

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.

The document follows the outline of the HTML structure: Courses, Academic Offerings, College & Schools, Faculty and Administration, Policies & General Information.

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 current information that is not applicable to this catalogue. 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?s

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



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Welcome

This is the official publication of degree programs and requirements and course descriptions for the 2004-2005 academic year produced annually by the Office of the Provost.

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

Notes on using the online catalogue:

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

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

Disclaimer: 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.

UVM Academic Calendar

:: Academic Year 2004-2005

Fall 2004		
Events	Dates	Days of Week
First Day of Classes	August 30	Monday
Labor Day Holiday	September 6	Monday
Add/Drop, Pass/No Pass, Audit Deadline	September 13	Monday
Withdrawal Period Begins	September 14	Tuesday
Fall Recess	October 8	Friday
Last Day to Withdraw	October 29	Friday
Thanksgiving Recess	November 24-26	Wednesday-Friday
Last Day of Classes	December 8	Wednesday
Reading and Exam Period	December 9-17	Thursday-Thursday, Friday
Reading Days	December 9, 11-12, 15	Thursday, Saturday- Sunday, Wednesday
Exam Days	December 10, 13-14, 16-17	Friday, Monday-Tuesday, Thursday-Friday

Spring 2005		
Martin Luther King Holiday	January 17	Monday
First Day of Classes	January 18	Tuesday
Add/Drop, Pass/No Pass, Audit Deadline	January 31	Monday
Presidents' Day Holiday	February 21	Monday
Town Meeting Day Recess	March 1	Tuesday
Last Day to Withdraw	March 18	Friday
Spring Recess	March 21-25	Monday-Friday
Honors Day	April 22	Friday
Last Day of Classes	May 4	Wednesday
Reading and Exam Period	May 5-13	Thursday-Thursday, Friday
Reading Days	May 5, 7-8, 11	Thursday, Saturday-Sunday, Wednesday
Exam Days	May 6, 9-10, 12-13	Friday, Monday-Tuesday, Thursday-Friday
Commencement	May 22	Sunday



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About Catalogue Courses

Continue on to **Course Listings**

The University reserves the right to change course offerings at any time.

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. Students enrolled who do not meet the prerequisites of a course may be disenrolled from that course. The instructor will notify the registrar of this action.

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.

Some departments will make further subdivisions of courses at some levels.

Courses 1-99

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 100-199

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 the 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 200-299

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 [the list of courses approved for graduate credit](#) to identify these courses. To obtain graduate credit, 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 *Undergraduate Enrollment for Graduate Credit* in the policies section of this Web site) prior to enrolling in the course.*

Courses 300 and Above

Courses numbered 300 to 399 are generally limited to graduate students. Courses numbered 400 or above are limited to candidates for the degrees of Doctor of Education and Doctor of Philosophy.



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- [Animal Sciences \(ASCI\)](#)
- [Anthropology \(ANTH\)](#)
- [Art \(ART\)](#)
- [Biochemistry \(BIOC\)](#)
- [Biology \(BIOL\)](#)
- [Biomedical Technologies \(BMT\)](#)
- [Biomedical Technology \(BMED\)](#)
- [Biostatistics \(BIOS\)](#)
- [Botany \(BOT\)](#)
- [Business Administration \(BSAD\)](#)
- [Cell and Molecular Biology \(Interdisciplinary\)](#)
- [Chemistry \(CHEM\)](#)
- [Civil and Environmental Engineering \(CE\)](#)
- Classics
 - [Greek \(GRK\)](#)
 - [Greek & Latin \(GKLT\)](#)
 - [Latin \(LAT\)](#)
- [Communication Sciences \(CMSI\)](#)
- [Community Development and Applied Economics \(CDAE\)](#)
- [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 \(ENGs\)](#)
- [Environmental Studies \(ENVS\)](#)
- [French \(FREN\)](#)
- [Geography \(GEOG\)](#)
- [Geology \(GEOL\)](#)
- [German \(GERM\)](#)
- [Graduate College \(GRAD\)](#)
- [Historic Preservation \(HP\)](#)
- [History \(HST\)](#)
- [Human Development and Family Studies \(HDFS\)](#)
- [Humanities \(HUMN\)](#)
- [International Studies \(IS\)](#)
- [Materials Science \(Multidisciplinary\)](#)
- [Mathematics \(MATH\)](#)
- [Mechanical Engineering \(ME\)](#)
- [Microbiology and Molecular Genetics \(MMG\)](#)
- [Molecular Physiology and Biophysics \(MPBP\)](#)
- [Music \(MU\)](#)
- [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 \(OBY\)](#)
- [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 \(PSS\)](#)
- [Psychology \(PSYC\)](#)
- [Public Administration \(MPA\)](#)

- [Religion \(REL\)](#)
- [Social Work \(SWSS\)](#)
- [Sociology \(SOC\)](#)
- [Spanish \(SPAN\)](#)
- [Statistics \(STAT\)](#)
- [Women's Studies \(WST\)](#)



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Approved Courses for Graduate Credit

Anatomy and Neurobiology (ANNB)

- [ANNB 201 Human Gross Anatomy](#)
- [ANNB 202 Human Neuroscience](#)
- [ANNB 261 Neurobiology](#)
- [ANNB 301 Medical Gross Anatomy](#)
- [ANNB 302 Neuroscience](#)
- [ANNB 306 Techniques in Neurobiology](#)
- [ANNB 311 Medical Histology](#)
- [ANNB 320 Developmental Neurobiology](#)
- [ANNB 323 Neurochemistry](#)
- [ANNB 325 Advanced Neuroanatomy](#)
- [ANNB 342 Special Dissections in Gross Anatomy](#)
- [ANNB 381 Seminar in Anatomy and Neurobiology](#)
- [ANNB 382 Seminar in Anatomy and Neurobiology](#)
- [ANNB 391 Master's Thesis Research](#)
- [ANNB 395 Special Topics in Neuroscience](#)
- [ANNB 396 Special Topics in Neuroscience](#)
- [ANNB 491 Doctoral Dissertation Research](#)



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Approved Courses for Graduate Credit

Animal Sciences (ASCI)

- [ASCI 205 Equine Reproduction and Management](#)
- [ASCI 215 Physiology of Reproduction and Lactation](#)
- [ASCI 216 Endocrinology](#)
- [ASCI 220 Lactation Physiology](#)
- [ASCI 230 Agricultural Policy and Ethics](#)
- [ASCI 263 Clinical Topics in Companion Animal Medicine](#)
- [ASCI 264 Clinical Topics in Livestock Medicine](#)
- [ASCI 272 Advanced Topic in Zoos, Exotics and Endangered Species](#)
- [ASCI 282 Animal Sciences Graduate Seminar](#)
- [ASCI 297 Special Problems in Animal Sciences](#)
- [ASCI 298 Special Problems in Animal Sciences](#)
- [ASCI 391 Master's Thesis Research](#)
- [ASCI 392 Independent Literature Research](#)
- [ASCI 491 Doctoral Dissertation Research](#)



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Approved Courses for Graduate Credit

Anthropology (ANTH)

- [ANTH 200 Field Work in Archaeology](#)
- [ANTH 210 Archaeological Theory](#)
- [ANTH 220 Develop & Applied Anthropology](#)
- [ANTH 225 Anthropological Theory](#)
- [ANTH 228 Social Organization](#)
- [ANTH 278 Microethnography](#)
- [ANTH 283 Colonialism](#)
- [ANTH 290 Methods of Ethnographic Field Work](#)
- [ANTH 295 Advanced Special Topics](#)
- [ANTH 296 Advanced Special Topics](#)
- [ANTH 297 Advanced Readings and Research](#)
- [ANTH 298 Advanced Readings and Research](#)



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Approved Courses for Graduate Credit

Art (ART)

- [ART 201 Arch, Landscape and History](#)
- [ART 282 Seminar in Western Art](#)
- [ART 295 Special Topics in Studio Art](#)

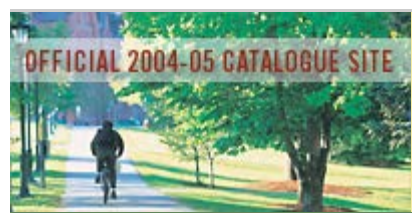


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Biochemistry (BIOC)

- [BIOC 212 Biochemistry of Human Disease](#)
- [BIOC 213 Biomedical Biochemistry Laboratory](#)
- [BIOC 301 General Biochemistry](#)
- [BIOC 302 General Biochemistry](#)
- [BIOC 303 Biochemistry Laboratory](#)
- [BIOC 305 Medical Biochemistry](#)
- [BIOC 306 Medical Biochemistry](#)
- [BIOC 307 Special Topics Biochemistry](#)
- [BIOC 308 Special Topics Biochemistry](#)
- [BIOC 320 General Enzymology](#)
- [BIOC 331 Nucleic Acids](#)
- [BIOC 352 Protein: Nucleic Acid Interact](#)
- [BIOC 371 Physical Biochemistry](#)
- [BIOC 375 Cancer Biology](#)
- [BIOC 381 Seminar](#)
- [BIOC 391 Master's Thesis Research](#)
- [BIOC 392 Independent Literature Research](#)
- [BIOC 491 Doctoral Dissertation Research](#)



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Approved Courses for Graduate Credit

Biology (BIOL)

- [BIOL 202 Quantitative Biology](#)
- [BIOL 203 Population Ecology](#)
- [BIOL 205 Advanced Genetics Laboratory](#)
- [BIOL 208 Morphology and Evolution of Insects](#)
- [BIOL 209 Field Zoology](#)
- [BIOL 212 Comparative Histology](#)
- [BIOL 217 Mammalogy](#)
- [BIOL 219 Comparative and Functional Vertebrate Anatomy](#)
- [BIOL 223 Developmental Biology](#)
- [BIOL 225 Physiological Ecology](#)
- [BIOL 238 Winter Ecology](#)
- [BIOL 246 Ecological Parasitology](#)
- [BIOL 254 Population Genetics](#)
- [BIOL 255 Comparative Reproductive Physiology](#)
- [BIOL 261 Neurobiology](#)
- [BIOL 263 Genetics of Cell Cycle Regulation](#)
- [BIOL 264 Community Ecology](#)
- [BIOL 265 Developmental Molecular Genetics](#)
- [BIOL 267 Molecular Endocrinology](#)
- [BIOL 270 Speciation and Phylogeny](#)
- [BIOL 281 Seminar](#)
- [BIOL 282 Eco Lunch](#)
- [BIOL 283 Ecology-Evolution Journal Club](#)
- [BIOL 284 Cell Lunch](#)
- [BIOL 295 Special Topics](#)
- [BIOL 296 Special Topics](#)
- [BIOL 301 Cell and Molecular Biology](#)

BIOL 302 Specialized Cells and Cell Processes

- [BIOL 371 Graduate Colloquia](#)
- [BIOL 381 Special Topics](#)
- [BIOL 391 Master's Thesis Research](#)
- [BIOL 491 Doctoral Dissertation Research](#)



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Biomedical Technologies (BMT)

- [BMT 229 Seminar: Clinical Chemistry](#)
- [BMT 239 Seminar: Hematology](#)
- [BMT 242 Immunology](#)
- [BMT 244 Immunology Laboratory](#)
- [BMT 249 Seminar: Immunology](#)
- [BMT 259 Seminar: Microbiology](#)
- [BMT 269 Seminar: Immunohematology](#)
- [BMT 381 Special Topics Seminar](#)
- [BMT 391 Master's Thesis Research](#)
- [BMT 395 Advanced Topics](#)



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Approved Courses for Graduate Credit

Biomedical Technology (BMED)

- [BMED 281 Molecular Applications](#)
- [BMED 293 Research Concepts](#)



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Approved Courses for Graduate Credit

Biosstatistics (BIOS)

- [BIOS 200 Medical Biosstatistics and Epidemiology](#)
- [BIOS 201 Statistical Analysis via Computer](#)
- [BIOS 202 Population Dynamics](#)
- [BIOS 211 Statistical Methods I](#)
- [BIOS 221 Statistical Methods II](#)
- [BIOS 223 Applied Multivariate Analysis](#)
- [BIOS 224 Statistics for Quality and Productivity](#)
- [BIOS 225 Applied Regression Analysis](#)
- [BIOS 229 Survival Analysis](#)
- [BIOS 231 Experimental Design](#)
- [BIOS 233 Surveys Sampling](#)
- [BIOS 235 Categorical Data Analysis](#)
- [BIOS 237 Nonparametric Statistical Methods](#)
- [BIOS 241 Statistical Inference](#)
- [BIOS 253 Applied Time Series and Forecasting](#)
- [BIOS 254 Sociology of Health and Medicine](#)
- [BIOS 261 Statistical Theory I](#)
- [BIOS 262 Statistical Theory II](#)
- [BIOS 308 Applied Biosstatistics](#)
- [BIOS 352 Modeling and Estimation of Animal Populations](#)
- [BIOS 381 Statistical Research](#)
- [BIOS 385 Consulting Practicum](#)
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Botany (BOT)

- [BOT 205 Mineral Nutrition of Plants](#)
- [BOT 209 Biology of Ferns](#)
- [BOT 213 Plant Communities](#)
- [BOT 223 Fundamentals of Field Science](#)
- [BOT 226 Environmental Problem Solving](#)
- [BOT 229 Water Relations of Plants](#)
- [BOT 232 Botany Field Trip](#)
- [BOT 234 Ecology of Freshwater Algae](#)
- [BOT 241 Tropical Plant Systematics](#)
- [BOT 250 Microtechnique](#)
- [BOT 251 Principles of Light Microscopy](#)
- [BOT 252 Molecular Genetics: Regulation of Gene Expression in Eukaryotes](#)
- [BOT 254 Genetics of Fungi](#)
- [BOT 256 Advanced Plant Genetics](#)
- [BOT 257 Physiology of the Plant Cell](#)
- [BOT 258 Biology of the Fungi](#)
- [BOT 261 Plant Growth and Development](#)
- [BOT 281 Botany Seminar](#)
- [BOT 295 Special Topics](#)
- [BOT 301 Cell and Molecular Biology](#)
- [BOT 311 Field Naturalist Practicum](#)
- [BOT 381 Selected Problems in Modern Botany](#)
- [BOT 391 Master's Thesis Research](#)
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Business Administration (BSAD)

- [BSAD 222 Human Resource Management](#)
- [BSAD 226 Current Issues in Management and Organizational Theory](#)
- [BSAD 234 Canadian-U.S. Business Relations](#)
- [BSAD 251 Marketing Research](#)
- [BSAD 252 Marketing Research Practicum](#)
- [BSAD 258 International Market Analysis](#)
- [BSAD 260 Financial Statement Analysis](#)
- [BSAD 263 Accounting and the Environment](#)
- [BSAD 266 Advanced Accounting](#)
- [BSAD 267 Auditing](#)
- [BSAD 270 Quantitative Analysis for Managerial Decisions](#)
- [BSAD 282 Security Valuation and Portfolio Management](#)
- [BSAD 285 Options and Futures](#)
- [BSAD 293 Integrated Product Development](#)
- [BSAD 295 Special Topics](#)
- [BSAD 302 Business Economics](#)
- [BSAD 304 Managerial Economics](#)
- [BSAD 305 Fundamentals of Marketing Management](#)
- [BSAD 306 Fundamentals of Accounting](#)
- [BSAD 307 Organization and Management Studies](#)
- [BSAD 308 Corporate Finance](#)
- [BSAD 309 Fundamentals of Legal Environment of Business](#)
- [BSAD 331 Health Care Management](#)
- [BSAD 337 International Trade and Investment Policy](#)
- [BSAD 340 Production and Operations Management](#)
- [BSAD 341 Forecasting](#)
- [BSAD 345 Management Information Systems](#)

BSAD 346 Decision-Making Models

- [BSAD 347 Analysis of Decision Support Systems](#)
- [BSAD 352 Business to Business Marketing](#)
- [BSAD 359 Marketing Policy](#)
- [BSAD 360 Contemporary Financial Accounting and Reporting](#)
- [BSAD 365 Management Accounting](#)
- [BSAD 375 Organization Theory](#)
- [BSAD 376 The Management of Change in Organizations](#)
- [BSAD 379 Strategic Management](#)
- [BSAD 380 Managerial Finance](#)
- [BSAD 394 Independent Readings and Research](#)
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- [BSAD 396 Business Policy](#)



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Cell and Molecular Biology (Interdisciplinary)

- [BIOL 295 Special Topics](#)
- [BIOL 301 Cell and Molecular Biology](#)
- [BIOL 302 Specialized Cells and Cell Processes](#)
- [BIOL 381 Seminar](#)
- [BIOL 391 Master's Thesis Research](#)
- [BIOL 395 Special Topics](#)
- [BIOL 491 Doctoral Dissertation Research](#)

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Chemistry (CHEM)

- [CHEM 201 Advanced Chemistry Lab](#)
- [CHEM 202 Advanced Chemistry Lab](#)
- [CHEM 205 Biochemistry I](#)
- [CHEM 206 Biochemistry II](#)
- [CHEM 207 Biochemistry Lab](#)
- [CHEM 214 Polymeristry](#)
- [CHEM 221 Instrumental Analysis](#)
- [CHEM 223 Mass Spectrometry](#)
- [CHEM 224 Chemical Separations](#)
- [CHEM 225 Electroanalyticalistry](#)
- [CHEM 226 Analytical Spectroscopy](#)
- [CHEM 227 Special Topics in Analyticalistry](#)
- [CHEM 228 Special Topics in Analyticalistry](#)
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- [CHEM 262 Chemical Thermodynamics](#)
- [CHEM 263 Introduction to Quantum Mechanics](#)
- [CHEM 264 Fundamentals of Spectroscopy](#)
- [CHEM 265 Statistical Mechanics](#)

- CHEM 267 Special Topics in Physicaliſtry
- [CHEM 268 Special Topics in Physicaliſtry](#)
- [CHEM 285 Special Topics](#)
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- [CHEM 342 Natural Products - The Alkaloids](#)
- [CHEM 344 Natural Products - The Terpenes](#)
- [CHEM 381 Seminar](#)
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Civil and Environmental Engineering (CE)

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- [CE 220 Introduction to Finite Element Analysis](#)
- [CE 226 Civil Engineering Systems Analysis](#)
- [CE 241 Traffic Operations & Design](#)
- [CE 245 Intelligent Transportation Sys](#)
- [CE 248 Hazardous Waste Management Engineering](#)
- [CE 251 Environmental Facilities Design - Wastewater](#)
- [CE 252 Industrial Hygiene](#)
- [CE 253 Air Pollution](#)
- [CE 254 Environmental Quantitative Analysis](#)
- [CE 255 Physical/Chemical Processes for Water & Wastewater Treatment](#)
- [CE 256 Biological Processes for Water & Wastewater Treatment](#)
- [CE 259 Measurement of Airborne Contaminants](#)
- [CE 260 Hydrology](#)
- [CE 261 Open Channel Flow](#)
- [CE 265 Ground Water Hydrology](#)
- [CE 272 Structural Dynamics](#)
- [CE 280 Applied Soil Mechanics](#)
- [CE 281 Geotechnical Design](#)
- [CE 282 Engineering Properties of Soils](#)
- [CE 283 Designing with Geosynthetics](#)
- [CE 290 Engineering Investigation](#)
- [CE 295 Special Topics](#)
- [CE 304 Advanced Engineering Analysis I](#)
- [CE 305 Advanced Engineering Analysis II](#)
- [CE 321 Engineering Computations on Advanced Architectures](#)
- [CE 360 Advanced Hydrology](#)

CE 361 Fluvial Forms & Processes

- [CE 365 Contaminant Hydrogeology & Remediation](#)
- [CE 366 Numerical Methods for Surface Water Processes](#)
- [CE 367 Phys Flow & Trs thru Porous Media](#)
- [CE 368 Groundwater Modeling](#)
- [CE 369 Applied Geostatistics](#)
- [CE 390 Advanced Topics in Civil and Environmental Engineering](#)
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Greek (GRK)

- [GRK 201 Greek Orators](#)
- [GRK 202 Greek Comedy](#)
- [GRK 203 Greek Historians](#)
- [GRK 204 Greek Tragedy](#)
- [GRK 205 Greek Philosophers](#)
- [GRK 206 Greek Epic](#)
- [GRK 227 Greek Lyric Poetry](#)
- [GRK 295 Advanced Special Topics](#)
- [GRK 296 Advanced Special Topics](#)



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Greek and Latin (GKLT)

- [GKLT 300 Proseminar](#)
- [GKLT 381 Seminar](#)
- [GKLT 391 Master's Thesis Research](#)



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Latin (LAT)

- [LAT 203 Republican Prose](#)
- [LAT 204 Epic Poets](#)
- [LAT 227 Roman Lyric Poets](#)
- [LAT 251 Roman Letters](#)
- [LAT 252 Comedy](#)
- [LAT 253 Roman Oratory](#)
- [LAT 255 Historians of the Empire](#)
- [LAT 256 Satire](#)
- [LAT 271 Silver Latin](#)
- [LAT 295 Advanced Special Topics](#)
- [LAT 296 Advanced Special Topics](#)



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Communication Sciences (CMSI)

