practice
- Fonda, Bruce Joseph Lecturer of Anatomy & Neurobiology
- Foote, Richard Martin Professor of Mathematics & Statistics
- Ford, John R.Deep Associate Professor of Comm Dvlpmnt & Applied Ec
- Forehand, Cynthia Jean Professor of Anatomy & Neurobiology
- Forrest, Joshua Bernard Associate Professor of Political Science
- Fossum, Myrna C. Lecturer of Nutrition & Food Sciences
- Fournier, Carol Ann Extension Instructor of Extension
- Fox, Kathryn Joan Associate Professor of Sociology
- Francklyn, Christopher Steward Associate Professor of Biochemistry
- Frankowski, Barbara Louise Professor of Pediatrics
- Fraser, Candace L. Associate Professor of Family Practice
- Frazer, Edorah J. Lecturer of Education Department
- Freeman, William Charles Research Assistant Professor of Education Department
- Frey, Lois Myers Extension Associate Professor. of Ext-Central/Northeast Rgn
- Fries, Timothy James Associate Professor of Neurology
- Friestad, Gregory K. Assistant Professor of Chemistry
- Frolik, Jeff L. Assistant Professor of Electrical & Computer Eng
- Fukagawa, Naomi Kay Associate Professor of Medicine

- Fulwiler, Laura Lecturer of Education Department
- Furney, Katharine Shepherd Assistant Professor of Education Department

G

- Gajda, Rebecca H.N. Assistant Professor of Education Department
- Galbraith, Richard A. Professor of Medicine
- Ganguly, Eric K. Instructor of Medicine
- Garcia, Maria Elena Extension Assistant Professor of Plant & Soil Science
- Garra, Brian Stephen Professor of Radiology
- Gatti, James Francis Associate Professor of Sch Business Adminstrn
- Gause III, Francis Gregory Associate Professor of Political Science
- Gavlas, Heather Dawn Assistant Professor of Mathematics & Statistics
- Ge, Gennian Visiting Assistant Professor of Computer Science
- Geiger Jr, William E. Professor of Chemistry
- Geiger, Sylvia Maria Adjunct Lecturer of Nutrition & Food Sciences
- Geller, Berta Merle Research Associate Professor of Family Practice
- Gennari, F. John Professor of Medicine
- Gennari, John Remo Assistant Professor of English
- Geraci, Julie A. Lecturer of Nursing
- Geroski, Anne M. Associate Professor of Integratd Profssnl Stdies
- Gerstl-Pepin, Cynthia I. Assistant Professor of Education Department
- Giangreco, Michael Francis Research Professor of Education Department
- Gibson, Pamela Cox Assistant Professor of Pathology
- Gibson, William Arch Professor of Economics
- Gibson, William Stewart Extension Instructor of Ext-Central/Northeast Rgn
- Gierzynski, Anthony Gerard Associate Professor of Political Science
- Gilmartin, Gregory Michael Associate Professor of Microbio & Moleclr Genetc
- Gilmore, James Arthur Associate Professor of Animal Sciences
- Ginger, Clare A. Associate Professor of Sch of Natural Resources
- Giordano, Rosanna Lecturer of Biology
- Glitman, Maynard W. Lecturer of Political Science
- Golann, Herbert E. Visiting Assistant Professor of Sch Business Adminstrn
- Goldberg, Joel Michael Associate Professor of Chemistry
- Golden, Kenneth Ivan Professor of Mathematics & Statistics
- Goldhaber, Dale Eric Associate Professor of Integratd Profssnl Stdies
- Goldhaber, Jeanne D. Associate Professor of Integratd Profssnl Stdies
- Goldman, Glenn D. Assistant Professor of Medicine
- Golnazarian, Wayne Adjunct Assistant Professor of Mechanical Engineering
- Goncz, Kaarin Kerr Research Assistant Professor of Medicine
- Goodnight, Charles James Professor of Biology

- Goodson, Hesterly Black Lecturer of English
- Gordon, Lawrence Russell Professor of Psychology
- Gordon, Robert James Professor of Anthropology
- Gordon-Wylie, Scott W. Assistant Professor of Chemistry
- Gotelli, Nicholas James Professor of Biology
- Gotlieb, Alan Bertoni Extension Professor of Plant & Soil Science
- Grace, Christopher James Associate Professor of Medicine
- Grant, Barbara Winslow Associate Professor of Medicine
- Greeley, Lynne Assistant Professor of Theatre
- Green, Janet E. Lecturer of Romance Languages
- Green, Jennifer L. Lecturer of Sociology
- Greenan-Naumann, Ann C. Clinical Assistant Professor. of Physical Therapy
- Greenblatt, Marc Steven Assistant Professor of Medicine
- Greene, Elizabeth Ann Extension Associate Professor. of Animal Sciences
- Green-Hernandez, Carol Associate Professor of Nursing
- Gribbons, Jackie Marie Assistant Professor Emeritus of Integratd Profssnl Stdies
- Griffin, Christine G. Lecturer of Biomedical Technology
- Griffin, Robert Stanley Professor of Education Department
- Grinde Jr, Donald A. Professor of History
- Gross, Kenneth Irwin Professor of Mathematics & Statistics
- Grubinger, Vernon Phillip Extension Professor of Ext Southern Regn
- Gruenert, Dieter Cotter Professor of Medicine
- Grunberg, Steven Marc Professor of Medicine
- Guarnaccia Jr, Samuel Lecturer of Romance Languages
- Guber, Deborah Lynn Assistant Professor of Political Science
- Guillot, Ann Packer Professor of Pediatrics
- Guitar, Barry Estill Professor of Communication Sciences
- Guo, Ming Ruo Associate Professor of Nutrition & Food Sciences
- Gurdon, Michael Antony Professor of Sch Business Adminstrn
- Gustafson, Melanie Susan Associate Professor of History
- Gutman, Stanley T. Professor of English

Η

- Haeberle, Joe Roy Associate Professor of Moleculr Physolgy & Bioph
- Hagenbach, Gail L. Lecturer of Physical Therapy
- Haggerty, Donald Robert Lecturer of Sch Business Adminstrn
- Hamel-Bissell, Brenda Pauline Professor of Nursing
- Hamill, Robert Wallace Professor of Neurology
- Hamilton, Ruth Irene Research Assistant Professor of Education Department
- Handy, Myra Lecturer of Social Work

- Hannah, Matthew G. Associate Professor of Geography
- Hardin, Nicholas Jackson Professor of Pathology
- Harlow, Seth P. Associate Professor of Surgery
- Harman, Chris T. Assistant Professor of Education Department
- Harmon, Maureen L. Assistant Professor of Pathology
- Harper, Wendy Sue Lecturer of Plant & Soil Science
- Harris, Jeanne M. Assistant Professor of Botany
- Harrison, David M. Assistant Professor of Sch Business Adminstrn
- Hart, Beth Ann Professor of Biochemistry
- Hartnett, Johnette T. Research Assistant Professor of Education Department
- Harvey, Susan C. Assistant Professor of Radiology
- Harvey-Berino, Jean Ruth Associate Professor of Nutrition & Food Sciences
- Hasazi, Susan Elaine Professor of Education Department
- Haugh, Larry Douglas Professor of Mathematics & Statistics
- Havens, Gail Ann Deluca Associate Professor of Nursing
- Hayden, Nancy Joan Associate Professor of Civil & Environmental Eng
- Hazelrigg, Ann L. Lecturer of Plant & Soil Science
- He, Qing-Yu Research Assistant Professor of Biochemistry
- Headrick, Randall L. Assistant Professor of Physics
- Healey, Mark A. Assistant Professor of Surgery
- Heath, Barry William Associate Professor of Pediatrics
- Hebert, James Charles Professor of Surgery
- Heckman, Joyce E. Research Assistant Professor of Microbio & Moleclr Genetc
- Heinrich, Bernd Professor of Biology
- Heintz, Nicholas H. Professor of Pathology
- Held, Jean M. Associate Professor of Physical Therapy
- Helenek, Colleen S. Extension Assistant Professor. of Ext-Central/Northeast Rgn
- Helzer, John Earl Professor of Psychiatry
- Hemenway, David Reeves Professor of Civil & Environmental Eng
- Henry, Sharon Margaret Associate Professor of Physical Therapy
- Heppner, Thomas Jon Research Assistant Professor of Pharmacology
- Hernandez, Carmen J. Lecturer of Biology
- Hession, William Culliton Assistant Professor of Civil & Environmental Eng
- Higgins, Linden Elizabeth Lecturer of Biology
- Higgins, Stephen Thomas Professor of Psychiatry
- Hill, H. Charles Associate Professor of Dental Hygiene
- Hills, Leslie K. Lecturer of Dental Hygiene
- Hirth, David Hammond Associate Professor of Sch of Natural Resources
- Hitt, Darren Lee Assistant Professor of Mechanical Engineering

- Hodgdon, Laurie A. Lecturer of Education Department
- Hoeck, Theresia Lecturer of German & Russian
- Hoffmann, James Paul Associate Professor of Botany
- Holmes, Lisa M. Assistant Professor of Political Science
- Homans, Alan Charles Associate Professor of Pediatrics
- Homziak, Jurij Extension Assistant Professor of Sch of Natural Resources
- Hondal, Robert J. Assistant Professor of Biochemistry
- Hood, Virginia Louise Professor of Medicine
- Hopkins, Michael Thomas Assistant Professor of Music
- Hopkins, William Edward Associate Professor of Medicine
- Horbar, Jeffrey David Professor of Pediatrics
- Horgan, Michael A. Assistant Professor of Surgery
- Hoskin, Mark L. Assistant Professor of Psychiatry
- Houton, Charles Leo Lecturer of English
- Hovey, Russell Charles Assistant Professor of Animal Sciences
- Hovey, Wendy Baker Lecturer of Education Department
- Howe, James Gregory Professor of Orthopaedic Rehabilitan
- Howe, Linda Marek Extension Associate Professor. of Ext-Central/Northeast Rgn
- Hubbell, Richard Nicholas Associate Professor of Surgery
- Huber, Sally Ann Professor of Pathology
- Huddle, David Ross Professor of English
- Hudson, R. Page Assistant Professor of Surgery
- Hudspeth, Thomas Richard Associate Professor of Sch of Natural Resources
- Hudziak, James Joseph Associate Professor of Psychiatry
- Huener, Jonathan D. Assistant Professor of History
- Hughes, Jeffrey Winston Associate Professor of Sch of Natural Resources
- Hughes, John Russell Professor of Psychiatry
- Hughes, Thomas Stephen Assistant Professor of Chemistry
- Huisman, Kimberly A. Lecturer of Sociology
- Hulse, Charles L. Assistant Professor of Family Practice
- Hulsey, Steve M. Assistant Professor of Surgery
- Hunter, Deborah Ellen Associate Professor of Integratd Profssnl Stdies
- Hunter, Linda Anne Clinical Assistant Professor of Nursing
- Hurwitz, Erica Ruth Lecturer of Religion
- Huston, Dryver R. Professor of Mechanical Engineering
- Hutton, Patrick H. Professor of History
- Hyman, Neil H. Associate Professor of Surgery

I

- latridis, James C. Assistant Professor of Mechanical Engineering
- Incavo, Stephen Joseph Associate Professor of Orthopaedic Rehabilitan
- Irvin, Charles G. Professor of Medicine
- Irwin, Alan Emory Professor of Surgery
- Isenberg, Gail L. Lecturer of Integratd Profssnl Stdies
- Ittleman, Frank Paul Professor of Surgery

J

- Jackson, Major L. Assistant Professor of English
- Jackson, Thomas Lane Associate Professor of Surgery
- Jacobson, James Lee Associate Professor of Psychiatry
- Jaeger, Dominic Arthur Assistant Professor of Medicine
- Jamieson, Maria Patrizia Lecturer of Romance Languages
- Janson, Anne Elizabeth Lecturer of Music
- Janssen-Heininger, Yvonne M.W. Associate Professor of Pathology
- Jawa, Randeep S. Assistant Professor of Surgery
- Jaworski, Diane Marie Associate Professor of Anatomy & Neurobiology
- Jenkins, Susan K. Lecturer of Education Department
- Jesse, Richard Ramon Associate Professor of Sch Business Adminstrn
- Jetton, Thomas Lawrence Research Assistant Professor of Medicine
- Jewiss, Jennifer Lynn Research Assistant Professor of Education Department
- Jiron, Haley Woodside Assistant Professor of Education Department
- Joffe, Justin Manfred Professor of Psychology
- Johansson, Jan Erik Lecturer of Mathematics & Statistics
- Johnson, Carol S. Lecturer of Social Work
- Johnson, Julia Virginia Associate Professor of Obstetrics & Gynecology
- Johnson, Kelly A. Lecturer of Education Department
- Johnson, Lynn V. Assistant Professor of Education Department
- Johnson, Robert Jonathan Professor of Orthopaedic Rehabilitan
- Johnston, Anne Maxwell Assistant Professor of Pediatrics
- Jokela, William Edward Extension Associate Professor. of Plant & Soil Science
- Jones, Andrew William Assistant Professor of Sociology
- Jones, David C. Associate Professor of Obstetrics & Gynecology
- Jordan, Karen M. Adjunct Lecturer of Music
- Joy, Albert Harvey Library Associate Professor of Bailey/Howe Library
- Julianelle, Anthony Lecturer of Mathematics & Statistics
- Julien, Patricia A. Assistant Professor of Music

Κ

- Kaelber, Lutz F. Assistant Professor of Sociology
- Kahn, Robbie Pfeufer Associate Professor of Sociology
- Kala, Puneeta Lecturer of Religion
- Kaminsky, David Alan Associate Professor of Medicine
- Kane, Janet Rolande Adjunct Instructor of Civil & Environmental Eng
- Karp, Robert Assistant Professor of Medicine
- Karstens, Karla Ann Lecturer of Mathematics & Statistics
- Kasprisin, Christina Algiere Assistant Professor of Nursing
- Kasser, Susan L. Assistant Professor of Education Department
- Kaufman, David A. Lecturer of Sch of Natural Resources
- Kaufman, Robert Gordon Professor of Political Science
- Kauppila, Dennis Michael Extension Associate Professor. of Ext-Central/Northeast Rgn
- Kaza, Stephanie Associate Professor of Sch of Natural Resources
- Keeton, William Scott Assistant Professor of Sch of Natural Resources
- Kelleman, Audrey Ann Adjunct Assistant Professor of Animal Sciences
- Keller, Ray Eugene Associate Professor of Surgery
- Keller, Tony Scott Professor of Mechanical Engineering
- Kelly, Bridget Turner Assistant Professor of Integratd Profssnl Stdies
- Kelm Jr, Robert John Assistant Professor of Medicine
- Kennedy, Suzanne Maria Assistant Professor of Psychiatry
- Kenney, Robert W. Lecturer of Mathematics & Statistics
- Kent, Brian Paul Lecturer of English
- Kerr, David E. Assistant Professor of Animal Sciences
- Kessler, Marc Associate Professor of Psychology
- Kete, Mary Louise Associate Professor of English
- Khan, Abrar Assistant Professor of Surgery
- Kida, Masatoshi Associate Professor of Pathology
- Killeen, Kieran M. Assistant Professor of Education Department
- Kilpatrick, Charles William Associate Professor of Biology
- Kindler, Dean D. Assistant Professor of Neurology
- Kindstedt, Paul Stephen Professor of Nutrition & Food Sciences
- King, Deborah Lynn Lecturer of Education Department
- Kirkpatrick, Beth Diane Assistant Professor of Medicine
- Klein, Jeffrey S. Professor of Radiology
- Klepeis, Keith Andrew Assistant Professor of Geology
- Klikunas, Marvin Frank Assistant Professor of Medicine
- Klimowski, Steven Elliott Lecturer of Music

- Knapp, Joanne R. Assistant Professor of Animal Sciences
- Knodell, Jane E. Associate Professor of Economics
- Kohli, Amor Lecturer of English
- Koliba, Christopher J. Research Assistant Professor of Education Department
- Kolodinsky, Jane Marie Professor of Comm Dvlpmnt & Applied Ec
- Kornblith, Hilary Professor of Philosophy
- Kost, Larry Lyle Lecturer of Mathematics & Statistics
- Krag, David Nielsen Professor of Surgery
- Krag, Martin Hans Professor of Orthopaedic Rehabilitan
- Kraushaar, James Michael Associate Professor of Sch Business Adminstrn
- Krawitt, Edward L. Professor of Medicine
- Kristiansen, Thomas Kurt Associate Professor of Orthopaedic Rehabilitan
- Krusinski, Paul Anthony Professor of Medicine
- Krymkowski, Daniel Harry Associate Professor of Sociology
- Kucij, Daniel Nicholas Research Assistant Professor of Education Department
- Kuehne, Martin Eric Professor Emeritus of Chemistry
- Kuentzel, Walter Frederick Associate Professor of Sch of Natural Resources
- Kuflik, Arthur Associate Professor of Philosophy
- Kutner, Laurie A. Library Assistant Professor of Bailey/Howe Library

L

- Lacroix, Lydia Harvey Extension Assistant Professor. of Ext-Central/Northeast Rgn
- Lahiri, Thomas Assistant Professor of Pediatrics
- Laible, Jeffrey Paul Professor of Civil & Environmental Eng
- Lakin, William Donald Professor of Mathematics & Statistics
- Laliberte, Michele Lecturer of Romance Languages
- Lamb, Dianne Hall Extension Associate Professor. of Ext Southern Regn
- Landrigan, Gary P. Assistant Professor of Surgery
- Landry, Christopher C. Associate Professor of Chemistry
- Lang, Roger P. Lecturer of History
- Langevin, Helene M. Research Assistant Professor of Neurology
- Lariviere, Cynthia Leigh Assistant Professor of Psychiatry
- Laskowski, Cheryl A. Assistant Professor of Nursing
- Lathem, Sandra A. Lecturer of Education Department
- Laub Jr, Donald Rudolf Assistant Professor of Surgery
- Lauber, Fay A. Adjunct Lecturer of Comm Dvlpmnt & Applied Ec
- Lawlor, David P. Assistant Professor of Surgery
- Lawlor, John Charles Lecturer of Mathematics & Statistics
- Lawson, Robert Bernard Professor of Psychology

- Leahy, John L. Professor of Medicine
- Leavitt, Bruce J. Associate Professor of Surgery
- Lecky, John Edward Assistant Professor of Electrical & Computer Eng
- Lee, Byung S. Assistant Professor of Computer Science
- Leenstra, Willem R. Associate Professor of Chemistry
- Leerkes, Esther M. Lecturer of Psychology
- Leff, Herbert Leroy Associate Professor of Psychology
- Leffler, Stephen M. Associate Professor of Surgery
- Leib, Edward Samuel Professor of Medicine
- Leiman, Gladwyn Professor of Pathology
- Leitner, David Welker Professor of Surgery
- Leonard, Jonathan Grafley Lecturer of Comm Dvlpmnt & Applied Ec
- Leskiw, Christopher Scott Visiting Assistant Professor of Political Science
- Levine, Mark Alan Associate Professor of Medicine
- Levine, Steve Barry Adjunct Assistant Professor of Animal Sciences
- Levine, Suzanne Nanette Associate Professor of Sch of Natural Resources
- LeVitre, Richard Alton Extension Associate Professor. of Ext Southern Regn
- Levy, Arthur Maurice Professor of Medicine
- Lewinter, Martin M. Professor of Medicine
- Lewis, Thomas A. Assistant Professor of Microbio & Moleclr Genetc
- Liang, Chyi-Lyi Kathleen Assistant Professor of Comm Dvlpmnt & Applied Ec
- Libman, Bonita Sandra Associate Professor of Medicine
- Licata, Anita Louise Associate Professor of Medicine
- Lidofsky, Steven D. Associate Professor of Medicine
- Light, Jeanene C. Library Associate Professor of Medical Library
- Ling, Alan Chi Assistant Professor of Computer Science
- Lini, Andrea Assistant Professor of Geology
- Lipson, Marjorie Youmans Professor of Education Department
- Littenberg, Benjamin Professor of Medicine
- Little, David Nelson Associate Professor of Family Practice
- Livingston, Gerald P. Research Associate Professor of Sch of Natural Resources
- Ljung-Baruth, Annika Lecturer of English
- Locknar, Sarah Ann Research Assistant Professor of Anatomy & Neurobiology
- Loeb, Don Associate Professor of Philosophy
- Long, George Louis Professor of Biochemistry
- Lopez, Oralia Veronica Lecturer of Sch of Natural Resources
- Losambe, Lokangaka Associate Professor of English
- Lounsbury, Karen M. Assistant Professor of Pharmacology
- Lourie, Melissa S. Lecturer of Theatre