- [CMSI 208 Cognition and Language](#)
- [CMSI 215 Cognition and Aging](#)
- [CMSI 281 Cognitive Neuroscience](#)
- [CMSI 282 Medical Speech-Language Pathology](#)
- [CMSI 283 Swallowing Disorders](#)
- [CMSI 284 Augmentative Communication](#)
- [CMSI 285 Collaborative Intervention within School Settings](#)
- [CMSI 287 Early Language and Communication Intervention](#)
- [CMSI 291 Clinical Study](#)
- [CMSI 292 Clinical Study](#)
- [CMSI 293 Seminar](#)
- [CMSI 294 Seminar](#)
- [CMSI 299 Autism Spectrum Disorders](#)
- [CMSI 310 Clinical Preparation and Management](#)
- [CMSI 311 Interdisciplinary Leadership Training for Health Professionals: Research Seminar I](#)
- [CMSI 312 Interdisciplinary Leadership Training for Health Professionals: Research Seminar II](#)
- [CMSI 371 Audiological Assessment for Speech-Language Pathologists](#)
- [CMSI 372 Management and Habilitation of Children with Hearing Impairment](#)
- [CMSI 380 Research Methods in Communication Disorders](#)
- [CMSI 381 Advanced Readings](#)
- [CMSI 382 Advanced Readings](#)
- [CMSI 383 Seminar in Language/Learning Disabilities](#)
- [CMSI 384 Articulation-Phonological Disorders](#)
- [CMSI 385 Voice Disorders](#)
- [CMSI 386 Adult Neuropathologies](#)

CMSI 387 Language Disorders

- [CMSI 388 Stuttering](#)
- [CMSI 389 Adult Aphasia](#)
- [CMSI 391 Master's Thesis Research](#)
- [CMSI 392 Non-Thesis Research](#)



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Community Development and Applied Economics (CDAE)

- [CDAE 205 Rural Communities in Modern Society](#)
- [CDAE 207 Markets, Food, and Consumers](#)
- [CDAE 208 Agricultural Policy and Ethics](#)
- [CDAE 218 Community Leadership, Organization, and Institutional Development](#)
- [CDAE 237 Economics of Sustainable Agriculture](#)
- [CDAE 253 Macroeconomics for Applied Economists](#)
- [CDAE 254 Microeconomics for Applied Economists](#)
- [CDAE 255 Applied Consumption Economics](#)
- [CDAE 264 Risk Analysis and Forecasting Procedures](#)
- [CDAE 266 Decision Making for Agricultural and Resource Entrepreneurs](#)
- [CDAE 267 Strategic Planning for Agricultural and Resource Entrepreneurs](#)
- [CDAE 272 International Economic Development](#)
- [CDAE 273 Project Development and Planning](#)
- [CDAE 287 Spatial Analysis](#)
- [CDAE 295 Special Topics](#)
- [CDAE 351 Research Methods](#)
- [CDAE 354 Advanced Microeconomics](#)
- [CDAE 391 Master's Thesis Research](#)
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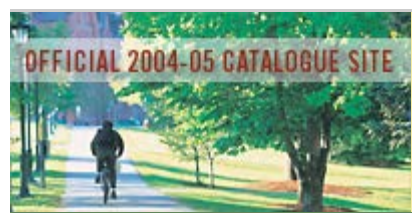
Computer Science (CS)

- [CS 201 Operating System](#)
- [CS 202 Compiler Construction](#)
- [CS 204 Database Systems](#)
- [CS 205 Software Engineering](#)
- [CS 222 Computer Architecture](#)
- [CS 224 Analysis of Algorithms](#)
- [CS 243 Theory of Computation](#)
- [CS 251 Artificial Intelligence](#)
- [CS 256 Neural Computation](#)
- [CS 260 Parallel Algorithms](#)
- [CS 265 Computer Networks](#)
- [CS 266 Network Security and Cryptography](#)
- [CS 274 Computer Graphics](#)
- [CS 294 Independent Readings and Research](#)
- [CS 295 Special Topics in Computer Science](#)
- [CS 303 Advanced Topics in Programing Environments and Languages](#)
- [CS 316 Advanced Topics in Computational Science](#)
- [CS 321 Advanced Topics in Computer Architecture](#)
- [CS 331 Advanced Topics in Database and Knowledge Base Systems](#)
- [CS 346 Advanced Topics in Theory of Computation](#)
- [CS 351 Advanced Topics in Pattern Analysis and Artificial Intelligence](#)
- [CS 361 Advanced Topics in Systems Software](#)
- [CS 363 Advanced Topics in Computer System Performance](#)
- [CS 365 Advanced Topics in Network Design and Analysis](#)
- [CS 374 Advanced Topics in Computer Graphics and Visualization](#)
- [CS 381 Seminar](#)
- [CS 391 Master's Thesis Research](#)

CS 394 Independent Study

- CS 395 Advanced Topics in Computer Science

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Counseling (EDCO)

- [EDCO 220 Developmental Perspectives in Counseling](#)
- [EDCO 291 Special Topics in Counseling](#)
- [EDCO 310 Counseling Strategies for Teachers](#)
- [EDCO 340 Developmental Guidance in Schools](#)
- [EDCO 344 Counseling Children & Adolescent](#)
- [EDCO 350 Professional Issues in Counseling](#)
- [EDCO 351 Using Tests in Counseling](#)
- [EDCO 361 The Practice of Mental Health Counseling](#)
- [EDCO 363 School Counseling Practicum](#)
- [EDCO 364 Internship in School Counseling](#)
- [EDCO 374 Counseling Theory and Practice](#)
- [EDCO 375 Laboratory Experience in Counseling](#)
- [EDCO 376 Chemical Dependency: Etiology & Treatment](#)
- [EDCO 377 Diversity Issues in Counseling](#)
- [EDCO 378 Diagnosis and Treatment Planning with Children an Adolescents](#)
- [EDCO 379 Diagnosis and Treatment Planning with Adults](#)
- [EDCO 380 Professional Problems in Counseling](#)
- [EDCO 381 Counseling for Career and Lifestyle Development](#)
- [EDCO 383 Mental Health Counseling Practicum](#)
- [EDCO 384 Internship in Mental Health Counseling](#)
- [EDCO 386 Organizational Development for Counseling and Related Services](#)
- [EDCO 387 Therapeutic Psychopharmacology for Counselors](#)
- [EDCO 388 Family Counseling: Systems](#)
- [EDCO 389 Family Counseling: Interventions](#)
- [EDCO 390 Advanced Counseling Seminar](#)
- [EDCO 391 Master's Thesis Research](#)
- [EDCO 392 Group Dynamics: Theory and Experience](#)

EDCO 393 Advanced Group Counseling

- [EDCO 394 Special Topics in Counseling](#)
- [EDCO 397 Independent Study in Counseling](#)
- [EDCO 399 Program Completion Seminar](#)



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Early Childhood Special Education (ECSP)

- [ECSP 200 Contemporary Issues](#)
- [ECSP 202 Inft.Tdlr.Preschl w/ Disabil](#)
- [ECSP 210 Meet Curr Needs Chil w/ Disabl](#)
- [ECSP 211 Assmt Intvntn Erly Chld Sp Ed](#)
- [ECSP 310 Curriculum & Tech Special Ed](#)
- [ECSP 311 Curriculum & Tech Special Ed](#)
- [ECSP 386 Intern:Mgmt Lrng Env for Hdcpd](#)



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Education (EDSS)

- [EDSS 200 Contemporary Issues](#)
- [EDSS 211 Educational Measurements](#)
- [EDSS 215 The Gifted Child](#)
- [EDSS 238 Teaching with a Global Perspective](#)
- [EDSS 245 Applications of Microcomputers in Elementary and Secondary School Curricula](#)
- [EDSS 248 Educational Media](#)
- [EDSS 261 Current Directions in Curriculum and Instruction](#)
- [EDSS 295 Laboratory Experience in Education](#)
- [EDSS 309 Interdisciplinary Seminar: Social Policy, Education, Social Services](#)
- [EDSS 313 Statistical Methods in Education and Social Services](#)
- [EDSS 319 Internship for Specialized Personnel in Education](#)
- [EDSS 321 School Improvement: Theory and Practice](#)
- [EDSS 333 Curriculum Concepts, Planning and Development](#)
- [EDSS 336 Professional Writing](#)
- [EDSS 343 The Study of Teaching](#)
- [EDSS 363 Seminar in the Analysis of Curriculum and Instruction](#)
- [EDSS 349 Quasi-Experimentation in Education and Social Services](#)
- [EDSS 380 Professional Problems in Education](#)
- [EDSS 382 Teaching Internships](#)
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Elementary Education (EDEL)

- [EDEL 200 Contemporary Issues](#)
- [EDEL 222 Cultivating Children's Literacy in the Elementary/Middle School Classroom](#)
- [EDEL 234 Literature and Language for Children and Youth](#)
- [EDEL 236 Multicultural Children's Literature](#)
- [EDEL 241 Science for the Elementary School](#)
- [EDEL 244 Social Studies in the Elementary School](#)
- [EDEL 256 Methods and Materials in Elementary School Mathematics](#)
- [EDEL 270 Kindergarten Methods and Organization](#)
- [EDEL 295 Laboratory Experience in Education](#)
- [EDEL 271 Kindergarten Education with Laboratory Experiences](#)
- [EDEL 319 Internship for Specialized Personnel in Education](#)
- [EDEL 375 Literacy Assessment: Understanding Individual Differences.](#)
- [EDEL 376 Laboratory Experiences in Reading and Related Language Instruction](#)
- [EDEL 378 Advanced Study and Research in Reading and Related Language Arts](#)
- [EDEL 379 Seminar in Reading Instruction](#)
- [EDEL 380 Professional Problems in Education](#)
- [EDEL 382 Teaching Internship](#)
- [EDEL 391 Master's Thesis Research](#)
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Foundations (EDFS)

- [EDFS 200 Contemporary Issues](#)
- [EDFS 203 Social, Historical and Philosophical Foundations of Education](#)
- [EDFS 204 Seminar in Educational History](#)
- [EDFS 205 History of American Education](#)
- [EDFS 206 Comparative Education](#)
- [EDFS 209 Introduction to Research Methods in Education and Social Services](#)
- [EDFS 255 School as a Social Institution](#)
- [EDFS 295 Laboratory Experience in Education](#)
- [EDFS 302 Philosophy of Education](#)
- [EDFS 303 The Ethics of Helping Relationships](#)
- [EDFS 304 Religion, Spirituality, and Education](#)
- [EDFS 309 Scholarly Personal Narrative Writing for Education and Social Services](#)
- [EDFS 314 Modes of Inquiry](#)
- [EDFS 322 The Challenge of Multiculturalism for Education and Social Institutions](#)
- [EDFS 347 Qualitative Research Methods](#)
- [EDFS 348 Analyzing and Writing Qualitative Research](#)
- [EDFS 352 Aesthetic Education and Social Justice](#)
- [EDFS 354 Anthropological Perspectives on Education and Social Services](#)
- [EDFS 369 Ethics in Educational and Social Services Administration](#)
- [EDFS 377 Seminar in Educational Psychology](#)
- [EDFS 380 Professional Problems in Education](#)
- [EDFS 391 Master's Thesis Research](#)
- [EDFS 397 Problems in Education](#)
- [EDFS 455 Social Processes and Institutional Change](#)

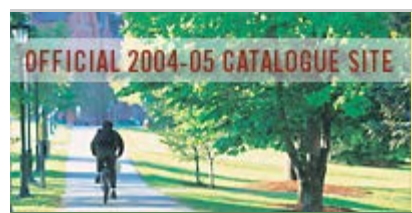


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Health Education (EDHE)

- [EDHE 200 Contemporary Issues](#)
- [EDHE 208 School Health Programs](#)
- [EDHE 211 Community Health Education](#)
- [EDHE 220 Stress Management for Health Professionals](#)
- [EDHE 295 Laboratory Experience in Education](#)
- [EDHE 319 Internship for Specialized Personnel in Education](#)
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Higher Education (EDHI)

- [EDHI 200 Contemporary Issues](#)
- [EDHI 295 Laboratory Experience in Education](#)
- [EDHI 297 Learning Module](#)
- [EDHI 319 Internship for Specialized Personnel in Education](#)
- [EDHI 332 Adult Development and Education](#)
- [EDHI 360 Higher Education in America](#)
- [EDHI 361 The \(Un\)Changing Academy](#)
- [EDHI 362 College Students in America](#)
- [EDHI 375 Cultural Pluralism in Higher Education](#)
- [EDHI 380 Professional Problems in Education](#)
- [EDHI 383 Higher Education Administration and Organization](#)
- [EDHI 385 Student Affairs Profession](#)
- [EDHI 387 Seminar in Higher Education](#)
- [EDHI 391 Master's Thesis Research](#)
- [EDHI 395 Laboratory Experience](#)
- [EDHI 396 Capstone Seminar: Ethics, Values, and Meaning in Higher Education Administration](#)
- [EDHI 397 Problems in Higher Education](#)
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Interdisciplinary Education

- [200 EDSS Contemporary Issues](#)
- [295 EDSS Laboratory Experience in Education](#)
- [319 EDSS Internship for Specialized Personnel in Education](#)
- [380 EDSS Professional Problems in Education](#)
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Library Science (EDLI)

- [EDLI 200 Contemporary Issues](#)
- [EDLI 272 Managing School Library Media Centers](#)
- [EDLI 273 Organizing School Library Media Center Collections](#)
- [EDLI 274 Designing Instruction for School Library Media Centers](#)
- [EDLI 275 Developing School Library Media Center Collections](#)
- [EDLI 276 Information Sources and Services for School Library Media Centers](#)
- [EDLI 277 Information Technologies for School Library Media Centers](#)
- [EDLI 295 Laboratory Experience in Education](#)
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Leadership and Policy Studies (EDLP)

- [EDLP 200 Contemporary Issues](#)
- [EDLP 264 Evaluation in Education and Social Services](#)
- [EDLP 266 Educational Finance](#)
- [EDLP 268 Educational Law](#)
- [EDLP 280 School Business Management](#)
- [EDLP 291 Special Topics in Organizational and Human Resource Development](#)
- [EDLP 295 Laboratory Experience in Education](#)
- [EDLP 319 Internship for Specialized Personnel in Education](#)
- [EDLP 332 Seminar in Administration and Planning](#)
- [EDLP 334 Effecting and Managing Change in Educational and Social-Service Organizations](#)
- [EDLP 335 Staff Evaluation and Development](#)
- [EDLP 336 Curriculum Management in Educational and Social Service Organizations](#)
- [EDLP 337 Political Processes in Education and Social Service Organizations](#)
- [EDLP 352 Analysis of Educational and Social Service Organizations](#)
- [EDLP 353 Seminar in Organizational Leadership](#)
- [EDLP 354 General and Social Systems Theory](#)
- [EDLP 355 System Analysis and Planning](#)
- [EDLP 356 Seminar in Futurism and Planning](#)
- [EDLP 357 Seminar in Futurism and Planning](#)
- [EDLP 358 Seminar in Community Education](#)
- [EDLP 367 Human Behavior in Education Systems](#)
- [EDLP 372 Leadership and the Creative Imagination](#)
- [EDLP 380 Professional Problems in Education](#)
- [EDLP 386 Organization and Human Resource Development](#)
- [EDLP 387 Collaborative Consultation](#)

EDLP 391 Master's Thesis Research

- [EDLP 397 Problems in Education](#)
- [EDLP 409 Applied Educational Research](#)
- [EDLP 431 Advanced Seminar in Organizational Leadership](#)
- [EDLP 432 Advanced Seminar in Organizational Change and Human Resource Development](#)
- [EDLP 437 Seminar on Education Policy](#)
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Music Education (EDMU)

- [EDMU 240 Musical Creativity in the General Music Class](#)
- [EDMU 243 Recent Trends in Music Education](#)
- [EDMU 253 Practicum in Music Education](#)
- [EDMU 290 Basic Concepts in Music Education](#)
- [EDMU 390 Organization and Administration of Music Education](#)



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Physical Education (EDPE)

- [EDPE 200 Contemporary Issues](#)
- [EDPE 201 Administration of Athletic Program](#)
- [EDPE 203 Principles of Physical Education](#)
- [EDPE 220 Sport in Society](#)
- [EDPE 240 Principles of Motor Learning and Human Performance](#)
- [EDPE 241 Seminar in Physical Education and Athletics](#)
- [EDPE 253 Curriculum Design in Health and Physical Education](#)
- [EDPE 260 Adaptive Physical Education](#)
- [EDPE 266 Ex Prescrip:Sprt,Hlth,Fit,Perf](#)
- [EDPE 267 Sci Strength Training&Condtnng](#)
- [EDPE 295 Laboratory Experience in Education](#)
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Secondary Education (EDSC)

- [EDSC 200 Contemporary Issues](#)
- [EDSC 207 Adolescent Learning from a Behavioral and Cognitive Perspective](#)
- [EDSC 209 Practicum in Teaching](#)
- [EDSC 215 Reading in the Secondary School](#)
- [EDSC 216 General Methods for Secondary Teachers](#)
- [EDSC 217 Secondary School Curriculum](#)
- [EDSC 223 Reading Programs in Secondary Schools and Colleges](#)
- [EDSC 225 Teaching Social Studies in Secondary Schools](#)
- [EDSC 226 Teaching Internship](#)
- [EDSC 227 Teaching Science in Secondary Schools](#)
- [EDSC 228 Literature in the Junior-Senior High School Curriculum](#)
- [EDSC 229 Communicative Arts in Secondary Schools](#)
- [EDSC 230 Teaching for Results](#)
- [EDSC 240 Teaching English in Secondary School](#)
- [EDSC 257 Teaching Mathematics in Secondary Schools](#)
- [EDSC 259 Teaching Foreign Language in the School](#)
- [EDSC 282 Seminar for Prospective Teachers of English](#)
- [EDSC 294 Seminar for Prospective Teachers of Communications](#)
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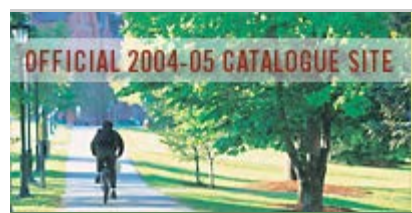
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Special Education (EDSP)

- [EDSP 200 Contemporary Issues](#)
- [EDSP 201 Foundations of Special Education](#)
- [EDSP 207 Cooperative Learning](#)
- [EDSP 216 Meeting the Curriculum and Instructional Needs of All Students](#)
- [EDSP 217 Instruction for Individuals with Significant Disabilities](#)
- [EDSP 221 Family Centered Services for Children with Special Needs](#)
- [EDSP 224 Meeting the Instructional Needs of All Students](#)
- [EDSP 228 Advanced Instruction for Individuals with Severe Disabilities](#)
- [EDSP 274 Culture of Disability](#)
- [EDSP 275 Voc Instr Students W/Spec Need](#)
- [EDSP 280 Assessment in Special Education](#)
- [EDSP 290 Meeting the Curriculum Needs of All Students](#)
- [EDSP 295 Laboratory Experience in Education](#)
- [EDSP 296 Special Education Practica for Classroom Teachers](#)
- [EDSP 297 Curriculum for Individuals with Disabilities](#)
- [EDSP 298 Special Education Practicum](#)
- [EDSP 301 History and Systems of Services for Individuals with Disabilities](#)
- [EDSP 302 Students with Significant Disabilities](#)
- [EDSP 305 Resource Development and Collaborative Teaming](#)
- [EDSP 306 Survey and Assessment of Emotional and Behavioral Disorders of Childhood and Adolescence](#)
- [EDSP 307 Prevention and Intervention Strategies for Students](#)
- [EDSP 310 Curriculum and Technology in Special Education](#)
- [EDSP 311 Curriculum and Technology in Special Education](#)
- [EDSP 312 Advanced Behavior Principles in Special Education](#)
- [EDSP 313 Advanced Behavior Principles in Special Education](#)
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EDSP 317 Design and Evaluation of Education for Individuals with Severe
Disabilities

- EDSP 319 Internship for Specialized Personnel in Education
- EDSP 320 Laboratory Experience in Education
- EDSP 322 Internship in Special Education: The Triadic Model of Consultation
- EDSP 323 Internship in Special Education: Systems Development
- EDSP 380 Professional Problems in Education
- EDSP 382 Teaching Internships
- EDSP 384 Teaching-Internship in Special Education: Course Development and Implementation
- EDSP 385 Teaching Internship: Advanced Systems Development and Management in Special Education
- EDSP 386 Teaching Internship: Management of Learning Environments for the Disabled
- EDSP 387 Collaborative Consultation
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Electrical Engineering (EE)

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- [EE 209 Transient Phenomena](#)
- [EE 210 Introduction to Control Systems](#)
- [EE 212 Computer Vision](#)
- [EE 214 Ubiquitous Cmptg & Interaction](#)
- [EE 216 Sensory based robotics](#)
- [EE 221 Principles of VLSI Digital Circuit Design](#)
- [EE 222 Principles of VLSI Analog Circuit Design](#)
- [EE 224 Principles of VLSI System Design](#)
- [EE 227 Biomedical Measurements, Instrumentation, and Systems](#)
- [EE 228 Sensors](#)
- [EE 231 Digital Computer Design I](#)
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- [EE 233 Microprocessor-Based Systems and Applications](#)
- [EE 241 Electromagnetic Theory I](#)
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- [EE 245 Lasers and Electro-Optical Devices](#)
- [EE 246 Engineering Optics](#)
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- [EE 250 Test Engineering](#)
- [EE 251 Digital System Testing and Testable Design](#)
- [EE 261 Solid State Materials and Devices I](#)
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- [EE 266 Science and Technology of Integrated Circuits](#)
- [EE 270 Probability Theory and Stochastic Processes](#)
- [EE 271 Least Squares Estimation and Filtering](#)