- Low, Elizabeth Sloan Lecturer of Mathematics & Statistics
- Low, Robert Burnham Professor of Moleculr Physolgy & Bioph
- Lowey, Susan Professor of Moleculr Physolgy & Bioph
- Lucas, Marilyn T. Visiting Assistant Professor of Sch Business Adminstrn
- Lucey, Jerold Francis Professor of Pediatrics
- Lunde, John Henry Associate Professor of Pathology
- Luo, Pifu Research Assistant Professor of Pathology
- Luria, Scott Delima Associate Professor of Medicine
- Lusk, Daniel G. Lecturer of English
- Lustgarten, Daniel Lawrence Assistant Professor of Medicine
- Lyman, Theodore Professor of Art
- Lyons, Barbara A. Assistant Professor of Biochemistry

Μ

- MacDonald, Lise Provost Lecturer of Surgery
- MacLean, Charles Duncan Associate Professor of Medicine
- MacLennan, Birdie Library Associate Professor of Bailey/Howe Library
- MacLennan, Susan E. Assistant Professor of Surgery
- MacLeod, Sandra W. Lecturer of Education Department
- MacPherson, Bruce Reed Associate Professor of Pathology
- Madalengoitia, Jose Santos Associate Professor of Chemistry
- Magdoff, Frederick Robin Professor of Plant & Soil Science
- Magi, Trina Library Assistant Professor of Bailey/Howe Library
- Magistrale, Anthony Samuel Professor of English
- Magrane, Diane Marie Professor of Obstetrics & Gynecology
- Mahoney, Dennis Francis Professor of German & Russian
- Main, Heather Hewitt Lecturer of Education Department
- Maitland, Lynda Kathryn Lecturer of Education Department
- Malone, Patrick Thomas Lecturer of Surgery
- Maltby, Hendrika J. Associate Professor of Nursing
- Manley, Don Larry Lecturer of Physics
- Mann, Kenneth G. Professor of Biochemistry
- Mann, William Edward Professor of Philosophy
- Manning, Kathleen Associate Professor of Integratd Profssnl Stdies
- Manning, Robert Emmet Professor of Sch of Natural Resources
- Marcy, Theodore Wendell Associate Professor of Medicine
- Mardeusz, Patricia Ellen Library Assistant Professor of Bailey/Howe Library
- Marino, John Joseph Visiting Professor of Sch Business Adminstrn
- Marmor, Katherine Ann Assistant Professor of Art
- Marsch, Lisa A. Research Assistant Professor of Psychiatry

- Marsden, J. Ellen Associate Professor of Sch of Natural Resources
- Marshall, Jeffrey D. Library Associate Professor of Bailey/Howe Library
- Marshall, Tina M. Lecturer of Dental Hygiene
- Martin, Luther Howard Professor of Religion
- Mason, Anne Brown Research Associate Professor of Biochemistry
- Massell, David Perera Assistant Professor of History
- Matthews, Dwight E. Professor of Medicine
- Matthews, Karen A. Library Associate Professor of Medical Library
- Maugans, Todd A. Assistant Professor of Surgery
- Maughan, David Wayne Research Professor of Moleculr Physolgy & Bioph
- Maura, Juan F. Associate Professor of Romance Languages
- Mawe, Gary Michael Professor of Anatomy & Neurobiology
- Maxwell, Thomas P. Research Associate Professor of Sch of Natural Resources
- May, Victor Professor of Anatomy & Neurobiology
- Maynard, Alan Lecturer of Ctr for Hlth & Wellbeing
- Maynard, Donald Ralph Lecturer of Animal Sciences
- Mazzoni, Cristina M. Associate Professor of Romance Languages
- McCann, H. Gilman Associate Professor of Sociology
- McCauley, Rebecca Joan Professor of Communication Sciences
- McConaughy, Stephanie Hooker Research Associate Professor of Psychiatry
- McCormack, John Joseph Professor of Pharmacology
- McCrate, Elaine Denise Associate Professor of Economics
- McCullough, Robert L. Lecturer of History
- McDevitt, Margaret Kay Lecturer of Art
- McDowell, William B. Assistant Professor of Art
- McEvoy, Thomas James Extension Associate Professor. of Sch of Natural Resources
- McFadden, Thomas B. Associate Professor of Animal Sciences
- McGowan, Todd Robert Assistant Professor of English
- McIntosh, Alan W. Professor of Sch of Natural Resources
- McIntosh, Barbara Ruth Associate Professor of Sch Business Adminstrn
- McIntyre, Lynda Reeves Professor of Art
- McKenna, Kevin James Professor of German & Russian
- McMaster, William Joseph Extension Assistant Professor. of Ext-Central/Northeast Rgn
- McQuillan, James Michael Visiting Assistant Professor of Computer Science
- McVeigh, Ursula Ann Instructor of Medicine
- Meier, Frederic Jacob Lecturer of Sch Business Adminstrn
- Mekkelsen, Jane Elizabeth Lecturer of Education Department
- Melvin, Christina S. Clinical Assistant Professor of Nursing

- Mercier, Charles Eugene Associate Professor of Pediatrics
- Meyer, Marjorie C. Associate Professor of Obstetrics & Gynecology
- Meyers, Herman Wilson Associate Professor of Education Department
- Mickey, Ruth Mary Professor of Mathematics & Statistics
- Mieder, Wolfgang Professor of German & Russian
- Mierse, William Edwin Associate Professor of Art
- Millay, Donna Jean Associate Professor of Surgery
- Millay, Robert Hugh Associate Professor of Surgery
- Miller, Carol Therese Professor of Psychology
- Miller, Chris Andrew Visiting Assistant Professor of Sch Business Adminstrn
- Miller, Linda G. Visiting Assistant Professor of Sch Business Adminstrn
- Miller, Lucy Hope Assistant Professor of Medicine
- Miller, Willard Marshall Assistant Professor of Philosophy
- Mincher, Diane Elaine Extension Associate Professor. of Ext Northwest Rgn
- Mintz, Beth Professor of Sociology
- Mintz, Keith Peter Research Assistant Professor of Microbio & Moleclr Genetc
- Mirchandani, Gagan S. Professor of Electrical & Computer Eng
- Miro, Santiago Assistant Professor of Radiology
- Misselbeck, Wayne Joseph Associate Professor of Surgery
- Mitchell, John Joseph Lecturer of Biology
- Modereger, Jeffrey Robin Associate Professor of Theatre
- Molofsky, Jane Associate Professor of Botany
- Monahan Jr, John Daniel Lecturer of Sch Business Adminstrn
- Monsey, Robert Daniel Assistant Professor of Orthopaedic Rehabilitan
- Moore, Valerie Ann Assistant Professor of Sociology
- Morgan, Helen Lecturer of Theatre
- Morgan, Patricia Lee Lecturer of Education Department
- Morielli, Anthony D. Assistant Professor of Pharmacology
- Morningstar, Timothy Patrick Lecturer of Music
- Moroz, Kathleen Jennings Lecturer of Social Work
- Morrical, Scott Walker Associate Professor of Biochemistry
- Morris, Joyce Lorraine Research Assistant Professor of Education Department
- Morris, Nancy Schappler Associate Professor of Nursing
- Morrison, James Lecturer of Electrical & Computer Eng
- Morrissey, Leslie A. Associate Professor of Sch of Natural Resources
- Mosenthal, James Hastings Associate Professor of Education Department
- Moses, Peter L. Associate Professor of Medicine
- Mossman, Brooke Taylor Professor of Pathology
- Mount, Sharon Lee Associate Professor of Pathology

- Moyer, Mark Miller Assistant Professor of Philosophy
- Moynagh, Patricia A. Visiting Assistant Professor of Political Science
- Moyser, George Herbert Professor of Political Science
- Mueller, Patricia H. Lecturer of Education Department
- Mulrooney, Jonathan D. Assistant Professor of English
- Murad, Jo Anne Lecturer of Romance Languages
- Murad, Timothy Associate Professor of Romance Languages
- Murakami, Kentaro Assistant Professor of Biology
- Murphy, Judith D. Adjunct Assistant Professor of Education Department
- Murphy, William Michael Professor of Plant & Soil Science
- Murthy, Sanjeeva N. Associate Professor of Physics
- Muss, Hyman Bernard Professor of Medicine
- Musty, Richard Edward Professor of Psychology
- Myott, Lawrence B. Extension Associate Professor. of Ext Northwest Rgn

Ν

- Nagle, Keith Joseph Assistant Professor of Neurology
- Najfeld, Igor Adjunct Associate Professor of Mathematics & Statistics
- Nalibow, Kenneth Lawrence Associate Professor of German & Russian
- Nash, Robert James Professor of Integratd Profssnl Stdies
- Nash-Gibney, Melissa M. Lecturer of Education Department
- Nathan, Muriel Helene Associate Professor of Medicine
- Naylor, Magdalena Raczkowska Associate Professor of Psychiatry
- Nazarova, Susanna Lecturer of German & Russian
- Neal, Patrick Allen Associate Professor of Political Science
- Neiweem, David Professor of Music
- Nelson, Eliot Wilbur Associate Professor of Pediatrics
- Nelson, Garrison Professor of Political Science
- Nelson, Leonie Ann Clinical Professor of Physical Therapy
- Nelson, Mark Tuxford Professor of Pharmacology
- Neroni, Hilary L. Assistant Professor of English
- Neumann, Maureen Doyle Assistant Professor of Education Department
- Newhouse, Paul Alfred Professor of Psychiatry
- Newton, Carlton MacBeth Professor of Sch of Natural Resources
- Nicholas, Catherine F. Clinical Instructor of Family Practice
- Nichols, Claude Elmer Professor of Orthopaedic Rehabilitan
- Nichols, Eric Charles Lecturer of Integratd Profssnl Stdies
- Nicklas, Janice Ann Research Associate Professor of Medicine
- Nishi, Rae Professor of Anatomy & Neurobiology
- Noordewier, Thomas Gerald Associate Professor of Sch Business Adminstrn