- EE 272 Information Theory
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- [EE 320 Special Topics in Control System Theory](#)
- [EE 338 Semiconductor Device Modeling and Simulation](#)
- [EE 340 Special Topics in Electromagnetic Field Theory](#)
- [EE 341 Special Topics in Electromagnetic Field Theory](#)
- [EE 345 Electromagnetic Antennas and Propagation](#)
- [EE 352 Advanced Semiconductor Device Physics and Design](#)
- [EE 354 MOS Analog Integrated Circuit Design](#)
- [EE 365 Optical Properties of Solids](#)
- [EE 366 Solid State and Semiconductor Theory I](#)
- [EE 367 Solid State and Semiconductor Theory II](#)
- [EE 373 Digital Communication](#)
- [EE 378 Special Topics in Statistical Communication and Related Fields](#)
- [EE 391 Master's Thesis Research](#)
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English (ENG5)

- [ENG5 201 Seminar in English Language or Critical Theory](#)
- [ENG5 202 Seminar in English Language or Critical Theory](#)
- [ENG5 211 Seminar in Composition and Rhetoric](#)
- [ENG5 212 Seminar in Composition and Rhetoric](#)
- [ENG5 221 Seminar in Literature to 1800](#)
- [ENG5 222 Seminar in Literature to 1800](#)
- [ENG5 241 Seminar in 19th Century Literature](#)
- [ENG5 242 Seminar in 19th Century Literature](#)
- [ENG5 251 Seminar in 20th Century Literature](#)
- [ENG5 252 Seminar in 20th Century Literature](#)
- [ENG5 281 Seminar in Literary Themes, Genres, and Folklore](#)
- [ENG5 282 Seminar in Literary Themes, Genres, and Folklore](#)
- [ENG5 290 Seminar for Prospective Teachers of English](#)
- [ENG5 295 Advanced Special Topics](#)
- [ENG5 296 Advanced Special Topics](#)
- [ENG5 320 Seminar: Major Author](#)
- [ENG5 330 Seminar: Literary Period](#)
- [ENG5 340 Studies in Rhetoric and Composition](#)
- [ENG5 350 Survey of Literary Theory and Criticism](#)
- [ENG5 360 Seminar: Special Topics](#)
- [ENG5 370 Principles of Literary Research](#)
- [ENG5 391 Master's Thesis Research](#)
- [ENG5 392 Seminar Paper Review](#)
- [ENG5 397 Special Readings and Research](#)



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Environmental Studies (ENVS)

- [ENVS 291 Special Topics](#)
- [ENVS 293 Environmental Law](#)
- [ENVS 294 Environmental Education](#)
- [ENVS 295 Advanced Seminar](#)



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French (FREN)

- [FREN 209 Advanced Grammar](#)
- [FREN 211 History of the French Language](#)
- [FREN 215 Methods of Text Analysis](#)
- [FREN 216 Stylistics](#)
- [FREN 225 Medieval French Literature](#)
- [FREN 226 Medieval French Literature](#)
- [FREN 235 Literature of the French Renaissance](#)
- [FREN 245 The Baroque Age, 1600-1650](#)
- [FREN 246 Seventeenth Century Prose](#)
- [FREN 247 Seventeenth Century Theatre](#)
- [FREN 255 18th Century Literature](#)
- [FREN 256 18th Century Literature](#)
- [FREN 265 Romanticism, Symbolism, Decadence in 19th Century Literature](#)
- [FREN 266 Revolution and Reaction in 19th Century Narrative](#)
- [FREN 275 20th Century Literature](#)
- [FREN 276 20th Century Literature](#)
- [FREN 277 Topics in 20th Century French Theatre](#)
- [FREN 285 Quebec Literature I](#)
- [FREN 289 African Literature of French Expression](#)
- [FREN 290 Contemporary French Thought: The Linguistic Model](#)
- [FREN 292 Topics in French Culture](#)
- [FREN 293 Quebec Culture](#)
- [FREN 295 Advanced Special Topics](#)
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Geography (GEOG)

- [GEOG 202 Research Methods](#)
- [GEOG 203 Contemporary Geographic Thought in Context](#)
- [GEOG 204 Spatial Analysis](#)
- [GEOG 245 Advanced Topics in Human-Environment Interactions](#)
- [GEOG 246 Advanced Topics in Climate and Water Resources](#)
- [GEOG 272 Advanced Topics in Space, Power and Identity](#)
- [GEOG 273 Advanced Topics in Political Economy and Ecology](#)
- [GEOG 274 Advanced Topics in Critical Urban and Social Geographies](#)
- [GEOG 281 Advanced Topics in GIS and Remote Sensing](#)
- [GEOG 295 Advanced Special Topics](#)
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Geology (GEOL)

- [GEOL 201 Advanced Field Geology](#)
- [GEOL 230 Advanced Igneous and Metamorphic Petrology](#)
- [GEOL 233 Environmental Isotope Geochemistry](#)
- [GEOL 234 Global Biogeochemical Cycles](#)
- [GEOL 235 Geochemistry of Natural Waters](#)
- [GEOL 240 Tectonics](#)
- [GEOL 241 Clastic Depositional Systems](#)
- [GEOL 243 Clastic Petrology Laboratory](#)
- [GEOL 245 Carbonate Depositional Environments](#)
- [GEOL 247 Carbonate Petrology Laboratory](#)
- [GEOL 255 Geohydrology](#)
- [GEOL 260 Structural Geology](#)
- [GEOL 272 Regional Geology](#)
- [GEOL 273 Geology of the Appalachians](#)
- [GEOL 278 Principles of Aquatic Systems](#)
- [GEOL 295 Special Topics](#)
- [GEOL 296 Special Topics](#)
- [GEOL 301 Introduction to Graduate Studies in Geology](#)
- [GEOL 302 Introduction to Graduate Studies in Geology](#)
- [GEOL 350 Paleogeography](#)
- [GEOL 351 Surface Processes and Quaternary Geology Seminar](#)
- [GEOL 352 Environmental Geology Seminar](#)
- [GEOL 353 Critical Writing in Earth and Environmental Science](#)
- [GEOL 360 Structural Analysis of Deformed Rocks](#)
- [GEOL 361 Advanced Structural Geology](#)
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German (GERM)

- [GERM 201 Methods of Research and Bibliography](#)
- [GERM 202 Expository Writing](#)
- [GERM 213 History of the German Language](#)
- [GERM 214 Middle Ages](#)
- [GERM 225 Goethe](#)
- [GERM 226 Schiller](#)
- [GERM 237 19th Century Prose](#)
- [GERM 238 19th Century Drama](#)
- [GERM 247 German Literature from 1890 to 1945](#)
- [GERM 248 Contemporary German Literature](#)
- [GERM 251 German Folklore](#)
- [GERM 252 Faust](#)
- [GERM 263 German Romanticism](#)
- [GERM 264 German Lyric Poetry](#)
- [GERM 271 Proverbs](#)
- [GERM 273 German Intellectual Movements](#)
- [GERM 275 Fin de Siècle](#)
- [GERM 276 Brecht and the Modern Drama](#)
- [GERM 278 GDR Fiction](#)
- [GERM 279 The German Short Story After 1945](#)
- [GERM 281 Seminar on Literary Genre, Period, or Theme](#)
- [GERM 282 Seminar on a Particular Author or Authors](#)
- [GERM 295 Advanced Special Topics](#)
- [GERM 296 Advanced Special Topics](#)
- [GERM 391 Master's Thesis Research](#)



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Graduate College (GRAD)

- [GRAD 385 Master's Language Examination](#)
- [GRAD 395 Special Topics](#)
- [GRAD 397 Master's Comprehensive Examination](#)
- [GRAD 485 Doctoral Language Examination](#)
- [GRAD 497 Doctoral Comprehensive Examination](#)
- [GRAD 499 Dissertation Defense](#)
- [GRAD 900 Continuous Registration Fee](#)



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Historic Preservation (HP)

- [200 HP History of American Architecture](#)
- [201 HP History on the Land](#)
- [204 HP Development Economics](#)
- [202 HP Special Topics](#)
- [205 HP Historic Preservation Law](#)
- [206 HP Researching Historic Structures and Sites](#)
- [302 HP Community Preservation Project](#)
- [303 HP Internship](#)
- [304 HP Seminar in Contemporary Preservation Planning and Policy](#)
- [305 HP Historic Preservation Practice Methods](#)
- [306 HP Architectural Conservation I](#)
- [307 HP Architectural Conservation II](#)
- [391 HP Master's Thesis Research](#)
- [395 HP Special Topics](#)
- [397 HP Special Readings and Research](#)



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History (HST)

- [201 HST History on the Land](#)
- [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

- [301 HST Introduction to Graduate Study in History](#)
- [351 HST Proseminar in American Cultural History](#)
- [391 HST Master's Thesis Research](#)
- [397 HST Special Readings and Research](#)



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Human Development and Family Studies (HDFS)

- [260 HDFS Family Ecosystem](#)
- [263 HDFS Advanced Child Development](#)
- [264 HDFS Contemporary Issues in Parenting](#)
- [265 HDFS Teaching Human Development](#)
- [266 HDFS Seminar in Human Development](#)
- [267 HDFS Advanced Seminar in Sexual Identities](#)
- [268 HDFS Seminar in Close Relationships](#)
- [281 HDFS Infancy](#)
- [282 HDFS Seminar in Physical Development and Health in Later Life](#)
- [283 HDFS Personal and Family Development in Later Life](#)
- [284 HDFS Public Policy and Programs for Elders](#)
- [291 HDFS Special Problems](#)
- [295 HDFS Special Topics](#)
- [296 HDFS Field Experience](#)



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Humanities (HUMN)

- [300 HUMN Modern Literary Theory](#)
- [301 HUMN Humanities Graduate Seminar](#)



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International Studies (IS)

- [297 IS Advanced Readings and Research](#)
- [298 IS Advanced Readings and Research](#)



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Approved Courses for Graduate Credit

Materials Science (Multidisciplinary)

- [391 MATS Master's Thesis Research.](#)
- [491 MATS Doctoral Dissertation Research.](#)



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Mathematics (MATH)

- [207 MATH Probability Theory](#)
- [221 MATH Deterministic Models in Operations Research](#)
- [222 MATH Stochastic Models in Operations Research](#)
- [224 MATH Analysis of Algorithms](#)
- [230 MATH Ordinary Differential Equations](#)
- [236 MATH Calculus of Variations](#)
- [237 MATH Introduction to Numerical Analysis](#)
- [238 MATH Numerical Differential Equations](#)
- [240 MATH Fourier Series and Integral Transforms](#)
- [241 MATH Analysis in Several Real Variables I](#)
- [242 MATH Analysis in Several Real Variables II](#)
- [243 MATH Theory of Computation](#)
- [251 MATH Abstract Algebra I](#)
- [252 MATH Abstract Algebra II](#)
- [255 MATH Elementary Number Theory](#)
- [257 MATH Topics in Group Theory](#)
- [260 MATH Foundations of Geometry](#)
- [264 MATH Vector Analysis](#)
- [268 MATH Mathematical Biology and Ecology](#)
- [271 MATH Applied Mathematics for Engineers and Scientists](#)
- [272 MATH Applied Analysis](#)
- [273 MATH Combinatorial Graph Theory](#)
- [274 MATH Numerical Linear Algebra](#)
- [275 MATH Advanced Engineering Analysis I](#)
- [276 MATH Advanced Engineering Analysis II](#)
- [295 MATH Special Topics](#)
- [330 MATH Advanced Ordinary Differential Equations](#)

- 331 MATH Theory of Functions of Complex Variables
- [332 MATH Approximation Theory](#)
- [333 MATH Theory of Functions of Real Variables](#)
- [335 MATH Advanced Real Analysis](#)
- [336 MATH Advanced Real Analysis](#)
- [339 MATH Partial Differential Equations](#)
- [351 MATH Topics in Algebra](#)
- [353 MATH Math Point Set Topology](#)
- [354 MATH Algebraic Topology](#)
- [373 MATH Topics in Combinatorics](#)
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Mechanical Engineering (ME)

- [ME 203 Machinery Analysis and Synthesis](#)
- [ME 207 Biomechanics I](#)
- [ME 208 Biomechanics II](#)
- [ME 209 Biofluid Dynamics](#)
- [ME 234 Mechanical Vibrations](#)
- [ME 235 Turbomachinery Vibration Analysis and Testing](#)
- [ME 241 Combustion Processes](#)
- [ME 242 Advanced Engineering Thermodynamics I](#)
- [ME 243 Inviscid Flow](#)
- [ME 244 Introduction to Turbomachinery Analysis](#)
- [ME 245 Advanced Heat Transfer I](#)
- [ME 246 Centrifugal Compressors](#)
- [ME 247 Centrifugal Pumps](#)
- [ME 248 Turbomachinery Special Topics](#)
- [ME 249 Computational Fluids Engineering](#)
- [ME 252 Mechanical Behavior of Materials](#)
- [ME 253 Corrosion of Materials](#)
- [ME 255 Advanced Engineering Materials](#)
- [ME 257 Composite Materials](#)
- [ME 265 Integrated Product Development](#)
- [ME 270 Structural Dynamics](#)
- [ME 281 Seminar](#)
- [ME 282 Seminar](#)
- [ME 283 Laboratory Techniques for Turbomachinery Development](#)
- [ME 285 Biomedical Engineering Seminar](#)
- [ME 295 Special Topics](#)
- [ME 301 Introduction to Biomedical Engineering](#)

- ME 304 Advanced Engineering Analysis I
- [ME 305 Advanced Engineering Analysis II](#)
- [ME 320 Special Problems in Elasticity](#)
- [ME 321 Special Problems in Fluidchanics](#)
- [ME 322 Special Problems in Dynamics](#)
- [ME 323 Special Problems in Thermodynamics](#)
- [ME 324 Special Problems in Heat Transfer](#)
- [ME 325 Special Problems in Materials](#)
- [ME 330 Matrixthods in Structural Dynamics](#)
- [ME 332 Engineering Elasticity](#)
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- [ME 344 Advanced Engineering Thermodynamics II](#)
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Microbiology and Molecular Genetics (MMG)

- [201 MMG Molecular Cloning Lab](#)
- [203 MMG Mammalian Cell Culture in Molecular Biology](#)
- [211 MMG Prokaryotic Molecular Genetics](#)
- [220 MMG Environmental Microbiology](#)
- [222 MMG Clinical Microbiology](#)
- [223 MMG Immunology](#)
- [225 MMG Eukaryotic Virology](#)
- [231 MMG Bioinformatics](#)
- [295 MMG Special Topics](#)
- [302 MMG Medical Microbiology](#)
- [310 MMG Graduate Seminar](#)
- [312 MMG Yeast Molecular Genetics](#)
- [320 MMG Cellular Microbiology](#)
- [332 MMG Critical Reading](#)
- [352 MMG Protein: Nucleic Acid Interactions](#)
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Molecular Physiology and Biophysics (MPBP)

- [301 MPBP Medical Physiology and Biophysics](#)
- [302 MPBP Neuroscience](#)
- [303 MPBP Special Topics in Physiology](#)
- [308 MPBP Biometrics and Applied Statistics](#)
- [310 MPBP Molecular Basis of Biological Motility](#)
- [313 MPBP Seminar on Endocrine Physiology](#)
- [323 MPBP Principles and Elements of Biomedical Instrumentation](#)
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Music (MU)

- [MU 211 Seminar in Music Literature](#)
- [MU 212 Seminar in Music Literature](#)
- [MU 213 Seminar in Music Literature](#)
- [MU 214 Seminar in Music Literature](#)
- [MU 215 Seminar in Music Literature](#)
- [MU 216 Bibliography Seminar](#)
- [MU 231 Advanced Theory](#)
- [MU 232 Advanced Theory](#)
- [MU 233 Arranging](#)
- [MU 234 Orchestration](#)
- [MU 235 Fugal Composition](#)
- [MU 237 Composition](#)
- [MU 238 Composition](#)
- [MU 240 Seminar in Musical Analysis](#)
- [MU 259 Conducting](#)
- [MU 265 Vermont Wind Ensemble](#)
- [MU 281 Kodaly Institute](#)
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- [MU 298 Advanced Readings and Research](#)

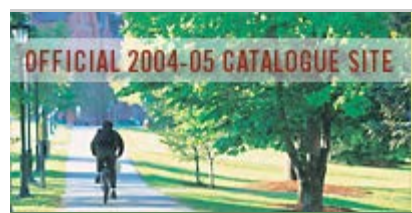


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Forestry (FOR)

- [FOR 205 Mineral Nutrition of Plants](#)
- [FOR 222 Advanced Silviculture](#)
- [FOR 225 Tree Structure and Function](#)
- [FOR 228 Ecosystem Ecology](#)
- [FOR 231 Integrated Forest Protection](#)
- [FOR 242 Advance Forest Biometry](#)
- [FOR 272 Sustainable Management of Forest Ecosystems](#)
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Natural Resources (NR)

- [NR 220 Landscape Ecology](#)
- [NR 235 Legal Aspects of Planning and Zoning](#)
- [NR 240 Wilderness and Wilderness Management](#)
- [NR 244 Quantitative Assessments of Natural Resources](#)
- [NR 250 Limnology](#)
- [NR 252 Visual Resource Planning and Management](#)
- [NR 255 Field Methods in Water Resources](#)
- [NR 260 Wetlands Ecology and Management](#)
- [NR 261 Wetlands Ecology Laboratory](#)
- [NR 262 International Problems in Natural Resource Management](#)
- [NR 270 Toxic and Hazardous Substances in Surface Waters](#)
- [NR 275 Natural Resource Planning: Theory and Methods](#)
- [NR 276 Water Quality Analysis and Interpretation](#)
- [NR 278 Principles of Aquatic Systems](#)
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- [NR 280 Stream Ecology](#)
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- [NR 288 Ecol Design & Living Technol](#)
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Recreation Management (RM)

- [235 RM Outdoor Recreation Planning](#)
- [240 RM Wilderness and Wilderness Management](#)
- [255 RM Environmental Interpretation](#)



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- [GRNU 321 Practicum:Cmplx Nsg Care](#)
- [GRNU 322 Human Structure and Function](#)
- [GRNU 324 Nurse as Administrator-Theory](#)
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- [203 NFS Food Microbiology](#)
- [206 NFS Principles of Food Engineering](#)
- [208 NFS Sensory Evaluation of Foods](#)
- [222 NFS Curriculum Development in the Human Sciences](#)
- [223 NFS Methods of Education in the Human Services](#)
- [224 NFS Evaluation Techniques in the Human Sciences](#)
- [238 NFS Food Service Systems Management](#)
- [243 NFS Advance Nutrition](#)
- [253 NFS Food Safety and Regulation](#)
- [260 NFS Diet and Disease](#)
- [261 NFS Clinical Nutrition](#)
- [262 NFS Community Nutrition](#)
- [263 NFS Nutritional Biochemistry](#)
- [295 NFS Special Topics Lectures](#)
- [296 NFS Field Experience](#)
- [350 NFS Nutrition and Food Sciences Seminar](#)
- [360 NFS Research Methods in Nutrition and Food Sciences](#)
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Obstetrics and Gynecology (OBGY)

- 295 OBGY Special Topics



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- [292 ORTH Research in Orthopaedics and Rehabilitation](#)
- [381 ORTH Readings and Research in Musculoskeletal Biomechanics](#)
- [382 ORTH Readings and Research in Musculoskeletal Biomechanics](#)
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- [305 PATH Molecular Mechanisms of Environmental Disease](#)
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- [375 PATH Special Topics in Molecular Pathobiology](#)
- [391 PATH Master's Thesis Research](#)
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- [301 PHRM Medical Pharmacology](#)
- [302 PHRM Pharmacological Techniques](#)
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- [328 PHRM Introduction to Medicinal Chemistry](#)
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- [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](#)
- [240 PHIL Contemporary Ethical Theory](#)
- [241 PHIL Contemporary Social and Political Philosophy](#)
- [242 PHIL Justice and Equality](#)
- [260 PHIL Topics in Continental Philosophy](#)
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- [221 PT Tutorial I - Clinical Care Issues I](#)
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- [232 PT Clinical Education I](#)
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Movement Sciences and Rehabilitation (MVSR)

- [300 MVSR Research Tutorial](#)
- [304 MVSR Professional Practice Practicum](#)
- [311 MVSR Motor Function and Dysfunction: Muscle](#)
- [312 MVSR Motor Function: Connective Tissue](#)
- [313 MVSR Motor Function and Dysfunction: Energetics & Clinical Application of Exercise Physiology](#)
- [314 MVSR Motor Function and Dysfunction: Movement Science](#)
- [381 MVSR Special Topics Seminar](#)
- [391 MVSR Master's Thesis Research](#)
- [397 MVSR Special Readings and Research](#)



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- [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](#)
- [295 PHYS Special Topics](#)
- [296 PHYS Special Topics](#)
- [301 PHYS Mathematical Physics](#)
- [305 PHYS Teaching of College Physics](#)
- [311 PHYS Advanced Dynamics](#)
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- [321 PHYS Seminar in Theoretical Physics](#)
- [323 PHYS Seminar in Contemporary Physics](#)
- [331 PHYS Seminar in Biological Physics](#)
- [341 PHYS Solid State Physics](#)
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- [351 PHYS Seminar in Physics of Materials](#)
- [362 PHYS Quantum Mechanics II](#)
- [381 PHYS Problems in Engineering Physics](#)
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Plant and Soil Science (PSS)