- Norford, Don Parry Lecturer of English
- Norotsky, Mitchell Craig Assistant Professor of Surgery
- Novotny, Charles Pryor Professor Emeritus of Microbio & Moleclr Genetc
- Nunley, Gayle Roof Associate Professor of Romance Languages
- Nye, Susan Brown Assistant Professor of Education Department

0

- O'Brien, Anne Theresa Extension Instructor of Extension
- O'Brien, Roberta Assistant Professor of Medicine
- Olin, Julie Jae Assistant Professor of Medicine
- Olivetti, Gary Paul Lecturer of Botany
- Olson, James Paul Associate Professor of Civil & Environmental Eng
- O'Malley, Donna L. Library Associate Professor of Medical Library
- O'Neill, J. Patrick Research Professor of Medicine
- Orgel, Paul J. Adjunct Lecturer of Music
- Ornstein, Deborah L. Assistant Professor of Medicine
- O'Rourke, Deborah Anne Assistant Professor of Physical Therapy
- Osler, Turner Associate Professor of Surgery
- Osol, George Jury Professor of Obstetrics & Gynecology
- Oughstun, Kurt Edmund Professor of Electrical & Computer Eng
- Overfield, James Harris Professor of History
- Owen, Frank Charles Professor of Art
- Owre, Edwin Merton Professor of Art

Ρ

- Paden, William Edward Professor of Religion
- Pandina, Nancy Gowland Research Assistant Professor of Psychology
- Panitch, Hillel S. Professor of Neurology
- Paolucci-Whitcomb, Phyllis E. Professor of Social Work
- Paradis, Deborah K. Adjunct Lecturer of Nutrition & Food Sciences
- Parhami-Seren, Behnaz Research Associate Professor of Biochemistry
- Paris, Catherine Ann Lecturer of Botany
- Parker, Bruce Lawrence Professor of Plant & Soil Science
- Parker, Kimberly Lantman Extension Associate Professor. of Ext Comm & Tech Rsc
- Parker, Sylvia B. Lecturer of Music
- Parshley, Alan Otto Lecturer of Music
- Parsons, Chester Frank Extension Assistant Professor. of Ext Northwest Rgn
- Parsons, Polly E. Professor of Medicine
- Parsons, Robert L. Extension Assistant Professor of Comm Dvlpmnt & Applied Ec

- Parsons, Rodney L. Professor of Anatomy & Neurobiology
- Pasanen, Mark Eliot Assistant Professor of Medicine
- Pastner, Stephen Lane Associate Professor of Anthropology
- Paterson, Stewart F. Lecturer of Sch Business Adminstrn
- Patlak, Joseph Burton Professor of Moleculr Physolgy & Bioph
- Patterson Jr, Thomas Frank Lecturer of Comm Dvlpmnt & Applied Ec
- Patterson, Fiona M. Assistant Professor of Social Work
- Peabody, Mary L. Extension Assistant Professor of Ext-Central/Northeast Rgn
- Pechenick, Alison Merel Lecturer of Computer Science
- Pederson, David Scott Associate Professor of Microbio & Moleclr Genetc
- Pelsue Jr, Neil Hugh Extension Associate Professor. of Ext Southern Regn
- Penar, Paul Louis Associate Professor of Surgery
- Pendlebury, William Ward Professor of Pathology
- Pereboom, Derk Professor of Philosophy
- Perkins, Timothy David Research Assistant Professor of Botany
- Perry, Leonard Payne Extension Professor of Plant & Soil Science
- Peshavaria, Mina Research Assistant Professor of Medicine
- Peters, Laurie Morrison Lecturer of Art
- Petersen, James Brant Associate Professor of Anthropology
- Peterson, Diane Salvas Lecturer of Dental Hygiene
- Peterson, Thomas Charles Professor of Family Practice
- Petkov, Georgi Vladimirov Research Assistant Professor of Pharmacology
- Petrillo, Jane E. Associate Professor of Comm Dvlpmnt & Applied Ec
- Petrucci, Giuseppe A. Assistant Professor of Chemistry
- Philbin, Paul Patrick Library Associate Professor of Bailey/Howe Library
- Philips, George K. Assistant Professor of Medicine
- Phillippe, Mark Professor of Obstetrics & Gynecology
- Phillippe, Shiela Marie Library Assistant Professor of Medical Library
- Pierattini, Robert Alan Professor of Psychiatry
- Pilcher, David Bogart Professor of Surgery
- Pinckney, Richard G. Assistant Professor of Medicine
- Pinder, George Francis Professor of Civil & Environmental Eng
- Pintauro, Stephen Joseph Associate Professor of Nutrition & Food Sciences
- Plante, Dennis Armand Associate Professor of Medicine
- Plante, Margaret M. Lecturer of Education Department
- Plante, Mark Kenneth Assistant Professor of Surgery
- Plaut, Karen Irene Associate Professor of Animal Sciences
- Poleman, Walter Mallery Lecturer of Botany
- Porter, Jon Kevin Assistant Professor of Family Practice

- Portnow, Nancy Baldwin Library Professor of Bailey/Howe Library
- Poynter, Matthew E. Research Assistant Professor of Medicine
- Prelock, Patricia A. Professor of Communication Sciences
- Proulx, Raymond J. Research Associate Professor of Education Department
- Prue, Jennifer Freifeld Lecturer of Education Department
- Pugh, Ann Denison Lecturer of Social Work
- Puterbaugh, Holly Beth Lecturer of Mathematics & Statistics

Q

• Quinney, John C. - Lecturer of Sch Business Adminstrn

R

- Rabinowitz, Terry Associate Professor of Psychiatry
- Rachakonda, Dattatreya Prabhu Research Assistant Professor of Mechanical Engineering
- Radermacher, Michael Associate Professor of Moleculr Physolgy & Bioph
- Radoux, Susan Burdette Assistant Professor of Medicine
- Ramsay, Allan Murray Professor of Family Practice
- Ramundo, Mary Beth Associate Professor of Medicine
- Rand, Matthew Dearborn Research Assistant Professor of Anatomy & Neurobiology
- Rankin, Joanna Marie Professor of Physics
- Raphael, David A. Lecturer of Sch of Natural Resources
- Raszka Jr, William V. Associate Professor of Pediatrics
- Rathbone, Charles Associate Professor of Education Department
- Ratnasingam, Pauline P. Assistant Professor of Sch Business Adminstrn
- Razza, Mary Lou Lecturer of Education Department
- Read, Evelyn R. Lecturer of Music
- Read, Helen P. Lecturer of Mathematics & Statistics
- Read, Thomas Lawrence Professor of Music
- Redmond, Jackie Lynn Lecturer of Computer Science
- Reed, J. Patrick Associate Professor of Biomedical Technology
- Rettew, David C. Assistant Professor of Psychiatry
- Reville, Julie Dzewaltowski Clinical Instructor of Communication Sciences
- Reynolds, Geoffrey A. Assistant Professor of Music
- Ricci, Michael Anthony Professor of Surgery
- Richards, Julie Lynn Lecturer of Social Work
- Richardson-Nassif, Karen Research Assistant Professor of Family Practice
- Richman, Tamara J. Lecturer of Microbio & Moleclr Genetc
- Riddick, Daniel Howison Professor of Obstetrics & Gynecology
- Rimmer, Jeffrey Michael Professor of Medicine

- Rincon, Mercedes Rincon Associate Professor of Medicine
- Rizzo, Donna Marie Assistant Professor of Civil & Environmental Eng
- Roberts, Julie L. Associate Professor of Communication Sciences
- Robertson, Craig A. Library Associate Professor of Bailey/Howe Library
- Roche, Susan E. Associate Professor of Social Work
- Rodgers, Robert Howard Professor of Classics
- Rogers, David L. Adjunct Lecturer of Animal Sciences
- Rogers, Frederick Bolles Professor of Surgery
- Rogers, Glenn Francis Extension Associate Professor. of Ext Northwest Rgn
- Rogers, Thomas E. Lecturer of Mathematics & Statistics
- Rohy, Valerie Assistant Professor of English
- Romano, Bruce U. Visiting Assistant Professor of Mathematics & Statistics
- Rosa, Alfred Felix Professor of English
- Rosebush, Joan Marie Lecturer of Mathematics & Statistics
- Rosen, James Carl Professor of Psychology
- Ross, Donald Savage Research Assistant Professor of Plant & Soil Science
- Ross, Jane Kaye Professor of Nutrition & Food Sciences
- Ross, Lyman B. Library Assistant Professor of Bailey/Howe Library
- Ross, Robert H. Research Assistant Professor of Orthopaedic Rehabilitan
- Rothblum, Esther Davida Professor of Psychology
- Rould, Mark Allen Research Assistant Professor of Moleculr Physolgy & Bioph
- Rovner, Arthur Scott Research Assistant Professor of Moleculr Physolgy & Bioph
- Rowe, Ellen Extension Associate Professor. of Ext Northeast Rgn
- Roy, Christopher Alan Lecturer of Anthropology
- Rubaud, Jeanne Nane Lecturer of Romance Languages
- Rubin, Alan Saul Assistant Professor of Medicine
- Ruiz, Teresa Assistant Professor of Moleculr Physolgy & Bioph
- Rushmer, Tracy Assistant Professor of Geology
- Russ, Barbara Jean Lecturer of Education Department