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- [210 PSS Ecological Soil Management](#)
- [215 PSS Weed/Crop Ecology](#)
- [217 PSS Pasture Production and Management](#)
- [221 PSS Tree Fruit Culture](#)
- [232 PSS Biological Control](#)
- [261 PSS Soil Morphology Classification and Land Use](#)
- [264 PSS Chemistry of Soil and Water](#)
- [266 PSS Soil Water Movement](#)
- [269 PSS Soil and Water Pollution and Bioremediation](#)
- [281 PSS Seminar](#)
- [297 PSS Special Topics](#)
- [301 PSS Plant Science Colloquium](#)
- [302 PSS Soil Science Colloquium](#)
- [381 PSS Graduate Special Topics](#)
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- [207 PSYC Thinking](#)
- [208 PSYC Cognition and Language](#)
- [210 PSYC Principles of Human Perception](#)
- [215 PSYC Cognition and Aging](#)
- [220 PSYC Animal Behavior](#)
- [221 PSYC Physiological Psychology I](#)
- [222 PSYC Selected Topics in Behavioral Neuroscience](#)
- [223 PSYC Psychopharmacology](#)
- [230 PSYC Advanced Social Psychology](#)
- [231 PSYC Psychology of Women](#)
- [233 PSYC Psychology of Experience and Creativity Enhancement](#)
- [234 PSYC Psychology of Social and Environmental Change](#)
- [236 PSYC Theories of Human Communication](#)
- [237 PSYC Cross-Cultural Communication](#)
- [240 PSYC Organizational Psychology](#)
- [241 PSYC Organizational Psychology: Global, Cultural, and Local Forces](#)
- [250 PSYC Introduction to Clinical Psychology](#)
- [251 PSYC Behavior Disorders of Childhood](#)
- [253 PSYC Introduction to Behavior Modification](#)
- [257 PSYC Personality](#)
- [258 PSYC Workshop in Primary Prevention](#)
- [259 PSYC Chemical Dependency: Etiology and Treatment](#)
- [261 PSYC Cognitive Development](#)
- [262 PSYC Social Development](#)
- [263 PSYC Disabilities of Learning and Development](#)

- 265 PSYC Infant Development
- [266 PSYC Communication and Children](#)
- [268 PSYC Psychology of Adult Development and Aging](#)
- [269 PSYC Cross-Cultural Psyc: Clin Persp](#)
- [295 PSYC Advanced Special Topics](#)
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- [301 PSYC Faculty Seminar](#)
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- [308 PSYC Seminar in Operant Conditioning](#)
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- [326 PSYC Central Processes: Cortical Mechanisms](#)
- [332 PSYC Interpersonal Processes: Cognition in Social Behavior](#)
- [333 PSYC Interpersonal Processes: Motivation in Human Interaction](#)
- [334 PSYC Organizational Behaviors and Cultures](#)
- [340 PSYC Advanced Statistical Methods I](#)
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- [344 PSYC Experimental Design](#)
- [347 PSYC Measurement and Scaling](#)
- [349 PSYC Seminar in Psychology Research Methodology](#)
- [350 PSYC Family Therapy](#)
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- [364 PSYC Professional Affairs and Ethics](#)
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- [366 PSYC Seminar in Advanced Developmental Psychology](#)
- [367 PSYC Human Sexual Behavior](#)
- [368 PSYC Psychology and Law](#)
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- [370 PSYC Adult Psychological Assessment](#)
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- [374 PSYC Advanced Clinical Practicum](#)

- [375 PSYC Internship in Clinical Psychology](#)
- [380 PSYC Contemporary Topics including Proseminar](#)
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Public Administration (MPA)

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- [PA 295 Intermediate Special Topics](#)
- [PA 296 Intermediate Special Topics](#)
- [PA 299 Fund Quantitative & Econ Anyl](#)
- [PA 301 Fundamentals of Public Administration](#)
- [PA 302 Public Sector Organizations](#)
- [PA 303 Research Methods](#)
- [PA 305 Public Budgeting and Finance](#)
- [PA 306 Introduction to Public Policy](#)
- [PA 307 Administrative Ethics](#)
- [PA 308 Decision Making Models](#)
- [PA 311 Policy Analysis and Planning](#)
- [PA 312 Management in Health Services and Medical Care](#)
- [PA 313 Public Policy Implementation](#)
- [PA 314 Administrative Law](#)
- [PA 315 Health Services and Medical Care in the United States](#)
- [PA 316 Effective Management Techniques](#)
- [PA 317 Systems Anly & Strategic Mgmt](#)
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Religion (REL)

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- [292 REL Topics in the History and Phenomenology of Religion](#)



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- [212 SWSS Social Work Practice I](#)
- [213 SWSS Social Work Practice II](#)
- [216 SWSS Theoretical Foundations of Human Behavior and the Social Environment I \(HBSE\)](#)
- [217 SWSS Theoretical Foundations of Human Behavior and the Social Environment II \(HBSE\)](#)
- [220 SWSS Social Welfare Policies and Services I](#)
- [221 SWSS Social Welfare Policies and Services II](#)
- [224 SWSS Child Abuse and Neglect](#)
- [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 Welfare Policy Analysis and Practice](#)
- [327 SWSS Advanced Social Work Research](#)
- [330 SWSS Assessment Theories in Social Work](#)
- [331 SWSS Feminist Social Work Practice](#)
- [332 SWSS Social Work with Battered Women and their Children](#)

333 SWSS Social Work with Groups

- [380 SWSS Professional Issues in Social Work](#)
- [390 SWSS Concentration Year Field Practicum](#)
- [395 SWSS Advanced Special Topics](#)
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- [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](#)
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- [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](#)

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- [265 SPAN 19th Century Spanish Literature](#)
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- [285 SPAN Spanish-American Literature of Social Protest](#)
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- [STAT 253 Applied Time Series and Forecasting](#)
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Women's Studies (WST)

- [295 WST Advanced Special Topics](#)
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Anatomy and Neurobiology (M.S.)
Affiliated with: Anatomy and Neurobiology Department, Graduate College

Anatomy and Neurobiology (Ph.D.)
Affiliated with: Anatomy and Neurobiology Department, Graduate College

Animal Science (A.M.P.)
Affiliated with: Animal Science Department, College of Agriculture and Life Sciences, Graduate College

Animal Science (M.S.)
Affiliated with: Animal Science Department, College of Agriculture and Life Sciences, Graduate College

Animal, Nutrition and Food Science (Ph.D.)

Affiliated with: Nutrition and Food Sciences Department, Animal Science Department,
College of Agriculture and Life Sciences, Graduate College

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- Biochemistry (M.S.)
Affiliated with: Biochemistry Department, College of Agriculture and Life Sciences, Graduate College
- Biochemistry (Ph.D.)
Affiliated with: Biochemistry Department, College of Agriculture and Life Sciences, Graduate College
- Biology (A.M.P.)
Affiliated with: Biology Department, College of Arts and Sciences, Graduate College
- Biology (M.A.T.)
Affiliated with: Biology Department, Graduate College
- Biology (M.S.)
Affiliated with: Biology Department, Graduate College

Biology (M.S.T.)

Affiliated with: Biology Department, Graduate College

Biology (Ph.D.)

Affiliated with: Biology Department, Graduate College

Biomedical Engineering (M.S.)

Affiliated with: Mechanical Engineering Department, Electrical and Computer Engineering Department, College of Engineering and Mathematics, Graduate College

Biomedical Technology (M.S.)

Affiliated with: Biomedical Technologies Department, Graduate College

Biostatistics (M.S.)

Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College

Botany (M.A.T.)

Affiliated with: Botany Department, College of Agriculture and Life Sciences, Graduate College

Botany (M.S.)

Affiliated with: Botany Department, College of Agriculture and Life Sciences, Graduate College

Botany (M.S.T.)

Affiliated with: Botany Department, College of Agriculture and Life Sciences, Graduate College

Botany (Ph.D.)

Affiliated with: Botany Department, College of Agriculture and Life Sciences, Graduate College

Business Administration (M.B.A.)

Affiliated with: Graduate College, School of Business Administration



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- Cell and Molecular Biology (M.S.)

Affiliated with: Graduate College
- Cell and Molecular Biology (Ph.D.)

Affiliated with: Graduate College
- Chemistry (M.A.T.)

Affiliated with: Chemistry Department, College of Arts and Sciences, Graduate College
- Chemistry (M.S.)

Affiliated with: Chemistry Department, College of Arts and Sciences, Graduate College
- Chemistry (M.S.T.)

Affiliated with: Chemistry Department, College of Arts and Sciences, Graduate College
- Chemistry (Ph.D.)

Affiliated with: Chemistry Department, College of Arts and Sciences, Graduate College

Civil and Environmental Engineering (M.S.)

Affiliated with: Civil and Environmental Engineering Department, College of Engineering and Mathematics, Graduate College

Civil and Environmental Engineering (Ph.D.)

Affiliated with: Civil and Environmental Engineering Department, College of Engineering and Mathematics, Graduate College

Communication Sciences (M.S.)

Affiliated with: Communication Sciences Department, Graduate College

Community Development and Applied Economics (M.S.)

Affiliated with: Community Development and Applied Economics Department, College of Agriculture and Life Sciences, Graduate College

Computer Science (A.M.P.)

Affiliated with: Computer Science Department, College of Engineering and Mathematics, Graduate College

Computer Science (M.S.)

Affiliated with: Computer Science Department, College of Engineering and Mathematics, Graduate College

Computer Science (Ph.D.)

Affiliated with: Computer Science Department, College of Engineering and Mathematics, Graduate College

Counseling (M.S.)

Affiliated with: Integrated Professional Studies Department, College of Education and Social Services, Graduate College

Counseling (Post-Master's Certificate)

Affiliated with: Integrated Professional Studies Department, College of Education and Social Services

Curriculum and Instruction (M.Ed.)

Affiliated with: Education Department, College of Education and Social Services, Graduate College

Curriculum and Instruction: Accelerated Licensure (A.M.P.)

Affiliated with: College of Education and Social Services, Graduate College



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- Educational Leadership (M.Ed.)

Affiliated with: Education Department, Graduate College
- Educational Leadership (Post-Master's Certificate)

Affiliated with: College of Education and Social Services
- Educational Leadership and Policy Studies (Ed.D.)

Affiliated with: Education Department, College of Education and Social Services, Graduate College
- Educational Studies (M.Ed.)

Affiliated with: Education Department, College of Education and Social Services, Graduate College

Electrical Engineering (M.S.)

Affiliated with: Electrical and Computer Engineering Department, College of Engineering and Mathematics, Graduate College

Electrical Engineering (Ph.D.)

Affiliated with: Electrical and Computer Engineering Department, College of Engineering and Mathematics, Graduate College

English (M.A.)

Affiliated with: English Department, College of Arts and Sciences, Graduate College

English (M.A.T.)

Affiliated with: English Department, Graduate College



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[French \(M.A.\)](#)
Affiliated with: Romance Languages Department, Graduate College

[French \(M.A.T.\)](#)
Affiliated with: Romance Languages Department, Graduate College

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- Geography (M.A.)
Affiliated with: Geography Department, Graduate College
- Geography (M.A.T.)
Affiliated with: Geography Department, Graduate College
- Geology (M.A.T.)
Affiliated with: Geology Department, College of Arts and Sciences, Graduate College
- Geology (M.S.)
Affiliated with: Geology Department, Graduate College
- Geology (M.S.T.)
Affiliated with: Geology Department, Graduate College
- German (M.A.)
Affiliated with: German and Russian Department, Graduate College

German (M.A.T.)

Affiliated with: German and Russian Department, Graduate College

Greek and Latin (M.A.)

Affiliated with: Classics Department, Graduate College

Greek and Latin (M.A.T.)

Affiliated with: Classics Department, Graduate College



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- Higher Education and Student Affairs Administration (M.Ed.)
Affiliated with: Integrated Professional Studies Department, College of Education and Social Services, Graduate College
- Historic Preservation (M.S.)
Affiliated with: History Department, Graduate College
- History (A.M.P.)
Affiliated with: History Department, Graduate College
- History (M.A.)
Affiliated with: History Department, Graduate College
- History (M.A.T.)
Affiliated with: History Department, Graduate College



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Integrated Studies (Post-Master's Certificate)
Affiliated with: College of Education and Social Services

Interdisciplinary (M.Ed.)
Affiliated with: Integrated Professional Studies Department, Graduate College



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No graduate degrees start with the letter 'j'.



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- Materials Science (A.M.P.)
Affiliated with: Chemistry Department, Physics Department, Mechanical Engineering Department, College of Engineering and Mathematics, Graduate College
- Materials Science (M.S.)
Affiliated with: Materials Science Program, College of Engineering and Mathematics, Graduate College
- Materials Science (Ph.D.)
Affiliated with: Materials Science Program, College of Engineering and Mathematics, Graduate College
- Mathematical Sciences (Ph.D.)
Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College

Mathematics (M.A.T.)

Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College

Mathematics (M.S.)

Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College

Mathematics (M.S.T.)

Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College

Mathematics, Statistics and BioStatistics (A.M.P.)

Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College

Mechanical Engineering (A.M.P.)

Affiliated with: Mechanical Engineering Department, College of Engineering and Mathematics, Graduate College

Mechanical Engineering (M.S.)

Affiliated with: Mechanical Engineering Department, College of Engineering and Mathematics, Graduate College

Mechanical Engineering (Ph.D.)

Affiliated with: Mechanical Engineering Department, College of Engineering and Mathematics, Graduate College

Microbiology and Molecular Genetics (A.M.P.)

Affiliated with: Microbiology and Molecular Genetics Department, College of Agriculture and Life Sciences, Graduate College

Microbiology and Molecular Genetics (M.S.)

Affiliated with: Microbiology and Molecular Genetics Department, College of Agriculture and Life Sciences, Graduate College

Microbiology and Molecular Genetics (Ph.D.)

Affiliated with: Microbiology and Molecular Genetics Department, Graduate College

Molecular Physiology and Biophysics (M.S.)

Affiliated with: Molecular Physiology and Biophysics Department, Graduate College

Molecular Physiology and Biophysics (Ph.D.)

Affiliated with: Molecular Physiology and Biophysics Department, Graduate College



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- Natural Resources (Ph.D.)

Affiliated with: Natural Resources Program, Graduate College, The Rubenstein School of Environment and Natural Resources
- Natural Resources: Aquatic Ecology and Watershed Science (M.S.)

Affiliated with: Natural Resources Program, Graduate College, The Rubenstein School of Environment and Natural Resources
- Natural Resources: Environment, Society and Public Affairs (M.S.)

Affiliated with: Natural Resources Program, Graduate College, The Rubenstein School of Environment and Natural Resources
- Natural Resources: Environmental Thought and Culture (M.S.)

Affiliated with: Natural Resources Program, Graduate College, The Rubenstein School of Environment and Natural Resources

Natural Resources: Forestry (M.S.)

Affiliated with: Natural Resources Program, Graduate College, The Rubenstein School of Environment and Natural Resources

Natural Resources: Wildlife Biology (M.S.)

Affiliated with: Natural Resources Program, Graduate College, The Rubenstein School of Environment and Natural Resources

Nursing (A.M.P.)

Affiliated with: Nursing Department, College of Nursing and Health Sciences, Graduate College

Nursing (M.S.)

Affiliated with: Nursing Department, College of Nursing and Health Sciences, Graduate College

Nutrition and Food Sciences (M.S.)

Affiliated with: Nutrition and Food Sciences Department, College of Agriculture and Life Sciences, Graduate College



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<u>Pathology (M.S.)</u> Affiliated with: Graduate College	
<u>Pharmacology (M.S.)</u> Affiliated with: Pharmacology Department, Graduate College	
<u>Pharmacology (Ph.D.)</u> Affiliated with: Pharmacology Department, Graduate College	
<u>Physical Therapy (M.P.T.)</u> Affiliated with: Physical Therapy Department, College of Nursing and Health Sciences, Graduate College	
<u>Physics (A.M.P.)</u> Affiliated with: Physics Department, College of Arts and Sciences, Graduate College	

Physics (M.A.T.)

Affiliated with: Physics Department, Graduate College

Physics (M.S.)

Affiliated with: Physics Department, Graduate College

Physics (M.S.T.)

Affiliated with: Physics Department, Graduate College

Plant and Soil Science (M.S.)

Affiliated with: Plant and Soil Science Department, Graduate College

Plant and Soil Science (Ph.D.)

Affiliated with: Plant and Soil Science Department, College of Agriculture and Life Sciences, Graduate College

Psychology (M.A.)

Affiliated with: Psychology Department, College of Arts and Sciences, Graduate College

Psychology (Ph.D.)

Affiliated with: Psychology Department, College of Arts and Sciences, Graduate College

Public Administration (A.M.P.)

Affiliated with: Community Development and Applied Economics Department, College of Agriculture and Life Sciences, Graduate College

Public Administration (M.P.A.)

Affiliated with: Community Development and Applied Economics Department, College of Agriculture and Life Sciences, Graduate College



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Reading and Language Arts (M.Ed.)
Affiliated with: Education Department, Graduate College



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Social Work (M.S.W.)

Affiliated with: Social Work Department, Graduate College

Special Education (M.Ed.)

Affiliated with: Education Department, Integrated Professional Studies Department, College of Education and Social Services, Graduate College

Special Education (Post-Master's Certificate)

Affiliated with: Integrated Professional Studies Department, College of Education and Social Services

Statistics (M.S.)

Affiliated with: Mathematics and Statistics Department, College of Engineering and Mathematics, Graduate College



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Teacher Preparation (Postbaccalaureate Certificate)
Affiliated with: Education Department, Integrated Professional Studies Department,
College of Education and Social Services



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No graduate degrees start with the letter 'u'.



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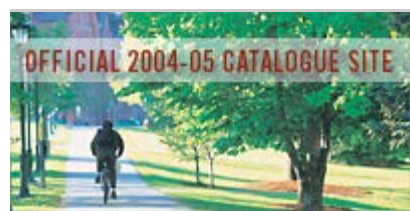
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- College of Nursing and Health Sciences
- Continuing

Graduate College (GC)

Contact Information

University of Vermont
Graduate College
333 Waterman Building
Burlington, VT 05405-0160

Phone: (802) 656-3160
Fax: (802) 656-0519
Email: gradcoll@uvm.edu

[Web Site](#)

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 graduate education by stimulating and supporting the intellectual and professional development of a diverse faculty and student body; by promoting interdisciplinary and innovative forms 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's degree in 1807. Today, the Graduate College offers 70 different master's programs of study and 20 doctoral programs. During the 2002-2003 academic year, 305 master's and 43 doctoral degrees were awarded. The College enrolls approximately 1,350 students, with about 400 of these pursuing the doctorate.

The combination of sound library holdings, laboratories, and computer facilities, along

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- [Requirements for the Master of Education Degree](#)
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Education	with the engaging size of the University, affords a unique opportunity to pursue high quality graduate programs in a challenging yet personable environment.
• Graduate College	
• Honors College	A variety of scholarships, fellowships, assistantships, and loan programs are available in limited numbers to students with solid and sustained records of academic performance.
• School of Business Administration	The Graduate College is served by an Executive Committee comprised of faculty and a graduate student member. The Executive Committee works closely with the Dean of the Graduate College to insure comprehensive and outstanding programs of study.
• The Rubenstein School of Environment and Natural Resources	
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Colleges and Schools > Graduate College > Academic Offerings

Graduate College: Academic Offerings

Accelerated Masters Program (A.M.P.)

- [Animal Science \(A.M.P.\)](#)
- [Biology \(A.M.P.\)](#)
- [Computer Science \(A.M.P.\)](#)
- [Curriculum and Instruction: Accelerated Licensure \(A.M.P.\)](#)
- [History \(A.M.P.\)](#)
- [Materials Science \(A.M.P.\)](#)
- [Mathematics, Statistics and Biostatistics \(A.M.P.\)](#)
- [Mechanical Engineering \(A.M.P.\)](#)
- [Microbiology and Molecular Genetics \(A.M.P.\)](#)
- [Nursing \(A.M.P.\)](#)
- [Physics \(A.M.P.\)](#)
- [Public Administration \(A.M.P.\)](#)

Master of Arts (M.A.)

- [English \(M.A.\)](#)
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- [Geography \(M.A.\)](#)
- [German \(M.A.\)](#)
- [Greek and Latin \(M.A.\)](#)
- [History \(M.A.\)](#)
- [Psychology \(M.A.\)](#)

Master of Science (M.S.)

- [Anatomy and Neurobiology \(M.S.\)](#)
- [Animal Science \(M.S.\)](#)

Education	<ul style="list-style-type: none">• Biochemistry (M.S.)• Biology (M.S.)
• Graduate College	<ul style="list-style-type: none">• Biomedical Engineering (M.S.)• Biomedical Technology (M.S.)
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• The Rubenstein School of Environment and Natural Resources	<ul style="list-style-type: none">• Civil and Environmental Engineering (M.S.)• Communication Sciences (M.S.)• Community Development and Applied Economics (M.S.)• Computer Science (M.S.)• Counseling (M.S.)• Electrical Engineering (M.S.)• Geology (M.S.)• Historic Preservation (M.S.)• Materials Science (M.S.)• Mathematics (M.S.)• Mechanical Engineering (M.S.)• Microbiology and Molecular Genetics (M.S.)• Molecular Physiology and Biophysics (M.S.)• Natural Resources: Aquatic Ecology and Watershed Science (M.S.)• Natural Resources: Environment, Society and Public Affairs (M.S.)• Natural Resources: Environmental Thought and Culture (M.S.)• Natural Resources: Forestry (M.S.)• Natural Resources: Wildlife Biology (M.S.)• Nursing (M.S.)• Nutrition and Food Sciences (M.S.)• Pathology (M.S.)• Pharmacology (M.S.)• Physics (M.S.)• Plant and Soil Science (M.S.)• Statistics (M.S.)
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- [Biology \(M.A.T.\)](#)
- [Botany \(M.A.T.\)](#)
- [Chemistry \(M.A.T.\)](#)
- [English \(M.A.T.\)](#)
- [French \(M.A.T.\)](#)
- [Geography \(M.A.T.\)](#)
- [Geology \(M.A.T.\)](#)
- [German \(M.A.T.\)](#)
- [Greek and Latin \(M.A.T.\)](#)
- [History \(M.A.T.\)](#)

- Mathematics (M.A.T.)
- Physics (M.A.T.)

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- Reading and Language Arts (M.Ed.)
- Special Education (M.Ed.)

Master of Business Administration (M.B.A.)

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- Public Administration (M.P.A.)

Master of Social Work (M.S.W.)

- Social Work (M.S.W.)

Master of Physical Therapy (M.P.T.)

- Physical Therapy (M.P.T.)

Doctor of Education (Ed.D.)

- Educational Leadership and Policy Studies (Ed.D.)

Doctor of Philosophy (Ph.D.)

- Anatomy and Neurobiology (Ph.D.)
- Animal, Nutrition and Food Science (Ph.D.)
- Biochemistry (Ph.D.)
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- [Botany \(Ph.D.\)](#)
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Post-Master's Certificate

- [Counseling \(Post-Master's Certificate\)](#)
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Colleges and Schools > Graduate College > Academic Offerings > Animal Science (A.M.P.)

Animal Science (Accelerated Masters Program)

Overview

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.

Further details about the Accelerated Master's Program (AMP), available for students majoring in Animal Sciences or Biological Science, can be obtained from the Department of Animal Science, 102 Terrill Hall, (802) 656-0155.

Affiliations

- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).
- Departments and Programs:[Animal Science Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Biology (A.M.P.)

Biology (Accelerated Masters Program)

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, BIOL 203, BIOL 205, BIOL 208, BIOL 209, BIOL 212, BIOL 217, BIOL 219, BIOL 223, BIOL 225, BIOL 238, BIOL 246, BIOL 254, BIOL 255, BIOL 263, BIOL 264, BIOL 265, BIOL 267, BIOL 270, and BIOL 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.

Affiliations

- Colleges and Schools:[College of Arts and Sciences](#).[Graduate College](#).
- Departments and Programs:[Biology Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Computer Science (A.M.P.)

Computer Science (Accelerated Masters Program)

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 degree in 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.

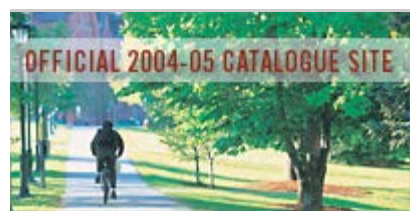
Undergraduates interested in the AMP should discuss this option with the Director of Graduate Studies in Computer Science during their junior year.

Specific Requirements

The first four years of the AMP consist of a complete undergraduate program in Computer Science, satisfying the curricular requirements for either the Bachelor of Science in Computer Science (B.S./CS), the Bachelor of Science, major in Computer Science and Information Systems (B.S./CSIS), or the Bachelor of Arts, major in Computer Science (B.A./CS). During the fourth year, a student in the A.M.P. has dual status, being an undergraduate student in Computer Science, and simultaneously a first-year graduate student in Computer Science. Up to six credit hours of courses taken during an A.M.P. 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.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).
- Departments and Programs:[Computer Science Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Curriculum and Instruction: Accelerated Licensure (A.M.P.)

Curriculum and Instruction: Accelerated Licensure (Accelerated Masters Program)

Overview

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 social sciences, science, mathematics, etc. Students will prepare for licensure 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.

Accelerated Licensure Master of Education

UVM students who are in 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. Requests for further information and application forms may be obtained by contacting the Secondary Education Program Coordinator, 405A Waterman Building, (802) 656-1411. Qualified candidates would be studying in a major in an approved licensing area.

Inquiries regarding these programs should be addressed to the Secondary Education support person at (802) 656-1411.

Affiliations

- Colleges and Schools:[College of Education and Social Services](#).[Graduate College](#).



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Colleges and Schools > Graduate College > Academic Offerings > History (A.M.P.)

History (Accelerated Masters Program)

Overview

History majors in their third year of undergraduate standing at UVM may apply to 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, Department of History.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[History Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Materials Science (A.M.P.)

Materials Science (Accelerated Masters Program)

Overview

The program offers an Accelerated Masters Program leading to both B.S. and M.S. degrees in five years. The program is open to undergraduate chemistry, physics, electrical engineering, and mechanical engineering majors. Interested students should contact the Materials Science Director by the beginning of their junior year.

Affiliations

- Colleges and Schools:College of Engineering and Mathematics.Graduate College.College of Arts and Sciences.
- Departments and Programs:Chemistry Department.Physics Department.Mechanical Engineering Department.



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Colleges and Schools > Graduate College > Academic Offerings > Mathematics, Statistics and Biostatistics (A.M.P.)

Mathematics, Statistics and Biostatistics (Accelerated Masters Program)

Overview

Accelerated master's programs in Mathematics, Statistics, and Biostatistics are 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 Mathematics, in Statistics or in Biostatistics can be earned in a shortened time by careful planning during the junior and senior years at UVM. For example, the M.S. could be earned in just one additional year, because six credits of undergraduate courses can also be counted concurrently towards the M.S. degree requirements. A student must declare his/her wish to enter the Accelerated Masters Program in Mathematics in writing to the department chair before the end of their sophomore year, and before they have taken MATH 241. Please refer to Section 13 of the [Handbook for Graduate Studies in Mathematics \(.pdf\)](#) for detailed information. Students should discuss the possibility of an accelerated master's program in Statistics or in Biostatistics with the statistics program director as soon as they think they may be interested in this program.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Mathematics and Statistics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Mechanical Engineering (A.M.P.)

Mechanical Engineering (Accelerated Masters Program)

Overview

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.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).
- Departments and Programs:[Mechanical Engineering Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Microbiology and Molecular Genetics (A.M.P.)

Microbiology and Molecular Genetics (Accelerated Masters Program)

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.

Affiliations

- Colleges and Schools:College of Agriculture and Life Sciences.Graduate College.College of Medicine.
- Departments and Programs:Microbiology and Molecular Genetics Department.



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Colleges and Schools > Graduate College > Academic Offerings > Nursing (A.M.P.)

Nursing (Accelerated Masters Program)

Overview

An R.N.-B.S.-M.S. program is available for current registered nurses. More details can be found under the B.S. in Nursing Science (for Registered Nurses).

Affiliations

- Colleges and Schools:College of Nursing and Health Sciences.Graduate College.
- Departments and Programs:Nursing Department.



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Physics (Accelerated Masters Program)

Overview

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 200-level physics courses. Generally, AMP students must begin a research project by or during the summer prior to their senior years.

Affiliations

- Colleges and Schools:College of Arts and Sciences.Graduate College.
- Departments and Programs:Physics Department.



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Colleges and Schools > Graduate College > Academic Offerings > Public Administration (A.M.P.)

Public Administration (Accelerated Masters Program)

Overview

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, integrates more closely both programs of study, and enhances competitiveness in a marketplace stressing 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 public service. For more information contact the MPA Office (802) 656-2606.

Affiliations

- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).
- Departments and Programs:[Community Development and Applied Economics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > English (M.A.)

English (Master of Arts)

Overview

The research interests of the faculty of the Department of English and library resources permit graduate students to undertake thesis subjects in virtually all fields of the discipline.

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 graduate study 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 credits of course work, including five of the following six: ENGS 320, ENGS 330, ENGS 340, ENGS 350, ENGS 360, and ENGS 370 or ENGS 201-296; and at least nine 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 (ENGS 391).

Education	
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p><i>Nonthesis Option:</i> Completion of 30 credits of course work, including five of the following six: ENGS 320, ENGS 330, ENGS 340, ENGS 350, ENGS 360, and ENGS 370 or ENGS 201-296; and at least fifteen additional credits (at least nine of these in English or Humanities, at most six in related fields). Candidates must pass a three-part comprehensive examination based on set Departmental reading lists, and must receive a grade of B+ or better on two seminar papers submitted to an ad hoc faculty Reading Committee (ENGS 392).</p> <p><i>Both Options:</i> All M.A. candidates in English must demonstrate a reading knowledge of a foreign language by examination or by advanced coursework.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:College of Arts and Sciences.Graduate College.• Departments and Programs:English Department.
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Colleges and Schools > Graduate College > Academic Offerings > French (M.A.)

French (Master of Arts)

Overview

Opportunities for thesis research in the literatures and cultures of France, Québec, and other regions of the Francophone world.

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts

An undergraduate major in French or equivalent. Satisfactory scores 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 their study.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Romance Languages Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Geography (M.A.)

Geography (Master of Arts)

Overview

Faculty research interests include most systematic aspects of geography including social, urban, political, economic, historical and physical geography. Technique interests are in remote sensing, geographic information systems and quantitative methods. Regional interests and field experiences are in Africa, Europe, Canada and the U.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 credits 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 credits in geography courses including GEOG 203, GEOG 204, or a reading knowledge of a foreign language, and six hours of thesis research (GEOG 391); nine additional credits in geography or a related field. For additional information, please write to the Graduate Program Coordinator, Department of Geography.

Affiliations

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- Graduate College
 - Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
 - Departments and Programs:[Geography Department](#).
- Honors College
- School of Business Administration
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Colleges and Schools > Graduate College > Academic Offerings > German (M.A.)

German (Master of Arts)

Overview

Current research interests include GDR literature; history of the German language; medieval literature; literature of the 18th, 19th, and 20th centuries; and folklore.

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts

An undergraduate major in German, including a year course in literature and a year course in advanced composition and conversation or the equivalent. Satisfactory scores on the Graduate Record Examinations general (aptitude) section.

Minimum Degree Requirements

Thirty hours of graduate level courses including GERM 281, GERM 282 or GERM 295, GERM 296; additional courses in German, which may include two advanced courses in a related field (six hours), thesis research (six to 12 hours).

The department also offers a program leading to the degree of Master of Arts in Teaching.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[German and Russian Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Greek and Latin (M.A.)

Greek and Latin (Master of Arts)

Overview

Current research interests include Homer; Mycenaean and Homeric Greece; Greek and Latin lyric and elegiac poetry; Greek drama; the Attic orators; ancient literary criticism; Greek and Roman philosophy and intellectual history; Greek and Roman historiography; Greek and Latin prose; Cicero; Virgil; Latin epic; Petronius, satire; Greek and Roman technological authors; Roman history; Roman Imperial Families; Mythology; Archaeology; Medieval studies.

Specific Requirements

Requirements for Admission to Graduate Studies in Greek and Latin for the Degree of Master of Arts

An undergraduate major or minor or the equivalent; a reading knowledge 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 examinations in Greek and Latin translation, at least one modern foreign language, Greek and Roman history, and literature and philology are required. In addition to coursework, 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. elsewhere must show competence in both German and French by the end of their first year of graduate study.

Education	Affiliations
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<div><div>Academics</div><div>Catalogue 2004-05</div><div>Table of Contents</div><div>Courses</div><div>Academic Offerings</div><div>Colleges and Schools<ul style="list-style-type: none">College of Agriculture and Life SciencesCollege of Arts and SciencesCollege of Education and Social ServicesCollege of Engineering and MathematicsCollege of MedicineCollege of Nursing and Health SciencesContinuing</div></div>	<div>Colleges and Schools > Graduate College > Academic Offerings > History (M.A.)</div> <div>History (Master of Arts)</div> <div>Overview</div> <div>The History Department offers a comprehensive program of courses in the history of the Western Hemisphere, European history, and non-Western history.</div> <div>Specific Requirements</div> <div>Requirements for Admission to Graduate Studies for the Degree of Master of Arts</div> <div>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.</div> <div>Requirements for Advancement to Candidacy for the Degree of Masters of Arts</div> <div>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.</div> <div>Minimum Degree Requirements for the Degree of Master of Arts</div> <div>Plan A: (Non-thesis) Thirty hours of coursework in history, at least fifteen of which must be earned in seminar courses.</div> <div>Plan B: (Thesis) Thirty hours of course work in history, including six hours of thesis research. The thesis must be successfully defended in an oral examination.</div> <div>Each plan requires that the student pass a comprehensive exam (oral or written) in two</div>
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Education

areas of historical knowledge.

• Graduate College

Affiliations

• Honors College

• School of Business
Administration

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[History Department](#).

• The Rubenstein
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Colleges and Schools > Graduate College > Academic Offerings > Psychology (M.A.)

Psychology (Master of Arts)

Overview

Additional clinical, research, and adjunct faculty supervise students in clinical and research placements.

The Ph. D. Program in General/Experimental psychology admits students in three broad areas of concentration ("clusters"): Biobehavioral Psychology; Developmental/Social Psychology;and Behavioral Psychopharmacology.

The Ph. D. program in Clinical Psychology places equal emphasis on research and 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, clinical and research facilities, specialty areas, ongoing research, and faculty, as well as 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.

Specific Requirements

Requirements for Advancement to Candidacy for the Degree of Master of Arts

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 (advanced) subtest in Psychology.

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources

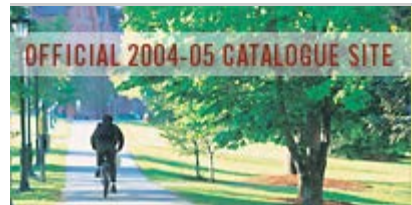
Minimum Degree Requirements for the Degree of Master of Arts

Twenty-four hours of psychology courses and seminars, including Psychology - PSYC 301, PSYC 302, PSYC 340, PSYC 341; Proseminar; thesis research for six credits. The requirements of the specific courses (PSYC 301, PSYC 302, PSYC 340, PSYC 341) may be exempted by examination. There is no foreign language requirement.

Affiliations

- Colleges and Schools:College of Arts and Sciences.Graduate College.
- Departments and Programs:Psychology Department.

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Colleges and Schools > Graduate College > Academic Offerings > Anatomy and Neurobiology (M.S.)

Anatomy and Neurobiology (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

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.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Medicine](#).

Education

- Departments and Programs:[Anatomy and Neurobiology Department](#).

- Graduate College

- Honors College

- School of Business
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Colleges and Schools > Graduate College > Academic Offerings > Animal Science (M.S.)

Animal Science (Master of Science)

Overview

The research program focuses on Lactation Physiology and Mammary Gland Biology involving both a combination of courses and graduate research. Areas of research interests include lactation physiology, breast cancer, mastitis, developmental biology, nutrition, cell signaling and metabolism, biotechnology, and transgenics.

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An acceptable undergraduate major in animal science, 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 Science. Both an oral and written exam are required.

Minimum Degree Requirements

Option A: 30 credit hours of study with a minimum of 15 credit hours in courses in Animal

Education	Science or related fields and a minimum of 9 credit hours of thesis research. Students are required to attend and participate in ASCI 301, Graduate Journal Club and ASCI 302, Graduate Seminar every semester that they are enrolled for credits. Students must also participate in one semester of ASCI 303, Research Proposal Writing.
• Graduate College	
• Honors College	
• School of Business Administration	Students are expected to meet with their committee during their second and third semester and during the final semester for their dissertation defense. Students are also expected to have one publication ready to submit or already submitted to an appropriate journal.
• The Rubenstein School of Environment and Natural Resources	<i>Option B:</i> 30 credit hours of study with 24 credit hours in courses in Animal Science or related fields and a minimum of 6 credit hours of literature research. Students are required to attend and participate in ASCI 301, Graduate Journal Club and ASCI 302, Graduate Seminar every semester that they are enrolled for credits.
Policies and General Information	Affiliations
Faculty and Administration	<ul style="list-style-type: none">• Colleges and Schools:College of Agriculture and Life Sciences.Graduate College.• Departments and Programs:Animal Science Department.
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Colleges and Schools > Graduate College > Academic Offerings > Biochemistry (M.S.)

Biochemistry (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

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 CHEM 141/CHEM 142 or CHEM 143; CHEM 144, CHEM 162 and PHYS 15/PHYS 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 BIOC 301, BIOC 302, BIOC 303, BIOC 381, and BIOC 391 or BIOC 392.

Thesis Option: Up to 14 credit hours of Master's Thesis Research (BIOC 391).

Nonthesis Option: Up to eight credit hours of Independent Literature Research (BIOC

Education	392).
• Graduate College	Affiliations
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• School of Business Administration	• Departments and Programs: Biochemistry Department .
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Colleges and Schools > Graduate College > Academic Offerings > Biology (M.S.)

Biology (Master of Science)

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

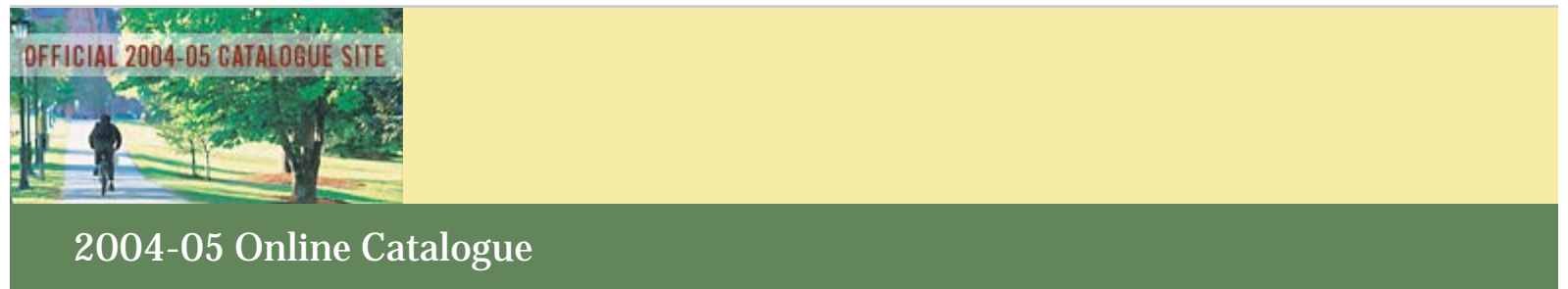
- [Requirements for the Masters Degree](#)

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

Education	Record Examination, general (aptitude) section. Acceptability to the faculty member with whom the candidate wishes to do thesis research.
• Graduate College	Requirements for Advancement to Candidacy for the Degree of Master of Science
• Honors College	
• School of Business Administration	Satisfactory completion of a qualifying examination.
• The Rubenstein School of Environment and Natural Resources	Minimum Degree Requirements
	Biology Graduate Colloquia, four 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.
Policies and General Information	Affiliations
Faculty and Administration	<ul style="list-style-type: none">• Colleges and Schools:Graduate College.College of Arts and Sciences.• Departments and Programs:Biology Department.
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Colleges and Schools > Graduate College > Academic Offerings > Biomedical Engineering (M.S.)

Biomedical Engineering (Master of Science)

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

Education	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; (Iatridis) 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.
• Graduate College	
• Honors College	
• School of Business Administration	
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General Requirements

- [Requirements for the Masters Degree](#)

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

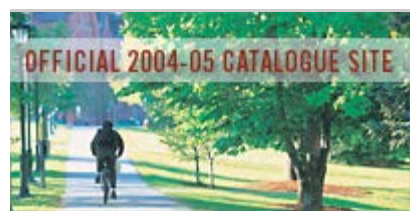
Completion of any deficient admission requirements.

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.

Affiliations

- Colleges and Schools:College of Engineering and Mathematics.Graduate College.
- Departments and Programs:Electrical and Computer Engineering Department.
Mechanical Engineering Department.



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Colleges and Schools > Graduate College > Academic Offerings > Biomedical Technology (M.S.)

Biomedical Technology (Master of Science)

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 in advanced clinical practice, research and development, education or the pursuit of further graduate opportunities.

Opportunities for research include: regulation of cell growth, DNA repair, infectious diseases, immunology, and clinical projects in Medical Laboratory Science, Nuclear Medicine Technology and Radiation Therapy offered in conjunction with various basic science and clinical departments in the College of Medicine and the Fletcher Allen Health Care.

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

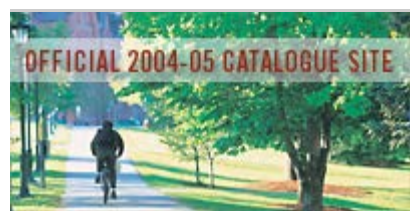
Requirements for Admission to Graduate Studies for the Degree of Master of Science

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

Education	
• Graduate College	Satisfactory completion of a two semester, graduate-level course in Biochemistry (equivalent to BIOC 301/BIOC 302) and the comprehensive examination.
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
	Affiliations
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Colleges and Schools > Graduate College > Academic Offerings > Biostatistics (M.S.)

Biostatistics (Master of Science)

Overview

The program offers a concentration in biostatistics leading to the M.S. degree.

Emphasis is placed on learning how to design studies and perform computerized data analysis as the statistician in a research team. The curriculum takes full advantage of courses taught in the Statistics Program and includes potential experience in a variety of health, biomedical, natural resource and other research projects in the College of Medicine or other departments of UVM. 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.

Four of our faculty are in the College of Medicine's Department of Medical Biostatistics and Bioinformatics, whose 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 smoking and to promote breast cancer screening. They also include clinical studies of many different interventions, bioengineering experiment design and measurement studies, statistical genetics, as well as data from other preclinical, clinical, and epidemiological studies.

Opportunities are also available for biostatistical research related to problems in agriculture and the life sciences, as well as natural resources and the environment. Opportunities could include multivariate or spatial data analyses for ongoing wildlife and water quality studies for example. All students gain research and consulting experience through our research requirement: a research project (STAT 381) or a thesis (STAT 391). Other opportunities for experience will arise through involvement in our Statistical Consulting Clinic. (See also Statistics Program and Statistical Consulting Clinic descriptions.)