S

- Sadek, Adel Wadid Assistant Professor of Civil & Environmental Eng
- Saez, Hector R. Assistant Professor of Comm Dvlpmnt & Applied Ec
- Saia, John Jerome Associate Professor of Family Practice
- Salembier, George B. Associate Professor of Education Department
- Salisbury, Jeffrey M. Adjunct Lecturer of Music
- Sande, Diane R. Lecturer of Nursing
- Sanders, Malcolm M. Lecturer of Physics
- Sands, Jonathan Winslow Professor of Mathematics & Statistics
- Sands, Peggy L.O. Clinical Assistant Professor. of Physical Therapy

- Sargent, Eric Richmond Assistant Professor of Surgery
- Sartorelli, Kennith Hans Assistant Professor of Surgery
- Saunders, Dawn M. Visiting Assistant Professor of Economics
- Savitt, Ronald Professor of Sch Business Adminstrn
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- Schaeffer, Warren Ira Professor of Microbio & Moleclr Genetc
- Schaffer, Scott Lawrence Library Assistant Professor of Bailey/Howe Library
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- Schenk, William Murrell Professor of Theatre
- Schmidt, Frederick Eberhard Associate Professor of Comm Dvlpmnt & Applied Ec
- Schmoker, Joseph Dean Assistant Professor of Surgery
- Schneider, David J. Associate Professor of Medicine
- Schneider, Karen Annette Extension Associate Professor. of Ext Southern Regn
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- Schneider, Wayne Joseph Associate Professor of Music
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- Scott, Helen C. Assistant Professor of English
- Scrase, David Anthony Professor of German & Russian
- Seager, Joni K. Professor of Geography
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- Shackford, Steven Robert Professor of Surgery
- Shafritz, Adam Brent Assistant Professor of Orthopaedic Rehabilitan
- Shapiro, Robert Evan Assistant Professor of Neurology
- Sharp, Gregory Hamilton Assistant Professor of Pathology
- Shaw, Judith S. Research Assistant Professor of Pediatrics
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- Shea, Jeanne Laraine Assistant Professor of Anthropology

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- Sicotte, Richard A. Assistant Professor of Economics
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- Simone, R. Thomas Associate Professor of English
- Single, Richard M. Research Assistant Professor of Mathematics & Statistics
- Sites, Cynthia Kay Associate Professor of Obstetrics & Gynecology
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- Solomon, Richard Jay Professor of Medicine
- Solomon, Sondra Elice Assistant Professor of Psychology
- Son, Mun Shig Professor of Mathematics & Statistics
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- Spector, Peter Salem Associate Professor of Medicine
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- Stilwell, Sean Arnold Assistant Professor of History
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- Sun, Xiao-Jian Research Assistant Professor of Medicine
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Szilva, Jean - Lecturer of Anatomy & Neurobiology

Т

- Taatjes, Douglas Joseph Research Professor of Pathology
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- Talley, Carol Ann Assistant Professor of Orthopaedic Rehabilitan
- Tallmadge, James Michael Lecturer of Psychology
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- Uddin, Sufia Assistant Professor of Religion
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W

- Waldron, John Vincent Assistant Professor of Romance Languages
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- Wallace, Susan Scholes Professor of Microbio & Moleclr Genetc
- Walrath, Dana E. Assistant Professor of Medicine
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- Warshaw, David Michael Professor of Moleculr Physolgy & Bioph
- Wasserman, Richard Charles Professor of Pediatrics
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- Watkins, Matthew Wells Professor of Medicine
- Watzin, Mary Catherine Associate Professor of Sch of Natural Resources
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- Weaver, Sheila O'Leary Lecturer of Mathematics & Statistics
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- Weidner, Mark Howard Assistant Professor of Medicine
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- Weinberg, David A. Assistant Professor of Surgery
- Weinstock, Jacqueline S. Associate Professor of Integratd Profssnl Stdies
- Weise, Wolfgang Johannes Associate Professor of Medicine
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- Weissgold, David J. Assistant Professor of Surgery
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- Wertheimer, Alan Philip Professor of Political Science
- Wesley, Cedric Satish Assistant Professor of Microbio & Moleclr Genetc
- Wesley, Umadevi V. Research Assistant Professor of Microbio & Moleclr Genetc
- Whatley, Janet Elinor Professor of Romance Languages
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- Whitney, Stuart Luhn Clinical Assistant Professor of Nursing

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- Worden, John Kimball Research Professor of Family Practice
- Worley, Ian Almer Professor of Botany
- Wright, Brad Wallace Lecturer of Anatomy & Neurobiology
- Wright, Robert Kingman Professor of Mathematics & Statistics
- Wright, Stephen F. Lecturer of Geology
- Wu, Ge Associate Professor of Physical Therapy
- Wu, Jun-Ru Professor of Physics
- Wu, Xindong Professor of Computer Science

Х

• Xu, Gang - Visiting Assistant Professor of Geography

Υ

- Yadav, Dharam Paul Associate Professor of Psychology
- Yandell, David Wendell Professor of Pathology
- Yang, Jianke Associate Professor of Mathematics & Statistics
- Yang, Jie Associate Professor of Physics
- Yano, Junji Research Assistant Professor of Biology
- Yeager, Scott Brand Associate Professor of Pediatrics

- Yin, Jing-hua Assistant Professor of Classics
- Young, Michael P. Assistant Professor of Medicine
- Youngblood, Denise J. Professor of History
- Yu, Jun Professor of Mathematics & Statistics
- Yuan, Susan Jane Research Assistant Professor of Education Department

Ζ

- Zhang, Chaoyang Research Assistant Professor of Computer Science
- Zhao, Feng-Qi Assistant Professor of Animal Sciences
- Zheng, Shiping Associate Professor of Political Science
- Zheng, Yucai Visiting Assistant Professor of Animal Sciences
- Zhou, Xu Research Assistant Professor of Mechanical Engineering
- Zimny, Nancy Joyce Associate Professor of Physical Therapy
- Zubarik, Richard S. Assistant Professor of Medicine
- Zvara, Peter Research Assistant Professor of Surgery
- Zvolensky, Michael Joseph Assistant Professor of Psychology
- Zweber, Thomas J. Assistant Professor of Orthopaedic Rehabilitan

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- laiu Juseph ·Чу Emeritus, Professor of Pediatrics Emeritus
- Allen, Elizabeth Fleming Assistant Professor of Pathology Emerita •
- Allen Jr., Sinclair T. Professor of Medicine Emeritus •
- Alnasrawi, Abbas Professor of Economics Emeritus •
- Alpert, Norman R. Professor of Physiology and Biophysics Emeritus •
- <u>Ambrose</u>, Jane P. Professor Emeritus of Music

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- Anderson, Richard Professor of Electrical Engineering Emeritus
- Andrea, Alfred J. Professor of History Emeritus
- <u>Arns, Robert G.</u> Professor of Physics Emeritus
- <u>Ashman, Jay Irwin</u> Senior Lecturer of Community Development and Applied Economics Emeritus
- Ashman, Marguerite G Extension Professor Emerita
- Atherton, Henry V. Professor of Animal Science Emeritus
- <u>Atwood, Elizabeth F.</u> Associate Professor of Merchandising, Consumer Studies, and Design Emerita

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- Babbott, David Professor of Medicine Emeritus
- Babbott, Frank L. Clinical Associate Professor of Medicine Emeritus
- Balch, Donald J. Professor of Animal Science Emeritus
- Ball, Howard Professor of Political Science Emeritus •
- Bandel, Betty Professor of English Emerita
- Barbour, James Associate Professor of Integrated Professional Studies Emeritus •
- Barney, Bernard B. Associate Professor of Surgery Emeritus
- Barnum, H. Gardiner Associate Professor of Geography Emeritus •
- Barrett, Evaline I. Associate Professor of Professional Nursing Emerita
- Bartlett, Richmond J. Professor of Plant and Soil Science Emeritus
- Beeken, Warren L. Professor of Medicine Emeritus
- Beliveau, Jean-Guy Lionel Professor of Civil Environmental Engineering Emeritus
- Bell, Ross T Professor of Biology Emeritus

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- <u>Bevan, Rosemary</u> Professor of Pharmacology Emerita
- <u>Bevins, Malcolm</u> Professor of The Rubenstein School of Environment and Natural Resources Emeritus
- Biddle, Arthur W. Professor of English Emeritus
- <u>Bigalow, Charles</u> Extension Professor of Community Development and Applied Economics Emeritus
- Bishop, Kathleen Associate Professor of Social Work Emerita
- <u>Blair, Alice J.</u> Extension Associate Professor Emerita
- <u>Bland, John H.</u> Professor of Medicine Emeritus
- <u>Bliss, Francis R.</u> Professor of Classics Emerita
- <u>Bloom, Thomas K.</u> Associate Professor of Community Development and Applied Economics Emeritus
- <u>Bogorad</u>, <u>Samuel N</u>. Professor of English Emeritus
- <u>Boller, Betty M.</u> Professor of Organizational, Counseling, and Foundational Studies Emerita
- Bolognani, Betty M. Extension Instructor Emerita
- Bolton, Wesson D. Professor of Animal Science Emeritus
- Boushey, Dallas R. Assistant Professor of Anatomy and Neurobiology Emeritus
- Bouton, Edward Extension Professor Emeritus
- Boyce, Bertie Professor of Plant and Soil Science Emeritus
- Bradley, Anthony G. Professor of English Emeritus
- Branch, Judy H. Extension Associate Professor Emerita
- Brandenburg, Richard George Professor of Business Administration Emeritus
- Braun Jr., Theodore Associate Professor of Obstetrics and Gynecology
- Emeritus Breen, Mary E. Associate Professor of Medical Technology Emerita
- Brenneman, Walter L. Professor of Religion Emeritus
- Bright, William Assistant Professor of Education Emeritus
- Brook, Munro S. Extension Professor Emeritus
- Broughton, T. Alan Professor of English Emeritus
- Brown, Joanne C. Lecturer of Mathematics and Statistics Emerita
- Brown, John S. Professor of Physics Emeritus
- Brown, Peter M Associate Professor of Music Emeritus
- <u>Bucke, David P.</u> Associate Professor of Geology Emeritus
- Buechler, John L. Library Professor Emeritus
- Burdett, Carol A. Assistant Professor of Education Emerita
- <u>Burns, Stanley</u> Professor of Medicine Emeritus
- <u>Burrell, Leon Frederick</u> Lecturer of Leadership and Developmental Sciences, Professor of Social Work Emeritus
- Buxton, Beatrice F. Extension Associate Professor Emerita