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources

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General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies and Advancement to Candidacy 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 expected that candidates will have completed three semesters of calculus and a course including matrix algebra methods. Also they will have a solid introductory course in statistics (like STAT 211) and a course including undergraduate probability (like STAT 151). However, provisional admission to the program can be given prior to the completion of these mathematics and statistics requirements. Computer experience is desirable. The Graduate Record Examination is strongly advised and is required of any applicant who wishes to be considered for assistantship support. Current undergraduate students at the University of Vermont should contact the program director for details on the Accelerated Master's Program.

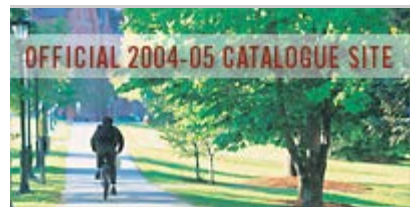
Minimum Degree Requirements for the Degree of Master of Science

Plan A: (Thesis) A 30-credit degree program which includes 24 credits of approved course work, with at least 21 credits in Biostatistics/Statistics courses. This must include (Biostatistics) BIOS 200, BIOS 221, BIOS 223, BIOS 231, BIOS 241 or BIOS 261, BIOS 321, BIOS 323, and another approved one credit seminar course.

Plan B: (Non-thesis) A 33-hour degree program which includes 30 credits of approved course work with at least 21 credits in Biostatistics/Statistics courses. This must include (Biostatistics) BIOS 200, BIOS 221, BIOS 223, BIOS 231, BIOS 241 or BIOS 261, BIOS 321, BIOS 323, and another approved one credit seminar course.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Mathematics and Statistics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Botany (M.S.)

Botany (Master of Science)

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

- [Requirements for the Masters Degree](#)

Specific Requirements

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources

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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

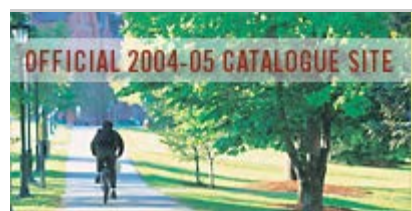
Thirty credit hours of courses to include at least two courses in each of three core areas: (1) life science; (2) earth science; and (3) ecology, the course selection to be determined by the student's studies committee. Enrollment in the Field Naturalist Practicum (Botany 311) each semester; oral comprehensive examination the fourth semester; written field research project (Botany 392) at the end of the fourth semester.

Affiliations

- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Botany Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Chemistry (M.S.)

Chemistry (Master of Science)

Overview

Current research in organic chemistry includes design and synthesis of peptide mimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphans and their analogues which have chemotherapeutic potential, synthesis and reactions of hybrid organic-inorganic polymers, synthesis and properties of carbon-rich organic materials, mechanistic studies of organic chemical reactions, and development of novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals, alloys, and intermetallic compounds with a view toward storage of hydrogen as a fuel, and the use of various types of molecular spectroscopy, such as fluorescence, magnetic resonance, and IR/Raman, to address questions of structure, bonding, and 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-ray diffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapor deposition.

Research in analytical chemistry includes electrochemical studies of transition metal complexes and organometallic complexes, electron spin resonance studies of materials in unusual oxidation states, novel reaction of reactive compounds generated electrochemically under high vacuum, studies of factors influencing heterogeneous electron transfer process in nonaqueous media, studies of transient, imploding plasmas as solid sample atomizers for atomic spectroscopy, the development of instrumentation

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and techniques suitable for elemental analysis of nonconducting solid samples via atomic spectrometry, the development and use of analytical methods using stable isotopically labeled tracers and kinetic models to answer questions of human physiology and biochemistry, and the simultaneous physical and 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

- [Requirements for the Masters Degree](#)

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:

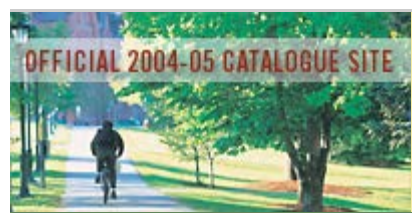
Plan A: Completion of 12 hours of Masters Thesis Research (CHEM 391) and submission of a satisfactory thesis; (2) completion of at least 30 hours of graduate credit (courses and Masters Thesis Research); and (3) one additional hour of CHEM 381 (Seminar).

Plan B: Completion of six hours of Independent Literature Research Project (CHEM 395); (2) completion of at least 30 hours of graduate credit (courses and Literature Research Project); and (3) one additional hour of CHEM 381 (Seminar).

M. S. students should decide at the beginning of their program whether they will pursue Option A or Option B and inform the chemistry department and Graduate College of their decisions.

Affiliations

- Colleges and Schools:[College of Arts and Sciences](#).[Graduate College](#).
- Departments and Programs:[Chemistry Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Civil and Environmental Engineering (M.S.)

Civil and Environmental Engineering (Master of Science)

Overview

Graduate programs in Civil and Environmental Engineering that lead to the Master of 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 are also 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

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

A bachelor's degree and the approval of this Department. Satisfactory scores on the Graduate Record Examination general (aptitude) section. 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. Completed applications are due February 1.

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Requirements for Advancement to Candidacy for the Degree of Master of Science

Specific course work may be required of those who lack a sufficiently strong engineering background.

Minimum Degree Requirements

The above requirements for advancement to candidacy must be supplemented in either of the two following ways:

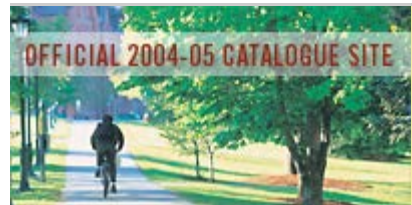
Plan A: Completion of advanced courses in civil and environmental engineering, mathematics, and other approved disciplines and the completion of an acceptable master's thesis. At least 30 credits must be accumulated, six to nine of them in thesis research.

Plan B: Completion of 36 credits 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 of their program.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).
- Departments and Programs:[Civil and Environmental Engineering Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Communication Sciences (M.S.)

Communication Sciences (Master of Science)

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 ([ASHA](#)). The Eleanor M. Luse Center for Communication: Speech, Language, and Hearing which shares quarters with the Department and is a primary practicum site. 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

- [Requirements for the Masters Degree](#)

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

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and a course in statistics. Applicants must complete prerequisites courses either before entering or upon entrance to the program. Students are also required to complete 25 observation hours obtained according to guidelines provided by the American Speech-Language-Hearing Association. At least 15 of the hours must be completed students may begin their clinical placements.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Satisfactory completion of the written comprehensive examinations in the form of a portfolio. Students will not be admitted to candidacy if practicum grades are incomplete. Students may submit their comprehensive examination portfolio 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. Students register for the comprehensive examination (GRAD 397) in the last semester of their graduate study.

Minimum Degree Requirements

All students are required to complete 48 credits. These credits will include eleven required CMSI courses: CMSI 283 - Swallowing Disorders, CMSI 284 - Augmentative Communication, CMSI 310 - Clinical Preparation and Management, CMSI 380 - Research Methods in Communication Disorders, CMSI 383 - Seminar in Language/Learning Disabilities, CMSI 384 - Articulation/ phonologic Disorders, CMSI 385 - Voice Disorders, CMSI 386 - Adult Neuropathologies, CMSI - 387 Language Disorders, CMSI 388 - Stuttering, and CMSI 389 - Aphasia. In addition, students are required to take a total of 6 credits of CMSI 291/CMSI 292 - Clinical Study.

Thesis Option: The student will complete 42 credit hours of graduate level courses and six additional credits (CMSI 391) 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 with no fewer than three or greater than six of these credits taken as non-thesis research (CMSI 392).

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- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
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Colleges and Schools > Graduate College > Academic Offerings > Community Development and Applied Economics (M.S.)

Community Development and Applied Economics (Master of Science)

Overview

Vision: CDAE is an international leader in sustainable community development.

Mission: CDAE uses economic, social, and environmental principles to identify needs, analyze problems and advance sustainable solutions in partnership with local and global organizations and communities.

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

- [Requirements for the Masters Degree](#)

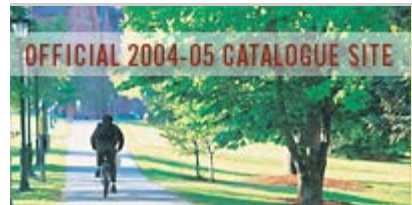
Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 Degree of Master of

Education	Science
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>Specific course work may be required of those who lack calculus, statistics and/or economics background.</p> <p>Minimum Degree Requirements</p> <p>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.</p> <p>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.</p> <p>Core Course Requirements</p> <p>Four core courses and graduate research seminars are required for each graduate student:</p> <ul style="list-style-type: none">• 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 qualitative analysis to be approved by the Studies Committee (e.g., STAT 225 - Applied Regression Analysis; STAT 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. <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:College of Agriculture and Life Sciences.Graduate College.• Departments and Programs:Community Development and Applied Economics Department.
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Colleges and Schools > Graduate College > Academic Offerings > Computer Science (M.S.)

Computer Science (Master of Science)

Overview

Research areas include algorithm design and analysis, combinatorial design, computational biology, database design and management, data mining and knowledge discovery, discrete modeling, knowledge-based systems, neural networks, numerical methods, parallel and scientific computing, pattern recognition, programming languages, and software engineering.

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 021 and CS 026, 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 021, MATH 022, 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

Education	examination.
• Graduate College	Requirements for Advancement to Candidacy for the Degree of Master of Science
• Honors College	
• School of Business Administration	Specific course work may be required of those who lack a sufficiently strong computer science background.
• The Rubenstein School of Environment and Natural Resources	Minimum Degree Requirements
	<i>Thesis Option:</i> 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.
	<i>Nonthesis Option:</i> Thirty-three hours of course work, to include at least three credits of CS 381.
Policies and General Information	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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Colleges and Schools > Graduate College > Academic Offerings > Counseling (M.S.)

Counseling (Master of Science)

Overview

The Counseling Program provides professional preparation for individuals who wish to work as counselors in schools, colleges, community mental health, social service agencies or private practice. The program is accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). It meets the requirements set by the State of Vermont Department of Education for preparing school counselors (K-12) for licensure in Vermont, and the academic requirements set by the Vermont Board of Allied Mental Health Practitioners for preparing clinical mental health counselors for licensure in Vermont.

To achieve professional competence, students are expected to become knowledgeable and skilled in the following areas: professional identity, social and cultural diversity, human growth and development, career development, helping relationships, group work, assessment, research and program evaluation. Supervised internship in an appropriate field setting is of major importance in the program.

The specific composition of a student's program, designed with the assistance of a faculty advisor, is based on University, College, and Program requirements as well as the individual student's background, current needs and desires, and future goals. Learning experiences consist of a balance between theory and supervised practice.

In addition to the general application procedures, a resume and a group interview are required of each qualified applicant. For a more detailed description of the program, contact The University of Vermont, Department of Integrated Professional Studies, Counseling Program, 101 Mann Hall, Trinity Campus, 208 Colchester Avenue, Burlington, VT 05405-1757 (802-656-3888 or Counseling.Program@uvm.edu).

General Requirements

Education	<ul style="list-style-type: none">Requirements for the Masters Degree
<ul style="list-style-type: none">Graduate CollegeHonors CollegeSchool of Business AdministrationThe Rubenstein School of Environment and Natural Resources	<div>Specific Requirements</div> <p>The Counseling Program offers two specialty tracks: school counseling and mental health counseling. Students may also select the dual option which includes preparation in both specialty tracks. Fifty-one credit hours are required for completion of the school counseling track, sixty credit hours are required for the mental health counseling track and sixty-nine credit hours are required for the dual option. (Note: School counselor licensure in Vermont requires that the individual have at least a 30-credit-hour liberal arts concentration at the undergraduate level.) Successful completion of the program is based on the demonstration of appropriate knowledge, relevant skills, and personal characteristics, as well as the accumulation of credits.</p>
Policies and General Information	<div>Affiliations</div> <ul style="list-style-type: none">Colleges and Schools:College of Education and Social Services.Graduate College.Departments and Programs:Integrated Professional Studies Department.
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Colleges and Schools > Graduate College > Academic Offerings > Electrical Engineering (M.S.)

Electrical Engineering (Master of Science)

Overview

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, test engineering, machine vision, mechatronics, computer engineering, solid state physical electronics, electromagnetics, information processing, communication theory, semiconductor materials, devices and integrated circuits (VLSI).

General Requirements

- Requirements for the Masters Degree

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An accredited bachelor's degree in an appropriate field.

Requirements for Advancement to candidacy for the Degree of Master of Science

An accredited bachelor's degree in electrical engineering or equivalent education.

Minimum Degree Requirements

Education	
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>Advanced courses in electrical engineering, physics, computer science, and mathematics (18 to 24) with at least 15 credit hours appropriately distributed in approved areas of study in the Electrical and Computer Engineering Department thesis research (six to 12 hours).</p> <p>Although a thesis is normally required in the program leading to the M. S. in Electrical Engineering, the thesis may be waived with departmental approval, in favor of additional courses. In such cases, the student will be expected to have considerable professional experience, or to submit high quality technical reports as evidence of professional maturity.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:College of Engineering and Mathematics.Graduate College.• Departments and Programs:Electrical and Computer Engineering Department.
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Colleges and Schools > Graduate College > Academic Offerings > Geology (M.S.)

Geology (Master of Science)

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 recent sedimentation 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

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An undergraduate major in an appropriate field: 12 semester hours in geology; satisfactory scores on the general (aptitude) Graduate Record Examination. Year courses in chemistry, physics or biology, and calculus or in an approved ancillary science strongly recommended.

Requirements for Advancement to candidacy for the Degree of Master of Science

Satisfactory completion of one year of graduate study plus a comprehensive examination.

Education	Minimum Degree Requirements for the Degree of Master of Science
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>Thesis and advanced courses in geology must total at least 30 semester hours, including at least one 300-level course. Advanced courses in related sciences are encouraged and may be substituted for some selected geology courses on approval by the departmental advisor. All students must complete successfully a course in field geology before graduation. This can be satisfied by Geology 201, or a comparable course at another institution, or recognized experience with a state survey, U.S. Geological Survey, an oceanographic institute, a geomorphological group or industry. Satisfactory completion will be determined by the Departmental Studies Committee.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools: Graduate College, College of Arts and Sciences.• Departments and Programs: Geology Department.
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Colleges and Schools > Graduate College > Academic Offerings > Historic Preservation (M.S.)

Historic Preservation (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 Graduate Record 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 Degree of 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 historic preservation. (2) A written comprehensive examination given during the third semester. (3) An internship in a preservation agency, or a written thesis. This may be undertaken upon completion of two or three semesters of concentrated coursework. At the conclusion of the internship, an oral presentation describing work accomplished will be given before a jury of practicing professionals for

Education	evaluation.(4) Historic Preservation 200, 201, 204, 205, 206, 301, 302, 306, 307 and 303or 391 are required courses for the degree. Students also take one elective unless they elect to do a thesis instead of an internship. For the thesis option, a total of six credit hours is required for HP391.
• Graduate College	
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• The Rubenstein School of Environment and Natural Resources	<ul style="list-style-type: none">• Colleges and Schools:Graduate College.College of Arts and Sciences.• Departments and Programs:History Department.
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Colleges and Schools > Graduate College > Academic Offerings > Materials Science (M.S.)

Materials Science (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 program of study including at least 18 credit hours of course work; 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; 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.

Affiliations

Education

- Graduate College
- Honors College
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- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).
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• College of Nursing and Health Sciences
• Continuing

Colleges and Schools > Graduate College > Academic Offerings > Mathematics (M.S.)

Mathematics (Master of Science)

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.

The department offers an Accelerated Master's Program (AMP) leading to a B.S. and M.S. degree in five years. Interested students should contact the department by the end of their sophomore year.

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

- [Requirements for the Masters Degree](#)

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 that applicants for admission will have diverse backgrounds. Admission requirements are therefore

Education	flexible. Applicants should have demonstrated strength in either pure or applied mathematics, a bachelor's degree with a major in mathematics or a closely related discipline, and satisfactory scores on both the general and subject (mathematics) sections of the Graduate Record Examination.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
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Minimum Degree Requirements for the Degree of Master of Science

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 in a master's thesis, or
- b. Thirty semester hours of acceptable graduate credits in advanced mathematics courses; no thesis required.

Under either option students must take, or acquire the knowledge of the content in, the courses MATH 331 and MATH 333, and must satisfactorily complete at least four 300-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 nine approved hours in advanced mathematics courses in the respective area, three of 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 advisor up to six hours of courses outside mathematics may be used to fulfill the major, minor, or degree requirements.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Mathematics and Statistics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Mechanical Engineering (M.S.)

Mechanical Engineering (Master of Science)

Overview

Master of Science and Doctor of Philosophy programs are offered. Candidates holding degrees other than those in Mechanical Engineering are encouraged 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

- [Requirements for the Masters Degree](#)

Specific Requirements

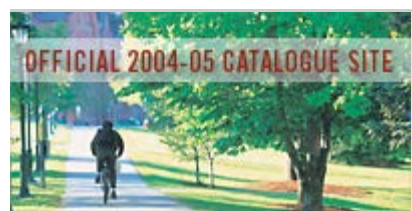
Requirements for Admission to Graduate Studies for the Degree of Master of Science

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 Degree of Master of Science

A cumulative grade point average of 3.0 or better for the first nine credit hours of graduate course work.

Education	Minimum Degree Requirements for the Degree of Master of Science
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>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 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.</p> <p>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.</p> <p><i>Thesis Option:</i> 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.</p> <p><i>Non-Thesis Option:</i> 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.</p>
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	Affiliations
	<ul style="list-style-type: none">• Colleges and Schools:College of Engineering and Mathematics.Graduate College.• Departments and Programs:Mechanical Engineering Department.



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Colleges and Schools > Graduate College > Academic Offerings > Microbiology and Molecular Genetics (M.S.)

Microbiology and Molecular Genetics (Master of Science)

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; cell cycle control of transcription and DNA replication in eukaryotes; regulation and enzymology of RNA polymerase II transcription; enzymology and atomic structure of mammalian cell mRNA processing factors; molecular basis of tRNA recognition; ribozyme structure and enzymology; signaling networks that regulate morphogenesis in yeast; isolation and regulation of mating type genes in Schizophyllum; plant growth and development; molecular mechanisms of bacterial adhesion and pathogenesis; molecular and cellular mechanisms of host-pathogen interactions; and bacterial transformations of organic pollutants.

General Requirements

- [Requirements for the Masters Degree](#)

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 CHEM 001, CHEM 002, CHEM 141 and CHEM 142), mathematics through

Education	calculus (equivalent of MATH 019 and MATH 020); 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.
• Graduate College	
• Honors College	
• School of Business Administration	Requirements for Advancement to Candidacy for the Degree of Master of Science
• The Rubenstein School of Environment and Natural Resources	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.
Policies and General Information	Minimum Degree Requirements for the Degree of Master of Science
Faculty and Administration	Thirty total credits to include six credit hours of Thesis Research (MMG391) and 24 course credits, including the Microbiology and Molecular Genetics core 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 offered by the Department of Microbiology and Molecular Genetics; qualifying exam; successful completion of dissertation.
Catalogue Archives	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.
	Affiliations
	<ul style="list-style-type: none">Colleges and Schools:<u>College of Agriculture and Life Sciences</u>.<u>Graduate College</u>.<u>College of Medicine</u>.Departments and Programs:<u>Microbiology and Molecular Genetics Department</u>.



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Colleges and Schools > Graduate College > Academic Offerings > Molecular Physiology and Biophysics (M.S.)

Molecular Physiology and Biophysics (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Biology, one year; chemistry, organic and physical; physics, one year; mathematics, through calculus. These requirements must be completed by the end of the first year of residency. Satisfactory performance on general (aptitude) section of Graduate Record Examination. A master's degree is not a prerequisite for the Ph. D. degree.

Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Satisfactory completion of basic courses and comprehensive exam; formation of dissertation committee.

Minimum Degree Requirements

MPBP 301, MPBP 303, MPBP 308, MPBP 323; BIOC 301-302; in addition, 21 elective credits, six of which must be in the Department; dissertation research, minimum 20 hours. Other requirements are flexible and will be determined for each individual after consultation with the Studies Committee.

Affiliations

- Colleges and Schools: [Graduate College](#). [College of Agriculture and Life Sciences](#).

Education

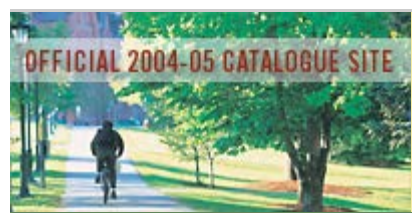
College of Medicine.

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources
- Departments and Programs:Molecular Physiology and Biophysics Department.

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Colleges and Schools > Graduate College > Academic Offerings > Natural Resources: Aquatic Ecology and Watershed Science (M.S.) > Requirements > Natural Resources Requirements (M.S.)

Natural Resources Requirements (M.S.)

The masters of science in natural resources prepares students to pursue studies in advanced disciplinary topics. They will learn scientific and practical methods and develop technical skills for understanding ecological, physical, social, political, and economic aspects of environmental and natural resource issues.

Students choosing to pursue research in the Masters program will take 15 to 24 credits of advanced coursework and write and defend a thesis or project. This experience will further their knowledge and proficiency in natural resource fields including five areas of concentration:

1. Aquatic Ecology and Watershed Science
2. Environment, Society and Public Affairs
3. Environmental Thought and Culture
4. Forestry
5. Wildlife Biology

Other areas of studies can be pursued through the general degree in Natural Resources including interdisciplinary research not included in the above concentrations (e.g., ecological design, conservation biology). Students and their Graduate Studies Committee work closely together to design these individualized curricula.

Students choosing to emphasize advanced course work (27 credits) will pursue academic and work experiences leading to development of professional skills in curricula emphasizing conservation leadership, ecological planning, and sustainable forestry. A three credit project/internship experience will complement the academic course work.

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Education	Undergraduate degree in an appropriate field in the sciences, social sciences, or humanities/fine arts; satisfactory scores on the Graduate Record Examination, general (aptitude) section; and three letters of recommendation attesting to the candidate's academic potential for graduate work and motivation for pursuing this degree. Most successful applicants to this highly competitive program have had past experience in an environmental or natural resource-related job, internship, volunteer work, or international travel.
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	Minimum Degree Requirements The Master of Science program requires from 15 to 27 hours of course work in related fields (including NR 378), a public research seminar presented at the annual graduate student symposium, a research proposal, a comprehensive examination, and 3 to 15 hours of thesis/project research. An oral defense of the thesis/project is required of students not pursuing the advanced course work option.
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Colleges and Schools > Graduate College > Academic Offerings > Natural Resources: Aquatic Ecology and Watershed Science (M.S.)

Natural Resources: Aquatic Ecology and Watershed Science (Master of Science)

Overview

The Aquatic Ecology and Watershed Science concentration provides students with advanced understanding of aquatic ecosystems and their watersheds, and the skills and methodologies required to analyze and solve technical problems concerning the effects of human activities on these systems. Current areas of research emphasis include watershed processes and management; stream and lake ecology; fish ecology and fisheries management; aquatic ecotoxicology; pollutant studies; biogeochemical dynamics, and the modeling of aquatic systems, processes and populations.

General Requirements

- [Requirements for the Masters Degree](#)
- [Natural Resources Requirements \(M.S.\)](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Undergraduate degree in a discipline related to the intended specific field of study. Satisfactory scores on the general (aptitude) portion of the Graduate Record Examination.

Minimum Degree Requirements

In addition to the general M.S. in Natural Resources requirements, this concentration requires enrollment in a one credit special topics seminar organized by faculty and

Education	students in the concentration, and at least 12 additional hours of course work in the aquatic and watershed sciences, or supportive fields (approved by the student's studies committee). Students in this concentration pursue a thesis.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	Affiliations <ul style="list-style-type: none">• Colleges and Schools:<u>Graduate College</u>.<u>The Rubenstein School of Environment and Natural Resources</u>.• Departments and Programs:<u>Natural Resources Program</u>.
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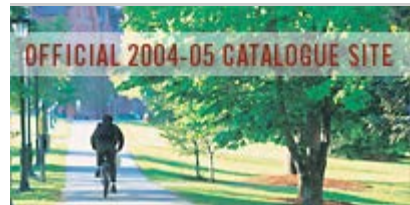
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Education	Minimum Degree Requirements
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>In addition to the general M.S. in Natural Resources requirements, this concentration requires 24 to 27 credit hours of advanced courses (including a methods course, three courses from an approved list of courses reflecting this concentration's emphasis, and one ecology course), a comprehensive examination, three to six credits of project work or six credits of thesis research, and an oral defense of the project or thesis.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:<u>Graduate College</u>.<u>The Rubenstein School of Environment and Natural Resources</u>.• Departments and Programs:<u>Natural Resources Program</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Natural Resources: Environmental Thought and Culture (M.S.)

Natural Resources: Environmental Thought and Culture (Master of Science)

Overview

In this concentration graduate students build interdisciplinary analytical skills and theoretical understanding of environmental and natural resource issues, with a focus on their human, ethical, and cultural dimensions. Specific areas include: environmental communication and cultural studies; environmental education and interpretation; environmental ethics and philosophy; environment, development, peace, and global justice studies; environmental politics and advocacy; religion and environment; sustainability and sustainable development.

General Requirements

- [Requirements for the Masters Degree](#)
- [Natural Resources Requirements \(M.S.\)](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

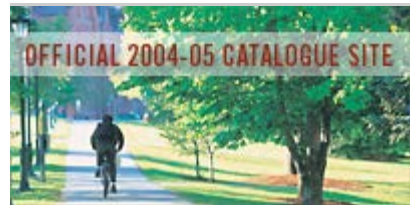
Undergraduate degree in a discipline related to the intended specific field of study. Satisfactory scores on the general (aptitude) portion of the Graduate Record Examination.

Minimum Degree Requirements

In addition to the general M.S. in Natural Resources requirements, this concentration requires 21 to 24 credit hours of advanced courses including Vermont Field Studies and

Education	15 credits in a specialization within environmental thought and culture, a comprehensive examination, six to nine hours of thesis/project research, and an oral defense of the thesis or project.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	Affiliations <ul style="list-style-type: none">• Colleges and Schools:<u>Graduate College</u>.<u>The Rubenstein School of Environment and Natural Resources</u>.• Departments and Programs:<u>Natural Resources Program</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Natural Resources: Forestry (M.S.)

Natural Resources: Forestry (Master of Science)

Overview

The goal of this Master of Science concentration is to provide graduate students with advanced training in forest 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 ecology, management, pathology, physiological ecology, sustainable forestry, and community forestry.

General Requirements

- [Requirements for the Masters Degree](#)
- [Natural Resources Requirements \(M.S.\)](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Undergraduate degree in forestry or in a discipline related to the intended specific field of study. Satisfactory scores on the general (aptitude) portion of the Graduate Record Examination.

Minimum Degree Requirements

In addition to the general M.S. in Natural Resources requirements, this concentration requires 21 to 24 credit hours of advanced forestry and related courses, a comprehensive examination with both a written and oral component, six to nine hours of thesis/project research, and an oral defense of the thesis or project. A student's thesis or project research is often an integral part of ongoing research projects in the Rubenstein School of Environment and Natural Resources.

Education

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources

Affiliations

- Colleges and Schools:[Graduate College](#).[The Rubenstein School of Environment and Natural Resources](#).
- Departments and Programs:[Natural Resources Program](#).

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Colleges and Schools > Graduate College > Academic Offerings > Natural Resources: Wildlife Biology (M.S.)

Natural Resources: Wildlife Biology (Master of Science)

Overview

This Master of Science concentration is designed to provide a vehicle for a wildlife biologist to develop research abilities and pursue a specialized course of study. Current areas of research emphasis include applied avian ecology, behavioral ecology, game management, nongame wildlife populations, reserve design, and landscape ecology.

General Requirements

- [Requirements for the Masters Degree](#)
- [Natural Resources Requirements \(M.S.\)](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Undergraduate degree in wildlife biology/management or in the biological sciences. Satisfactory scores on the Graduate Record Examination, general (aptitude) section.

Minimum Degree Requirements for the Degree of Master of Science

The Wildlife Biology concentration requires 21 to 24 credit hours of course work in wildlife and related fields, including NR 378, a comprehensive examination with both a written and oral component, six to nine hours of thesis/project research, and an oral defense of the thesis or project. The Studies Committee may require additional undergraduate preparation without credit toward the degree in instances of perceived deficiency.

Affiliations

Education

- Graduate College
 - Honors College
 - School of Business Administration
 - The Rubenstein School of Environment and Natural Resources
- Colleges and Schools:[Graduate College](#).[The Rubenstein School of Environment and Natural Resources](#).
 - Departments and Programs:[Natural Resources Program](#).

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Nursing (Master of Science)

Overview

The Department of Nursing offers a graduate program leading to a Master of Science degree in nursing that prepares nurses to assume leadership roles within health care systems in a variety of settings, to expand knowledge of the discipline of nursing, to develop expertise in a specialized area of nursing, and to acquire the foundation for doctoral study and continued professional development. The ability to work collaboratively on an interdisciplinary team, provide patient-centered care, employ evidence-based practice, access information technology, and apply quality improvement strategies are basic competencies expected of all graduates of this program.

The graduate curriculum includes five core courses essential for all students that address the theoretical basis of nursing care; professional issues and role development of advanced practice registered nurses, research utilization and evidence based practice, health policy and financing, and biostatistics and epidemiology. Students apply core content to their chosen area of specialization. Students may select a course of study in: Clinical Systems Management, Community/Public Health Nursing, Primary Care Nursing with preparation either as an Adult or Family Nurse Practitioner, or Adult Health Nursing with preparation as a Clinical Nurse Specialist (CNS). After successful completion of program requirements students are eligible to take either the American Nurse Credentialing Center or American Academy of Nurse Practitioner certification exams for advanced practice.

Clinical practicums are an integral aspect of graduate education in nursing providing students an opportunity to apply their newly learned knowledge and skills in a precepted environment. Students need to be able to travel throughout the state and will incur associated costs for travel and lodging if necessary. All students in the program are required to have current certification in Cardio-Pulmonary Resuscitation (CPR), evidence of meeting OSHA requirements, HIPAA training, annual PPD testing, select

Education	immunizations, and professional liability insurance prior to enrolling in clinical practicums.
• Graduate College	General Requirements
• Honors College	<ul style="list-style-type: none">• Requirements for the Masters Degree
• School of Business Administration	Specific Requirements
• The Rubenstein School of Environment and Natural Resources	Requirements for Admission to Graduate Studies for the Degree of Master of Science
Policies and General Information	There are two routes of entry into the Graduate Nursing Program.
Faculty and Administration	<ol style="list-style-type: none">1. Requirements for registered nurses (RN) with a Bachelor of Science degree with a major in nursing, and2. Registered nurses with a Bachelor's Degree in another field and successful completion of the Bridge Process (means of assessment of nursing knowledge):<ul style="list-style-type: none">◦ Undergraduate grade point average preferably of 3.0 or better;◦ Successful completion of an undergraduate course in statistics and a health assessment course for students in the Primary Care Track;◦ Satisfactory scores on the Graduate Record Exam;◦ Licensure or eligibility for licensure as a registered nurse in Vermont;◦ Three letters of recommendation from persons who can assess your potential for graduate work.
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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.

Minimum Degree Requirements

Total number of required credits dependent on specialty track chosen. Satisfactory completion of a Comprehensive Examination and either a thesis or master's project also required.

Affiliations

- Colleges and Schools:[College of Nursing and Health Sciences](#).[Graduate College](#).
- Departments and Programs:[Nursing Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Nutrition and Food Sciences (M.S.)

Nutrition and Food Sciences (Master of Science)

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 weight and composition, web-based interactive multimedia tools for use in teaching and research, behavior modification programs to improve individual eating behaviors and testing the effectiveness of Internet support on the long term management of obesity, factors affecting 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, and food microbiology.

For more information, contact Professor Jean Harvey-Berino, Chair of the Department of Nutrition and Food Sciences, 315 Terrill Hall, (802) 656-3374 or e-mail (Jean.Harvey-Berino@uvm.edu).

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

An undergraduate major in nutrition, dietetics, food science, or a science-related field. An undergraduate course in biochemistry. Satisfactory scores on the Graduate Record Examination, general (aptitude) portion.

Education

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources

Minimum Degree Requirements for the Degree of Master of Science

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.

Affiliations

- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).
- Departments and Programs:[Nutrition and Food Sciences Department](#).

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Colleges and Schools > Graduate College > Academic Offerings > Pathology (M.S.)

Pathology (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Satisfactory undergraduate or graduate course work in chemistry and the biological sciences. Microbiology and immunology are also recommended but not required. Satisfactory scores on the Graduate Record Examination, general (aptitude) section. Persons interested in a Ph. D. program may wish to consider the interdisciplinary program in Cell and Molecular Biology in which Pathology participates.

Minimum Degree Requirements for the Degree of Master of Science

Anatomy 311 (three hours), Pathology 305 (three hours), Biochemistry 301-302 (six hours); additional approved courses; thesis research (six to 15 hours).

Affiliations

- Colleges and Schools: [Graduate College](#).



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Colleges and Schools > Graduate College > Academic Offerings > Pharmacology (M.S.)

Pharmacology (Master of Science)

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the

Degrees of Master of Science

Year courses in biology, organic chemistry, physics, analytic geometry and calculus; physical chemistry and/or a reading knowledge of one foreign language may 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 Master of Science Degree

PHRM 301, PHRM 302, PHRM 303, PHRM 381 , PHRM 391; supporting courses in biochemistry and physiology.

Affiliations

- Colleges and Schools:[Graduate College.College of Medicine.](#)
- Departments and Programs:[Pharmacology Department.](#)



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Colleges and Schools > Graduate College > Academic Offerings > Physics (M.S.)

Physics (Master of Science)

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

Education	structural biology include several SGIs and a 12-node Beowulf parallel-processor Linux cluster.
• Graduate College	
• Honors College	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.
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	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.
Policies and General Information	
Faculty and Administration	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.
Catalogue Archives	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.

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science

Undergraduate majors in science, engineering, or mathematics are considered for admission to the program. Satisfactory scores on the Graduate Record Examination (general and subject section) are required.

Requirements for Advancement to Candidacy for the Degree of Master of

Science

Physics PHYS 211, PHYS 213, and PHYS 273; two additional semester courses in physics above the sophomore level; two semester courses in mathematics above the sophomore level.

Minimum Degree Requirements for the Degree of Master of Science

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 PHYS 300.

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.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Physics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Plant and Soil Science (M.S.)

Plant and Soil Science (Master of Science)

Overview

Current research projects are concerned with the solution of horticultural and agronomic problems with special emphasis on environmental physiology, soil chemistry, pasture management, plant nutrition, and pest management. Areas of research include winter hardiness of fruits, and woody and herbaceous ornamentals; cultural and environmental interrelationships as they affect plant growth, crop adaptation, and variety; pasture production and marginal land utilization; crop establishment and soil productivity; mycorrhizal fungi; soil chemistry of the rhizosphere; redox reactions in soils; the behavior of heavy metals; compost and organic matter research; behavior of nitrogen in the soil; nutrient availability to plants; agricultural waste management; biological control of insects, disease, and 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 research efforts of the department.

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

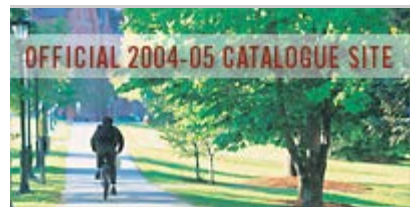
Requirements for Admission to Graduate Studies for the Degree of Master of Science

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 Degree of Master of

Education	Science
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>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 consulting with the student.</p> <p>Minimum Degree Requirements for the Degree of Master of Science</p> <p>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). All masters students must take part in the department's undergraduate teaching program.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:Graduate College.College of Agriculture and Life Sciences.• Departments and Programs:Plant and Soil Science Department.
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Colleges and Schools > Graduate College > Academic Offerings > Statistics (M.S.)

Statistics (Master of Science)

Overview

The Statistics Program offers biostatistics, statistics, and probability courses for the entire University community along with traditional degree programs and individually designed degree programs emphasizing statistics applied to other fields. The degree programs are designed primarily for students who plan careers in business, actuarial science, industry, and government or advanced training in disciplines that make extensive use of statistical principles and methods. The Program faculty is deeply involved in consulting and collaborative research in a wide variety of fields, including industry, agriculture and in the basic and clinical medical sciences. These research activities along with the research of 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 a specialized area of application are especially encouraged to take advantage of these cooperative arrangements.

Program faculty have active statistics research efforts in areas such as quality control , sequential analysis, three stage sampling, time series analysis, survival data 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 in statistics (along with course work in mathematics and computer science, if desired) have excellent opportunities to participate in the faculty's research.

General Requirements

- [Requirements for the Masters Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies and Advancement to

Education	Candidacy for the Degree of Master of Science
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>A baccalaureate degree. Three semesters of calculus, a course in matrix methods, and one semester of statistics. Provisional acceptance can be given prior to the completion of these requirements. Satisfactory scores on the -general (aptitude) portion of the Graduate Record Examination are required for most sources of financial aid. Computer experience is highly recommended.</p> <p>Current undergraduate students at The University of Vermont should contact the program director for details on the Accelerated Master's Program (AMP).</p>
Policies and General Information	Minimum Degree Requirements for the Degree of Master of Science
Faculty and Administration	<p><i>Plan A (Thesis):</i> A 30 credit program requiring 24 credits of approved course work. This must include (Statistics) STAT 221, STAT 223, STAT 224, STAT 231, STAT 251, STAT 261, STAT 321, STAT 323, STAT 324, other Statistics courses numbered 200 or above (except STAT 211, STAT 281, STAT 308, STAT 313), other mathematics or quantitative methods courses or (if appropriate) courses in a specialized field of application, plus six credits of approved thesis research (STAT 391).</p> <p><i>Plan B (Nonthesis):</i> A 33 credit program requiring 30 credits of approved course work. This must include (Statistics) STAT 221, STAT 223, STAT 224, STAT 231, STAT 251, STAT 261, STAT 321, STAT 323, STAT 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 three semester hours of approved statistical research (STAT 381).</p> <p>Under both plans, students must have or acquire a knowledge of the material in (Statistics) STAT 201 and STAT 211 in addition to their required course work. Additional specific courses may be required depending on the student's background and interest. Other courses are selected with the approval of the student's advisor from statistics, mathematics, computer science, and (if appropriate) 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.</p>
Catalogue Archives	Affiliations
	<ul style="list-style-type: none">• Colleges and Schools:<u>College of Engineering and Mathematics</u>.<u>Graduate College</u>.<u>College of Arts and Sciences</u>.• Departments and Programs:<u>Mathematics and Statistics Department</u>.



<div><div>⌵⌵ Academics</div><div>⌵⌵ Catalogue 2004-05</div><div>Table of Contents</div><div>Courses</div><div>Academic Offerings</div><div>Colleges and Schools<ul style="list-style-type: none">• College of Agriculture and Life Sciences• College of Arts and Sciences• College of Education and Social Services• College of Engineering and Mathematics• College of Medicine• College of Nursing and Health Sciences• Continuing</div></div>	<div>Colleges and Schools > Graduate College > Academic Offerings > Biology (M.A.T.)</div> <div>Biology (Master of Arts in Teaching)</div> <div>Overview</div> <div>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.</div> <div>Specific Requirements</div> <div>Requirements for Admission to Graduate Studies for the Degree of Master of Arts in Teaching</div> <div>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.</div> <div>Affiliations</div>
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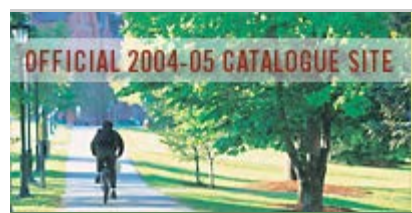
Education

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 - Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
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- Honors College
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Colleges and Schools > Graduate College > Academic Offerings > Botany (M.A.T.)

Botany (Master of Arts in Teaching)

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.

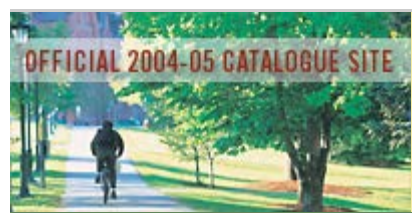
The Botany Department participates actively in the Cell and Molecular Biology Program which provides opportunities for interdisciplinary research with other life science departments.

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.

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts in Teaching

Education	The Department offers a program leading to the degree of Master of Arts in Teaching.
• Graduate College	Satisfactory scores on the Graduate Record Examination general (aptitude) section are requirements for acceptance for this degree.
• Honors College	
• School of Business Administration	Affiliations
• The Rubenstein School of Environment and Natural Resources	<ul style="list-style-type: none">• Colleges and Schools:<u>College of Agriculture and Life Sciences</u>.<u>Graduate College</u>.<u>College of Arts and Sciences</u>.• Departments and Programs:<u>Botany Department</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Chemistry (M.A.T.)

Chemistry (Master of Arts in Teaching)

Overview

Current research in organic chemistry includes design and synthesis of peptide mimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphans and their analogues which have chemotherapeutic potential, synthesis and reactions of hybrid organic-inorganic polymers, synthesis and properties of carbon-rich organic materials, mechanistic studies of organic chemical reactions, and development of novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals, alloys, and intermetallic compounds with a view toward storage of hydrogen as a fuel, and the use of various types of molecular spectroscopy, such as fluorescence, magnetic resonance, and IR/Raman, to address questions of structure, bonding, and 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-ray diffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapor deposition.

Research in analytical chemistry includes electrochemical studies of transition metal complexes and organometallic complexes, electron spin resonance studies of materials in unusual oxidation states, novel reaction of reactive compounds generated electrochemically under high vacuum, studies of factors influencing heterogeneous electron transfer process in nonaqueous media, studies of transient, imploding plasmas as solid sample atomizers for atomic spectroscopy, the development of instrumentation

<div>Education</div> <div><ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources</div>	<p>and techniques suitable for elemental analysis of nonconducting solid samples via atomic spectrometry, the development and use of analytical methods using stable isotopically labeled tracers and kinetic models to answer questions of human physiology and biochemistry, and the simultaneous physical and chemical analysis of individual aerosol particles, leading to the rapid, on-line and in situ determination of the physico-chemical makeup of the aerosol.</p> <div>Affiliations<ul style="list-style-type: none">• Colleges and Schools:College of Arts and Sciences.Graduate College.• Departments and Programs:Chemistry Department.</div>
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Colleges and Schools > Graduate College > Academic Offerings > English (M.A.T.)

English (Master of Arts in Teaching)

Overview

The research interests of the faculty of the Department of English and library resources permit graduate students to undertake thesis subjects in virtually all fields of the discipline.

Specific Requirements

Minimum Degree Requirements for the Degree of Master of Arts in Teaching

Thirty credits of course work; 24 in English (including five of the following six: ENGS 320, ENGS 330, ENGS 340, ENGS 350, ENGS 360, and ENGS 370 or ENGS 201-296; and at least nine additional credits of course work in English or Humanities up to six of these in a related field), plus a comprehensive examination in English. Additional requirements in Education will differ for those already licensed to teach (at least 6 credits) and for those not licensed to teach (up to 33 credits). Completion of 24 credits of course work, including five of the following six: ENGS 320, ENGS 330, ENGS 340, ENGS 350, ENGS 360, and ENGS 370 or ENGS 201-296; and at least nine 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 (ENGS 391).