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- Caldwell, Martha M. Associate Professor of Textiles, Merchandising, and **Consumer Studies Emerita**
- Campagna, Anthony Professor of Economics Emeritus
- Capen, David Edward Research Professor of Natural Resources Emeritus
- Capone, Angela Marie Associate Professor of Integrated Professional Studies Emerita
- Carlson, Robert Verner Professor of Education Emeritus
- Carpenter, Howard J. Associate Professor of Mechanical Engineering Emeritus
- Carrard, Philippe Professor of Romance Languages Emeritus
- Cassell, Eugene Alan Professor of The Rubenstein School of Environment and Natural Resources Emeritus
- Chamberlain, Erling W. Professor of Mathematics Emeritus
- Chamberlain, Valerie M. Professor of Nutrition and Food Sciences Emerita
- Chapman, James Gliem Professor Emeritus of Music Emeritus

- Chase, Marilyn Assistant Professor of Human Development Emerita
- <u>Chase, Richard X.</u> Professor of Economics Emeritus
- <u>Cheney, Arthur H.</u> Assistant Professor of Organizational, Counseling, and Foundational Studies Emeritus
- Chiu, Jen-fu Professor of Biochemistry Emeritus
- <u>Christie, Lu S.</u> Lecturer in Special Education Emerita
- <u>Clark, Virginia</u> Professor of English Emerita
- <u>Clarke, John H.</u> Professor of Education Emeritus
- <u>Clemmons, Jackson J.</u> Professor of Pathology Emeritus
- <u>Cochran, Robert W.</u> Professor of English Emeritus
- <u>Coffin Jr., Laurence H.</u> Professor of Surgery Emeritus
- Cohen, Julius G. Professor of Psychiatry Emeritus
- <u>Conrad, David</u> Professor of Education Emeritus
- <u>Cook, Philip W.</u> Associate Professor of Botany Emeritus
- <u>Corey, William M.</u> Extension Professor Emeritus
- <u>Costante, Joseph</u> Professor of Plant and Soil Science Emeritus
- <u>Craighead</u>, John Professor of Pathology Emeritus
- <u>Cronin, Mary Julia</u> Associate Professor of Nursing Emerita
- <u>Crouch, Milton H</u> Library Professor Emeritus
- <u>Cutler, Stephen Joel</u> Professor of Sociology Emeritus

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- Danforth Jr., Elliot Professor of Medicine Emeritus
- Daniels, Robert V. Professor of History Emeritus
- Davis, John H Professor of Surgery Emeritus
- Davison, Jean M. Lyman-Roberts Professor of Classical Languages and Literature Emerita
- Deane, Robert S. Professor of Anesthesiology Emeritus
- Deck, Edith F. Associate Professor of Professional Nursing Emerita
- Demers, Louise Aline Associate Professor of Professional Nursing
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- Dietzel, Cleason S. Clinical Associate Professor of Psychology Emeritus
- Donnelly, John R Professor of Natural Resources Emeritus
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- Doremus, Henry M. Associate Professor of Animal Pathology Emeritus
- Dowe, Thomas W. Professor of Animal Science Emeritus
- Downer, Richard N. Associate Professor of Civil Engineering Emeritus
- <u>Ducharme, Edward R.</u> Professor of Organizational, Counseling, and Foundational Studies Emeritus
- Dumville, Robert Whitney Extension Assistant Professor Emeritus
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- Edgerton, James A. Extension Professor Emeritus
- · Edwards, Margaret F. Associate Professor of English Emerita
- Elkins, Alan M. Professor of Psychiatry Emeritus
- Elliott, Norris A. Extension Associate Professor Emeritus
- Emerson, Faith G. Associate Professor of Professional Nursing Emerita
- Erb, Clinton A. Associate Professor of Education Emeritus
- Etherton, Bud Professor of Botany Emeritus •
- Evering, Frederick C. Professor of Electrical and Computer Engineering Emeritus
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- Farnham, John Clinical Professor of Surgery Emeritus
- Farr, Gordon V. Extension Associate Professor Emeritus
- Feidner, Edward J. Professor of Theatre Emeritus
- Feitelberg, Samuel Professor of Physical Therapy Emeritus
- Felt, Jeremy P. Professor of History Emeritus
- Fengler-Stephany, Christie Associate Professor of Art Emerita
- Fenton, Ardith Instructor in Extension System Emerita
- Fife, C. Lynn Associate Professor of Community Development and Applied **Economics Emerita**
- Finney, Henry C. Associate Professor of Sociology Emeritus
- Fishman, Laura T. Associate Professor of Sociology Emerita
- Fitzgerald, Martha D. Research Professor of Education Emerita
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- <u>Flanagan, Theodore R.</u> Extension Associate Professor of Plant and Soil Science Emeritus
- <u>Foote, Murray W.</u> Associate Professor of Microbiology and Biochemistry Emeritus
- Forgione, Rose J. Associate Professor of Nursing Emerita
- Forsyth, Ben R. Professor of Medicine Emeritus
- Foss, Donald C Professor of Agriculture and Life Science Emeritus
- Francis, Gerald P. Professor of Mechanical Engineering Emeritus
- Freedman, Steven Associate Professor of Anatomy and Neurobiology Emeritus
- Friedman, Edward E. Professor of Family Practice Emeritus
- Frymoyer, John W Professor of Orthopaedics and Rehabilitation Emeritus
- Fuller, Gerald R. Professor of Vocational Education and Technology Emeritus
- <u>Fuller</u>, Robert W. Assistant Professor of Environment and Natural Resources Emeritus
- Fulwiler, Laura Senior Lecturer of Elementary Education Emerita
- Fulwiler, Toby Edward Professor of English Emeritus

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- Gade, Daniel W. Professor of Geography Emeritus
- Gans, Joseph H. Professor of Pharmacology Emeritus
- Gay, Barbara T. Library Associate Professor Emerita
- Geno, Marie Lecturer in Romance Languages Emerita
- Geno, Thomas H. Associate Professor of Romance Languages Emeritus
- Gibson, Kenneth S. Extension Professor in Animal and Food Sciences Emeritus
- Gibson, Thomas C. Professor of Medicine Emeritus
- Gilbert, Alphonse H. Associate Professor of The Rubenstein School of **Environment and Natural Resources Emeritus**
- Gillies, Ellen M. Library Professor of the Medical Library Emerita
- Gobin, Robert J. Professor of Human Development Studies Emeritus
- Gomez, Antonio J. Associate Professor of Neurology Emeritus
- Goodhouse, Edward W. Extension Associate Professor Emeritus

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- Gora, Irene T. Lecturer of Merchandising, Consumer Studies and Design Emerita
- <u>Gould, Nathaniel</u> Associate Professor of Orthopaedics and Rehabilitation
 Emeritus
- Graham, William G. Professor of Medicine Emeritus
- Greig, Harold A. Assistant Professor of Human Development Emeritus
- <u>Gribbons, Jackie Marie</u> Assistant Professor of Integrated Professional Studies Emerita
- Grime, Philip K. Extension Professor Emeritus
- Grinnell, Dale Jacques Professor of Business Administration Emeritus
- Gump, Dieter W Professor of Medicine Emeritus
- Gussner, Robert E. Associate Professor of Religion Emeritus

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- Haines, Carleton R. Associate Professor of Surgery Emeritus
- Hall, Mary Associate Professor of English Emerita
- Hall, Robert James Marsh Professor of Philosophy Emeritus
- Halpern, William Professor of Physiology and Biophysics Emeritus
- Hamrell, Burt Benjamin Professor of Medicine Emeritus, Professor of Molecular Physiology and Biophysics Emeritus
- Hand, Samuel B. Professor of History Emeritus
- Handelsman, Morris Professor of Electrical Engineering Emeritus •
- Hanley, Edward M. Professor of Professional Education and Curriculum **Development Emeritus**
- Hannah, Peter R. Professor of The Rubenstein School of Environment and Natural Resources Emeritus

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- Hanson, John S. Professor of Medicine Emeritus
- <u>Happ, George</u> Professor of Biology Emeritus
- <u>Harris, Everett W.</u> Associate Professor of Community Development and Applied Economics Emeritus
- Hasazi, Joseph E. Associate Professor of Psychology Emeritus
- Haviland, William A. Professor of Anthropology Emeritus
- Helzer, John Earl Professor of Psychiatry Emeritus
- Hendley, Edith D. Professor of Molecular Physiology and Biophysics Emerita
- Hermance, Clarke E Professor of Mechanical Engineering Emeritus
- Higgins, Daniel W Professor of Art Emeritus
- <u>Hilberg, Raul</u> Professor of Political Science Emeritus
- <u>Hill, H. Charles</u> Associate Professor of Dental Hygiene Emeritus
- Hirth, David Hammond Associate Professor of Wildlife and Fisheries Biology
- Emeritus
- <u>Hochheiser, Louis I</u> Professor of Family Practice Emeritus
- <u>Hong, Richard</u> Clinical Professor of Pediatrics Emeritus
- Honnold, Robert E. Extension Professor Emeritus
- <u>Hood, Kenneth W.</u> Assistant Professor of Education Emeritus
- <u>Hopp, Susan M.</u> Research Associate Professor of Agriculture Emerita
- Horton, Chesley P. Extension Assistant Professor Emeritus
- Horton, Edward S. Professor of Medicine Emeritus
- <u>Houghaboom, Verle R.</u> Extension Professor of Agricultural and Resource Economics Emeritus
- <u>Houston, Charles S.</u> Professor of Epidemiology and Environmental Health Emeritus
- <u>Howard</u>, <u>Phillip</u> Professor of Pathology Emeritus
- Howe IV, James Robinson Professor of English Emeritus
- <u>Howell, David C.</u> Professor of Psychology Emeritus
- Huddle, David Ross Professor of English Emeritus
- <u>Huessy</u>, <u>Hans Rosenstock</u> Professor of Psychiatry Emeritus
- <u>Hundal, Mahendra S.</u> Professor of Mechanical Engineering Emeritus
- <u>Hunt, Allen</u> Professor of Geology Emeritus
- <u>Hyde, Beal B.</u> Professor of Botany Emeritus

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- Irwin, Alan Emory Professor of Surgery Emeritus
- Irwin, Edward Suter Clinical Professor of Surgery Emeritus
- Ives, John O. Associate Professor of Psychiatry Emeritus
- Izzo, Joseph A. Professor of Mathematics Emeritus
- Izzo, Louis Mario Associate Professor of Medical Laboratory and Radiation Sciences Emeritus
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- Jaffe, Julian J. Professor of Pharmacology Emeritus
- Jameson, DeeDee M. Assistant Professor of Human Development Emeritus •
- Janson, Richard H. Professor of Art Emeritus •
- Jarvis, Lynville W. Extension Professor Emeritus •
- Joffe, Justin Manfred Professor of Psychology Emeritus
- Johnstone, Donald B. Professor of Microbiology and Biochemistry Emeritus •
- Jones, Leonidas M. Frederick and Fanny Corse Professor Emeritus •
- Julow, Roy G. Associate Professor of Romance Languages Emeritus
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- Kapp, Bruce S Professor of Psychology Emeritus
- Kasprisin, Christina Algiere Clinical Assistant Professor of Nursing Emerita
- Kebabian, Paul Library Professor Emeritus
- Keller, Jay E. Associate Professor of Surgery Emeritus
- Kelly, William H. Associate Professor of Community Development and Applied **Economics Emeritus**
- Kinnard, Douglas Professor of Political Science Emeritus
- Kinsey, David L. Associate Professor of Music Emeritus •
- Koplewitz, Martin J. Associate Professor of Surgery Emeritus
- Korson, Roy Professor of Pathology Emeritus •
- Krapchow, A. Paul Professor of Chemistry Emeritus
- Kristiansson, Karin Extension Professor Emerita
- Kuehne, Martin E Professor of Chemistry Emeritus
- Kuhlmann, Raymond Frank Clinical Professor of Orthopedics and Rehabilitation • Emeritus

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- Kunin, Arthur S. Professor of Medicine Emeritus
- <u>Kunkel, John R.</u> Extension Associate Professor of Plant and Soil Science Emeritus

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- Laber, Gene Professor of Business Administration Emeritus
- Laferriere, Mary E. Lecturer in Professional Nursing Emerita
- Laing, Frederick M. Research Associate Professor of Botany Emeritus
- Lambert, Denis E. Assistant Professor of Human Development Emeritus
- Lambert, Lloyd Professor of Physics Emeritus
- Lamden, Merton P. Professor of Biochemistry Emeritus
- Lamoray, A. Rosemary Lecturer of Dental Hygiene Emerita
- Landesman, Richard H. Associate Professor of Biology Emeritus
- Lang, Helene Wanda Associate Professor of Education Emeritus, Lecturer of Leadership and Developmental Sciences
- Larson, Karin Lecturer of Mathematics and Statistics Emerita
- Larson, Robert L. Professor of Education Emeritus
- Leamy, William P. Extension Associate Professor of Animal Science Emeritus

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- Leggett, Leslie Professor of Human Development Studies Emerita
- Leitenberg, Harold Professor of Psychology Emeritus
- Letteri, Charles A Associate Professor of Education Emeritus
- Lewin, Carroll Associate Professor of Anthropology Emerita
- Lewis, Gordon F. Professor of Sociology Emeritus
- Lewis, John D. Associate Professor of Obstetrics and Gynecology Emeritus
- Lewis, William J. Professor of Sociology Emeritus
- Lidral, Frank Wayne Professor of Music Emeritus
- Liebs, Chester Professor of History Emeritus
- Lind, Aulis Associate Professor of Geography Emeritus
- Lindsay, John Associate Professor of The Rubenstein School of Environment and Natural Resources Emeritus
- Linton, Peter C. Associate Professor of Surgery Emeritus
- Lipke, William Charles Professor of Art Emeritus
- <u>Lipson, Marjorie Youmans</u> Professor of Education Emerita, Professor of Literacy and Elementary Education Emerita
- Little, George T. Professor of Political Science Emeritus
- Livak, Joyce K. Associate Professor of Nutritional Sciences Emerita
- Lochhead, John H. Professor of Zoology Emeritus
- Loewen, James William Professor of Sociology Emeritus
- Long, Littleton Professor of English Emeritus
- Lubker, James Professor of Communication Sciences Emeritus
- Luginbuhl, William H. Professor of Pathology Emeritus

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- Maccollom, George B. Professor of Plant and Soil Science Emeritus
- MacPherson, Brian Verne Lecturer of Mathematics and Statistics Emeritus
- Magee, Francis E. Assistant Professor of Nursing Emertia
- Manchel, Frank Professor of English Emeritus •
- Marshall, Gilbert A. Professor of Mechanical Engineering Emeritus
- Martin, Hebert L. Professor of Neurology Emeritus •
- Massonneau, Suzanne Library Professor Emerita
- Maughan, David Wayne Research Professor of Molecular Physiology and **Biophysics Emeritus**
- Mazuzan, John E. Professor of Anesthesiology Emeritus
- Mc Grath, Helen Professor of Nursing Emerita
- McAree, Christopher Associate Professor of Psychiatry Emeritus
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- McConaughy, Stephanie Hooker Research Professor of Psychiatry Emeritus
- McCormack, John Joseph Professor of Pharmacology Emeritus
 - McCormick, Thomas J. Extension Professor Emeritus
 - <u>McCrorey</u>, <u>H. Lawrence</u> Professor of Molecular Physiology and Biophysics Emeritus
 - McEntee, Harry J. Assistant Professor of Education Emeritus
 - <u>McFeeters, Donald J.</u> Extension Professor Emeritus
 - McGill, J. Bishop Associate Professor of Surgery Emeritus
 - McKay Jr., Robert J. Professor of Pediatrics Emeritus
 - <u>McLean, Donald L.</u> Professor of Plant and Soil Science Emeritus
 - <u>McSweeney, Douglas E.</u> Assistant Professor of Surgery Emeritus
 - Mead, Philip Bartlett Clinical Professor of Obstetrics and Gynecology Emeritus
 - <u>Melville, Donald B.</u> Professor of Biochemistry Emeritus
 - Mercia, Leonard S. Extension Professor Emeritus
 - Meserve, Bruce E. Professor of Mathematics Emeritus
 - Metcalfe, Marion E. Lecturer in Music Emerita
 - <u>Metcalfe, William</u> Professor of History Emeritus
 - <u>Meyer, Diane H.</u> Research Assistant Professor of Microbiology and Molecular Genetics Emerita
 - Meyer, William L Professor of Biochemistry Emeritus
 - <u>Milhous, Raymond Lee</u> Professor of Orthopaedics and Rehabilitation Emeritus
 - Miller, Donald B. Associate Professor of Surgery Emeritus
 - Milligan, Jean B. Professor of Professional Nursing Emerita
 - Mitchell, William Professor of Anthropology Emeritus
 - <u>Moehring, Joan M.</u> Research Professor of Microbiology and Molecular Genetics Emerita
 - Moehring, Thomas Professor of Microbiology and Molecular Genetics Emeritus
 - Moffroid, Mary T. Professor of Physical Therapy Emerita
 - Moore, Molly Lecturer of English Emerita
 - Morency, David Charles Lecturer of Mathematics and Statistics Emeritus
 - Morselli, Maria-Franca C. Research Professor of Botany Emerita
 - Moser, Donald E. Professor of Mathematics Emeritus
 - <u>Mulieri, Louis Anthony</u> Research Associate Professor of Molecular Physiology and Biophysics Emeritus
 - <u>Munger, Bethia N.</u> Extension Associate Professor Emerita
 - <u>Murray</u>, <u>Barbara Lee</u> Associate Professor of Nursing Emerita
 - <u>Murray, Roger</u> Research Associate Professor of Animal and Food Sciences Emeritus

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- Nadworny, Milton J. Professor of Economics Emeritus
- Newton, David P. Extension Professor Emeritus
- Nichols, Beverly A. Associate Professor of Education Emerita
- <u>Nielsen, Gordon R.</u> Extension Assistant Professor of Plant and Soil Science Emeritus
- Novotny, Charles P. Professor of Microbiology and Molecular Genetics Emeritus
- <u>Nyborg</u>, Wesley L. Professor of Physics Emeritus
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- Oppenlander, Joseph C. Professor of Civil and Environmental Engineering Emeritus
- Orth, Ghita Lecturer of English Emerita
- Orth, Ralph Professor of English Emeritus
- Outwater, John O. Professor of Mechanical Engineering Emeritus
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- Pacy, James S. Professor of Political Science Emeritus
- Paden, William Edward Professor of Religion Emeritus
- Page, Dorothy Associate Professor of Physical Therapy Emerita
- Page, H. Gordon Professor of Surgery Emeritus
- Page, John C. Extension Professor Emeritus
- Palmer, Mary Ellen Associate Professor of Nursing Emerita
- Paolucci-Whitcomb, Phyllis E. Professor of Social Work Emerita
- Paquette, Lucien D. Extension Professor Emeritus
- Parks, Donald R. Assistant Professor of Education Emeritus
- Pellett, Norman Professor of Plant and Soil Science Emeritus
- Peterson, James A. Professor of Integrated Professional Studies Emeritus
- Petrusich, Mary M. Professor of Human Development Studies Emerita
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- Phillips, Carol F Professor of Pediatrics Emerita
- Poger, Sidney B. Professor of English Emeritus
- Porter, Monica B. Extension Associate Professor Emerita
- Potash, Milton Professor of Zoology Emeritus
- Powell, Agnes T. Associate Professor of Human Nutrition and Foods Emerita
- Power, Marjory W. Associate Professor of Anthropology Emerita
- Powers, Patricia Associate Professor of Anatomy and Neurobiology Emerita
- Price, John R. Extension Assistant Professor Emeritus

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- Racusen, David Professor of Agricultural Biochemistry Emeritus
- Raper, Carlene Allen Research Associate Professor of Microbiology and Molecular Genetics Emerita
- Rathbone, Charles Associate Professor of Education Emeritus
- Razza, Mary Lou Research Associate Professor of Education Emeritus
- <u>Reagin, Dolores M.</u> Assistant Professor of Organizational, Counseling, and Foundational Studies Emerita
- Reidel, Carl H. Professor of Environmental Studies Emeritus
- Reinhardt, John E. Professor of Political Science Emeritus
- <u>Reit, Ernest</u> Associate Professor of Pharmacology Emeritus
- Richardson, Jean Professor of Natural Resources Emerita
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- Richel, Veronica C. Associate Professor of German Emerita
- <u>Riggs, Heath K.</u> Professor of Mathematics Emeritus
- <u>Rippa, Alexander S.</u> Professor of Organizational, Counseling, and Foundational Studies Emeritus
- Roland, Margaret Associate Professor of Art Emerita
- Roth, Wilfred Professor of Electrical Engineering Emeritus
- <u>Rothwell, Kenneth</u> Professor of English Emeritus
- <u>Royce, Blanche E.</u> Lecturer of Education Emerita
- <u>Ruess, Johanna</u> Assistant Professor of Orthopaedics and Rehabilitation Emerita
- Runge, Carl F. Associate Professor of Medicine Emeritus
- <u>Russo</u>, Joseph N. Clinical Assistant Professor of Obstetrics and Gynecology Emeritus

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- Sachs, Thomas D. Associate Professor of Physics Emeritus
- Sampson, Samuel F. Professor of Sociology Emeritus
- <u>Sandoval, Dolores</u> Associate Professor of Education Emerita
- <u>Sargent, Frederic O.</u> Professor of Agricultural and Resource Economics Emeritus
- Sawyer, Janet R. Professor of Professional Nursing Emerita
- Scarfone, Leonard M. Professor of Physics Emeritus
- Schlunk, Robin R. Professor of Classics Emerita
- <u>Schmidt, Frederick Eberhard</u> Associate Professor of Community Development and Applied Economics Emeritus
- <u>Schmokel, Wolfe W.</u> Professor of History Emeritus

- Schoonmaker, N. James Professor of Mathematics Emeritus
- Schultz, Harold S. Professor of History Emeritus
- Schultz, Herbert L Associate Professor of Music Emeritus
- Schumacher, George A. Professor of Neurology Emeritus
- <u>Schwalb, Roberta B.</u> Associate Professor of Professional Nursing Emerita
- Scrase, David Anthony Professor of German Emeritus
- <u>Secker-Walker, Roger</u> Professor of Medicine Emeritus
- <u>Sekerak, Robert John</u> Library Associate Professor Emeritus
- <u>Senghas, Dorothy C.</u> Library Assistant Professor in Dana Medical Library Emerita
- Severance, Malcolm F. Professor of Business Administration Emeritus
- Seybolt, Peter Jordan Professor Emeritus of Asian Languages & Literatures
- Shea, William I. Associate Professor of Surgery Emeritus
- Shepherd, Allen G. Professor of English Emeritus
- <u>Shinozaki, Tamotsu</u> Professor of Anesthesiology Emeritus
- Simmons, K. Rogers Associate Professor of Animal Science Emeritus
- Simon, Morris L. Associate Professor of Political Science Emeritus
- Sims, Ethan Allen Professor of Medicine Emeritus
- Sinclair, Robert O. Professor of Agricultural and Resource Economics Emeritus
- <u>Sjogren, Robert</u> Associate Professor of Microbiology and Molecular Genetics Emeritus
- Smith, Albert M. Professor of Animal and Food Sciences Emeritus
- Smith, David Young Professor of Physics Emeritus
- Soule, Phyllis M. Assistant Professor of Nutritional Sciences Emerita
- Spinner Jr., Thomas J. Professor of History Emeritus
- <u>Squire, Horace</u> Associate Professor of Business Administration
- <u>Stanfield, Robert E.</u> Professor of Sociology Emeritus
- Stanton, Michael Neill Associate Professor of English Emeritus
- Staron, Stanislaw J. Professor of Policital Science Emeritus
- Steele, Doris H. Extension Professor Emerita
- Steen, M. Dale Extension Associate Professor Emerita
- Steffenhagen, Ronald A. Professor of Sociology Emeritus
- Stephenson, John F. Extension Professor Emeritus
- <u>Stevens, Dean F.</u> Associate Professor of Zoology Emeritus
- <u>Stevenson, S. Christopher</u> Professor of Education Emeritus
- <u>Stinebring, Warren R.</u> Professor of Microbiology Emeritus
- <u>Stirewalt, William S.</u> Associate Professor of Obstetrics and Gynecology Emeritus

- Stout, Neil R. Professor of History Emeritus
- <u>Strassburg, Kathleen</u> Extension Professor of Textiles, Merchandising and Consumer Studies Emerita
- Stryker III, Barent W. Extension Professor Emeritus
- Sullivan, Anne Marie Associate Professor of Biomedical Technologies Emerita
- Sumner, J Williams Extension Assistant Professor Emeritus

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- <u>Tabakin, Burton S.</u> Professor of Medicine Emeritus
- <u>Tashman, Leonard Jay</u> Associate Professor of Business Administration Emeritus
- <u>Taylor, Fred</u> Professor of Botany Emeritus
- <u>Thanassi, John W.</u> Professor of Biochemistry Emeritus
- <u>Thibault, Marlene</u> Extension Professor of Community Development and Applied Economics Emerita
- Thimm, Alfred L. Professor of Business Administration Emeritus
- <u>Thompson, Harry L.</u> Associate Professor of Social Work Emeritus
- <u>Thompson</u>, <u>Noah C</u>. Extension Professor Emeritus
- Tisdale, William A. Professor of Medicine Emeritus
- Tormey, David M. Professor of Family Practice Emeritus
- Townsend, Robert L. Extension Professor Emeritus
- Trainer, Thomas D. Professor of Pathology Emeritus

- <u>Tremblay, Raymond H.</u> Professor of Agricultural and Resource Economics Emeritus
- True., Marshall M. Associate Professor of History Emeritus
- Tufo, Henry M. Professor of Medicine Emeritus
- Tuthill, Arthur F. Professor of Mechanical Engineering Emeritus
- <u>Tuxbury, Vernon</u> Extension Associate Professor of Community Development and Applied Economics Emeritus

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- Ugalde, Louis Maldonado Professor of Romance Languages Emeritus
- <u>Ullrich, Robert C.</u> Professor of Botany and Agricultural Biochemistry Emeritus
- Ure, Helena A. Associate Professor of Professional Nursing Emerita
- Graduate College

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- Van Buren, H. Carmer Associate Professor of Medicine Emeritus
- · Van Buskirk, David Associate Professor of Psychiatry Emeritus
- <u>Vander Meer, Canute</u> Professor of Geography Emeritus
- Vane, Dennis William Professor of Surgery and Pediatrics Emeritus •
- Vogelmann, Hubert W. Professor of Botany Emeritus
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- <u>Waller, Julian A.</u> Professor of Medicine Emerita
- <u>Wallman, Lester J.</u> Professor of Neurosurgery Emeritus
- Wang, Jue-Fei Research Professor of Educational Leadership and Policy **Studies Emeritus**
- Watson, Frank Lecturer in Education Emeritus
- <u>Way, Winston A.</u> Extension Professor of Plant and Soil Science Emeritus
- Weaver, Lelon Jr. A. Associate Professor of Psychology Emeritus
- Webb, George Associate Professor of Molecular Physiology and Biophysics Emeritus
- Webster, Fred C. Professor of Agricultural and Resource Economics Emeritus
- Webster, Selina M. Professor of Clothing, Textiles, and Design Emerita
- Weed, Lawrence L. Professor of Medicine Emeritus
- Weiger, John G. Professor of Romance Languages Emeritus
- Weiner, Sheldon Professor of Psychiatry Emeritus
- Weinrich, Francis A. Assistant Professor of Music Emeritus •

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- Welch, James Professor of Animal and Food Sciences Emeritus
- Welch, Lorraine M Associate Professor of Nursing Emerita
- Weller, David L Professor of Botany and Agricultural Biochemistry Emeritus
- Wells, Jospeh Professor of Anatomy and Neurobiology Emeritus
- Welsh, George William Associate Professor of Medicine Emeritus
- Weltin, Eugen E. Associate Professor of Chemistry Emeritus
- Wesseling, Pieter Associate Professor of Romance Languages Emeritus
- Wessinger, Nancy B Associate Professor of Education Emerita
- Whaples, Donald R. Extension Professor Emeritus
- White, Robert E. Extension Assistant Professor Emeritus
- White, William N. Professor of Chemistry Emeritus
- Whitebook, Susan M. Assistant Professor of Romance Languages Emerita
- <u>Whitmore Jr., Roy A.</u> Professor of The Rubenstein School of Environment and Natural Resources Emeritus
- Whittlesey, Margaret B. Associate Professor of Special Education Emerita
- Wiggans, Samuel C. Professor of Plant and Soil Science Emeritus
- Wigness, Robert C. Professor of Music Emeritus
- Williams, Blair Professor of Human Nutrition and Foods Emeritus
- Willmuth, Lewis R. Associate Professor of Psychiatry Emeritus
- Wilson, Mary S. Professor of Communication Sciences Emerita
- <u>Winstead-fry, Patricia</u> Professor of Nursing Emerita
- Wood, Glen M. Professor of Plant and Soil Science Emeritus
- <u>Wood, Hazen F.</u> Coordinator of the Professional Laboratory Experiences Emeritus
- Woodruff, William A. Associate Professor of Psychiatry Emeritus
- Woodworth, Robert C. Professor of Biochemistry Emeritus
- <u>Woolfson, Peter</u> Professor of Anthropology Emeritus
- Wootton, Dorothy Associate Professor of Dental Hygiene Emerita
- <u>Worley, Ian Almer</u> Professor Emeritus in the Rubenstein School of Environment and Natural Resources

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- Young, William J. Professor of Anatomy and Neurobiology Emeritus
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- Zarate, Armando Professor of Spanish Emeritus
- Zucker, Barbara M Professor of Art Emerita
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