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[English Department](#).



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• Continuing

Colleges and Schools > Graduate College > Academic Offerings > French (M.A.T.)

French (Master of Arts in Teaching)

Overview

Opportunities for thesis research in the literatures and cultures of France, Québec, and other regions of the Francophone world.

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Arts in Teaching

An undergraduate major in French or equivalent. Satisfactory scores on the general (aptitude) Graduate Record -Examinations.

Minimum Degree Requirements

Master of Arts in Teaching

If you are already a licensed teacher: Twenty-one credit hours in French (including the Graduate Humanities Seminar) and a comprehensive examination, plus six credit hours in education courses.

If you do not presently have licensure: Twenty-one credit hours in French (including a 3-credit 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.

Affiliations

- Colleges and Schools: [Graduate College](#). [College of Arts and Sciences](#).

Education

- Departments and Programs:[Romance Languages Department](#).

- Graduate College

- Honors College

- School of Business
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Colleges and Schools > Graduate College > Academic Offerings > Geography (M.A.T.)

Geography (Master of Arts in Teaching)

Overview

Faculty research interests include most systematic aspects of geography including social, urban, political, economic, historical and physical geography. Technique interests are in remote sensing, geographic information systems and quantitative methods. Regional interests and field experiences are in Africa, Europe, Canada and the U.S.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Geography Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Geology (M.A.T.)

Geology (Master of Arts in Teaching)

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 recent sedimentation 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.

Affiliations

- Colleges and Schools:[College of Arts and Sciences](#).[Graduate College](#).
- Departments and Programs:[Geology Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > German (M.A.T.)

German (Master of Arts in Teaching)

Overview

Current research interests include GDR literature; history of the German language; medieval literature; literature of the 18th, 19th, and 20th centuries; and folklore.

Specific Requirements

Satisfactory scores on the Graduate Record Examination general (aptitude) section are prerequisite to acceptance to candidacy for this degree.

Affiliations

- Colleges and Schools:Graduate College.College of Arts and Sciences.
- Departments and Programs:German and Russian Department.



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Colleges and Schools > Graduate College > Academic Offerings > Greek and Latin (M.A.T.)

Greek and Latin (Master of Arts in Teaching)

Overview

Current research interests include Homer; Mycenaean and Homeric Greece; Greek and Latin lyric and elegiac poetry; Greek drama; the Attic orators; ancient literary criticism; Greek and Roman philosophy and intellectual History; Greek and Roman historiography; Greek and Latin Prose; Cicero; Virgil; Latin epic; Petronius, satire; Greek and Roman technological authors; Roman history; Roman Imperial Families; Mythology; Archaeology; Medieval studies.

Specific Requirements

Requirements for Admission to Graduate Studies in Latin and/or Greek for the Degree of Master of Arts in Teaching

A program in teaching of Latin and/or Greek leading to the degree of Master of Arts in Teaching and to licensure, is also offered in conjunction with the College of Education and Social Services. Satisfactory scores on the general (aptitude) Graduate Record Examination are prerequisite for acceptance to candidacy for this degree.

Affiliations

- Colleges and Schools: Graduate College. College of Arts and Sciences.
- Departments and Programs: Classics Department.



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Colleges and Schools > Graduate College > Academic Offerings > History (M.A.T.)

History (Master of Arts in Teaching)

Overview

The History Department offers a comprehensive program of courses in the history of the Western Hemisphere, European history, and non-Western history.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[History Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Mathematics (M.A.T.)

Mathematics (Master of Arts in Teaching)

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.

Specific Requirements

Requirements for the Degree of Master of Arts in Teaching

Thirty hours of course work, including at least MATH 021 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.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#),[Graduate College](#),[College of Arts and Sciences](#).
- Departments and Programs:[Mathematics and Statistics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Physics (M.A.T.)

Physics (Master of Arts in Teaching)

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

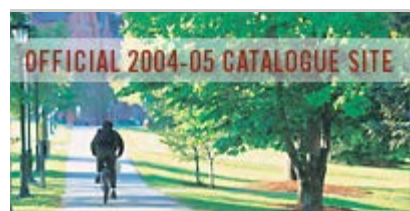
Education	biology include several SGIs and a 12-node Beowulfparallel-processor Linux cluster.
• Graduate College	Research in theoretical condensed matter physics focuses on the dynamics ofquantum systems with application to electronic, magnetic, optical, structural, and thermal properties of nanomaterials including fullerene-derived solids (buckyballs) and carbon nanotubes. Basic research also includes the investigation of low energy scattering of atoms and molecules from surfaces and systems with many internaldegrees 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.
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	Theoretical studies of the optical properties of materials include the electronicstructure of defect complexes in ionic crystals, the application of subtractedd 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.
Faculty and Administration	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. Many of the research projects involve real-time X-ray or electron diffraction structuralstudies of surface phenomena, combined with computer simulation of relevant surface processes. We have an ultra-high vacuum thin-film deposition laboratory dedicatedto these studies, and we make regular use of synchrotron X-ray facilities inthe US.
Catalogue Archives	Opportunities for collaborative research with other University departments and groups include those with Chemistry, the Materials Science Program, MolecularPhysiology and Biophysics, the Cell and Molecular Biology Program, Computer Science and 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.

Specific Requirements

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.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Physics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Biology (M.S.T.)

Biology (Master of Science for Teachers)

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.

Specific Requirements

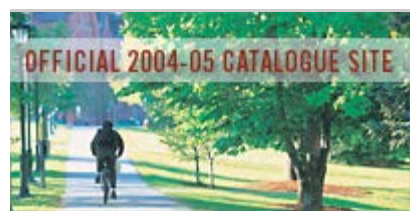
Requirements for Admission to Graduate Studies for the Degree of Master of Science in Teaching

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

Education	
• Graduate College	<p>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.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:Graduate College.College of Arts and Sciences.• Departments and Programs:Biology Department.
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Colleges and Schools > Graduate College > Academic Offerings > Botany (M.S.T.)

Botany (Master of Science for Teachers)

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.

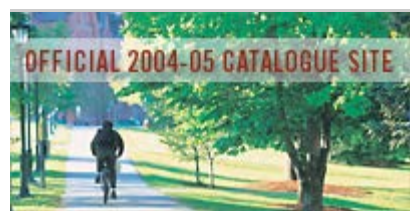
The Botany Department participates actively in the Cell and Molecular Biology Program which provides opportunities for interdisciplinary research with other life science departments.

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.

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Science for Teachers (Biology)

Education	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.
• Graduate College	Satisfactory scores on the Graduate Record Examinations general (aptitude) section.
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	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.
Faculty and Administration	Affiliations <ul style="list-style-type: none">• Colleges and Schools:College of Agriculture and Life Sciences.Graduate College.College of Arts and Sciences.• Departments and Programs:Botany Department.
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Colleges and Schools > Graduate College > Academic Offerings > Chemistry (M.S.T.)

Chemistry (Master of Science for Teachers)

Overview

Current research in organic chemistry includes design and synthesis of peptide mimics, applications of molecular diversity to catalyst design, syntheses of medicinally valuable natural products, biomimetic syntheses, preparation of benzomorphans and their analogues which have chemotherapeutic potential, synthesis and reactions of hybrid organic-inorganic polymers, synthesis and properties of carbon-rich organic materials, mechanistic studies of organic chemical reactions, and development of novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals, alloys, and intermetallic compounds with a view toward storage of hydrogen as a fuel, and the use of various types of molecular spectroscopy, such as fluorescence, magnetic resonance, and IR/Raman, to address questions of structure, bonding, and 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-ray diffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapor deposition.

Research in analytical chemistry includes electrochemical studies of transition metal complexes and organometallic complexes, electron spin resonance studies of materials in unusual oxidation states, novel reaction of reactive compounds generated electrochemically under high vacuum, studies of factors influencing heterogeneous electron transfer process in nonaqueous media, studies of transient, imploding plasmas as solid sample atomizers for atomic spectroscopy, the development of instrumentation

Education	and techniques suitable for elemental analysis of nonconducting solid samples via atomic spectrometry, the development and use of analytical methods using stable isotopically labeled tracers and kinetic models to answer questions of human physiology and biochemistry, and the simultaneous physical and chemical analysis of individual aerosol particles, leading to the rapid, on-line and in situ determination of the physico-chemical makeup of the aerosol.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	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.
Faculty and Administration	
Catalogue Archives	

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 PHYS 128, CHEM 141 and CHEM 162, and MATH 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 the 100-level 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.

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- Colleges and Schools:[College of Arts and Sciences](#).[Graduate College](#).
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Colleges and Schools > Graduate College > Academic Offerings > Geology (M.S.T.)

Geology (Master of Science for Teachers)

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 recent sedimentation 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.

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 Degree of Master of Science for Teachers

Satisfactory completion of one year of graduate study plus departmental recommendation.

Minimum Requirements for the Degree of Master of Science in Teaching (Geology)

Thirty hours of course work that will strengthen the student's background in earth science.

Education	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 tohis/her needs and background. No thesis is required; however, each degree recipientmust complete a general written or oral examination.
• Graduate College	
• Honors College	
• School of Business Administration	Affiliations
• The Rubenstein School of Environment and Natural Resources	<ul style="list-style-type: none">• Colleges and Schools:Graduate College.College of Arts and Sciences.• Departments and Programs:Geology Department.
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Colleges and Schools > Graduate College > Academic Offerings > Mathematics (M.S.T.)

Mathematics (Master of Science for Teachers)

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.

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.

Education

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources

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- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Mathematics and Statistics Department](#).

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Colleges and Schools > Graduate College > Academic Offerings > Physics (M.S.T.)

Physics (Master of Science for Teachers)

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

Education	structural biology include several SGIs and a 12-node Beowulf parallel-processor Linux cluster.
• Graduate College	
• Honors College	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.
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	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.
Policies and General Information	
Faculty and Administration	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.
Catalogue Archives	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.
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 PHYS 128, CHEM 141 and CHEM 162, and MATH 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 PHYS 128 and above, CHEM 131 and six semester hours of Chemistry chosen from CHEM 161, CHEM 231, CHEM 201, CHEM 264, and CHEM 241. This option is primarily for teachers of chemistry.

Physical Sciences Option (B): nine semester hours of Chemistry numbered CHEM 141 and above and nine hours of Physics in courses numbered above PHYS 200. This option is primarily for teachers of physics.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Arts and Sciences](#).
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Colleges and Schools > Graduate College > Academic Offerings > Curriculum and Instruction (M.Ed.)

Curriculum and Instruction (Master of Education)

Overview

The Curriculum and Instruction master's program is designed to develop leadership in such educational settings as teaching, curriculum theory, curriculum development, and related areas of research for elementary and secondary public and private school settings. Areas of focus within the M. Ed., in addition to those described in detail below, include elementary or secondary education, information technology, and health/physical education. The program is also appropriate for those with instructional roles in human services agencies.

Programs are developed to provide a comprehensive background in fields basic to instruction and curriculum development as well as the application of that knowledge to a specialized field. They include courses aimed at the examination and 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 (Barbara.Kleptz@uvm.edu).

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 have an opportunity to 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.

Education	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 (Frances.Keppler@uvm.edu).
<ul style="list-style-type: none">Graduate CollegeHonors CollegeSchool of Business AdministrationThe Rubenstein School of Environment and Natural Resources	<div>General Requirements</div> <ul style="list-style-type: none"><u>Requirements for the Master of Education Degree</u> <div>Specific Requirements</div> <p>Work at the graduate level draws upon other divisions of the University, thus enabling 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.</p> <p>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.</p> <div>Affiliations</div> <ul style="list-style-type: none">Colleges and Schools:<u>College of Education and Social Services</u>.<u>Graduate College</u>.Departments and Programs:<u>Education Department</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Educational Leadership (M.Ed.)

Educational Leadership (Master of Education)

Overview

The Educational Leadership program is designed to prepare leaders for public schools, educational and social agencies, and middle management positions in higher education.

Inquiries regarding this program should be addressed to Professor Judith A. Aiken.

General Requirements

- [Requirements for the Master of Education Degree](#)

Specific Requirements

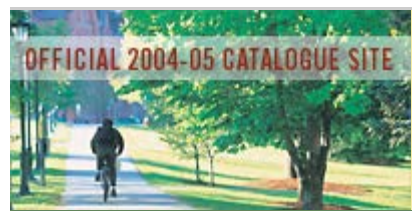
The M. Ed. program for licensure usually requires 30 to 36 credit hours of courses including seminars, internships, and research experiences.

The Certificate of Advanced Study (C.A.S.) Program requires 30 credit hours of study beyond the M. Ed. requirements.

Courses with an administration/planning focus include: EDLP 264, EDLP 266, EDLP 268, EDLP 280, EDLP 332, EDLP 333, EDLP 334, EDLP 335, EDLP 336, EDLP 337, EDLP 353, EDLP 354, EDLP 355, EDLP 356, and EDLP 358.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Education and Social Services](#).
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Colleges and Schools > Graduate College > Academic Offerings > Educational Studies (M.Ed.)

Educational Studies (Master of Education)

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

- [Requirements for the Master of Education Degree](#)

Education	Specific Requirements
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>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.</p> <p>Courses applicable to the Educational Studies Program include: 204, 205, 206, 209, 255, 302, 303, 304, 309, 314, 322, 347, 348, 352, 354, 369, 377, 380, 391, 397.</p> Affiliations <ul style="list-style-type: none">• Colleges and Schools:College of Education and Social Services.Graduate College.• Departments and Programs:Education Department.
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Colleges and Schools > Graduate College > Academic Offerings > Higher Education and Student Affairs Administration (M.Ed.)

Higher Education and Student Affairs Administration (Master of Education)

Overview

The graduate program in Higher Education and Student Affairs Administration educates professionals who apply human development, organizational, and administrative principles to their work with students in higher education. Graduates of the master's degree program possess knowledge in administration and planning, organizational development, higher education policy and practice, and student affairs professional principles. Graduates further the goals of colleges and universities by serving as policy makers, student affairs educators, student service advisors, and administrators.

Pluralism is a primary curricular foundation of the Higher Education and Student Affairs program. Pluralism, a reality of American life and U.S. higher education, is expressed through course and experiential opportunities emphasizing the diversity of people, experiences, perspectives, and structures. The curriculum, including courses, practica internships, graduate assistantships, and volunteer opportunities with the University and local institutions integrate conceptual theory with administrative practice. Students gain an understanding of the student affairs profession, multiculturalism, college student development, history of and trends within 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 with student affairs and higher education practice. Assistantships are housed in University offices such as alumni affairs, the provost's office, admissions, judicial affairs, development, and residential life. The assistantship application process is separate from the admissions process but interviews for both are held concurrently in March of each year. Practica experiences (three selections during the course of the degree) are available within University and local college offices.

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources

Policies and General Information
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General Requirements

- [Requirements for the Master of Education Degree](#)

Specific Requirements

Students are urged to hold either a full-time position in college and/or student affairs administration, if a part-time student; 20 hours per week graduate assistantship, if a full-time student. Assistantship stipends cover tuition for 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: EDHI 297, EDHI 360, EDHI 361, EDHI 362, EDHI 375, EDHI 380, EDHI 383, EDHI 385, and EDHI 395. Forty credit hours are required for the M.Ed. degree.

There is also a Higher Education concentration in the Educational Leadership and Policy Studies doctoral degree (Ed.D.) that requires core courses (see Educational Leadership Ed.D.) and a program of studies focusing on the administration in higher education.

(Please visit our website for HESA program information at <http://www.uvm.edu/~uvmhesa/>.)

Inquiries regarding this program should be addressed to Professor Deborah Hunter, 72 University Heights, University of Vermont, Burlington, Vermont 05405.

Affiliations

- Colleges and Schools:[College of Education and Social Services](#).[Graduate College](#).
- Departments and Programs:[Integrated Professional Studies Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Interdisciplinary (M.Ed.)

Interdisciplinary (Master of Education)

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 Program will serve their career goals. For this reason, major emphasis in admissions is placed upon the applicant's Statement of Purpose. Applicants are strongly encouraged to contact the Department of Integrated Professional Studies, 72 University Heights, prior to making application for admission. Detailed information about the program and admissions criteria will be supplied upon request.

Inquiries regarding this program should be addressed to Professor Robert Nash.

General Requirements

- [Requirements for the Master of Education Degree](#)

Specific Requirements

A minimum of 36 credit hours is required for completion of the program. The program is ideally suited for persons whose personal and professional development requires a combination 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.

Affiliations

Education

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources

- Colleges and Schools:[Graduate College](#).[College of Education and Social Services](#).
- Departments and Programs:[Integrated Professional Studies Department](#).

Policies and General Information

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Colleges and Schools > Graduate College > Academic Offerings > Reading and Language Arts (M.Ed.)

Reading and Language Arts (Master of Education)

Overview

The purpose of this program area is to prepare teachers and specialists in the field of reading. Classroom teachers, reading specialists or consultants, supervisors, administrators are responsible for developing programs which will enable every student to attain their maximum proficiency in the use of reading and language. To meet this end, several courses have been devised which focus on classroom reading instruction and reading difficulties. Through the Reading Clinic, students also have opportunities for laboratory experiences as well as for research and study in reading, literature, and language arts.

Inquiries regarding this program should be addressed to Professor Marjorie Lipson.

General Requirements

- [Requirements for the Master of Education Degree](#)

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.

Affiliations

- Colleges and Schools: [Graduate College](#), [College of Education and Social Services](#).
- Departments and Programs: [Education Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Special Education (M.Ed.)

Special Education (Master of Education)

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 learners with disabilities in integrated school and community settings. The program requires that 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 three areas have State of Vermont approved licensure endorsement tracks, and successful completion leads to a licensure endorsement for special education in Vermont. A fourth possible area is Literacy and Special Education.

- *Consulting Teacher/Learning Specialist:* Students are prepared to collaborate with families, educators and other professionals in the design, implementation and evaluation of instruction for learners with mild to moderate disabilities in integrated regular elementary, middle or high school classrooms.
- *Essential Early Education:* Students are prepared to provide individualized, family-centered special education services to young children with disabilities and their families through both direct and 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 collaborative instruction to learners with moderate to severe disabilities on the basis of identified activities, skills, adaptations and transitions needed for learners to function in current and future integrated school, home and other community environments, with services involving learners' parents and a variety of professional disciplines.

Education	<i>Literacy and Special Education:</i> The purpose of this concentration is to prepare elementary and middle level educators in the field of reading and special education. These educators help promote student success both through their specific knowledge of assessment, planning and remediation, as well as their ability to work efficiently with teams of students, parents and teachers to collaboratively plan and deliver an integrated system of services. Graduates of the program earn the Master's of Education Degree 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.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	In addition, a Certificate of Advanced Study (sixth-year certificate) with a usual total of 36 credit hour program may be arranged for applicants who have already earned a Master's degree.
Faculty and Administration	Additional information on the above should be requested from the Program Coordinator.
Catalogue Archives	General Requirements <ul style="list-style-type: none">• <u>Requirements for the Master of Education Degree</u>

Specific Requirements

Specific courses are required for each area (Consulting Teacher/Learning Specialist, Essential Early Education or Intensive Special Education), as well as a full year internship. Students seeking admission to a licensure endorsement track must meet additional requirements. Contact the Special Education Program for assistance with questions on admissions requirements.

Affiliations

- Colleges and Schools:College of Education and Social Services.Graduate College.
- Departments and Programs:Education Department.Integrated Professional Studies Department.



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• Continuing

Colleges and Schools > Graduate College > Academic Offerings > Business Administration (M.B.A.)

Business Administration (Master of Business Administration)

Overview

Management is the art of applying principles of the mathematical and social sciences 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 functional area, will have been required to demonstrate an ability to engage in individual and group research projects, and will have demonstrated capacity to present coherently and defend their views orally and in writing.

The MBA program is accredited by [AACSB](#) - The Association to Advance Collegiate Schools of Business.

Specific Requirements

Requirements for Admission to Graduate Studies and for Advancement 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

Education	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.
• Graduate College	
• Honors College	
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Minimum Degree Requirements

Students must complete all of the courses listed. Each Prerequisite course normally 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 credits)

- 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 credits)

(Of the 30 credits 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, BSAD 263, BSAD 266, BSAD 267, BSAD 282, BSAD 285, BSAD 360, BSAD 365, BSAD 380, Special Topics)
 - 2. Economic and Political Environment (BSAD 234, BSAD 337, Special Topics)
 - 3. Human Resources Management (BSAD 222, BSAD 226, BSAD 331, BSAD 375, BSAD 376, BSAD 379, Special Topics)
 - 4. Marketing (BSAD 251, BSAD 252, BSAD 258, BSAD 352, Special Topics)
 - 5. Management Information Systems (BSAD 345, BSAD 347, Special Topics)

6. Production and Operations Management and Quantitative Methods (BSAD 270, BSAD 293, BSAD 341, BSAD 346, Special Topics)

II. Electives: Nine credits of graduate business courses

III. BSAD 396 Business Policy

A normal course load for full-time students is 12 credits per semester. Part-time students typically take six credits 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 past five years from schools accredited by the AACSB are allowed to waive the Core courses and may complete the program in one year by taking 15 credits of course work per semester. Other students with academic experience covering material in particular Core courses may waive such courses upon successful completion of qualifying examinations.

Curriculum

Course Sequencing

For full-time students needing to complete all Core (18 credits) and Advanced (30 credits) 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 credits) courses, a typical course sequencing is as follows:

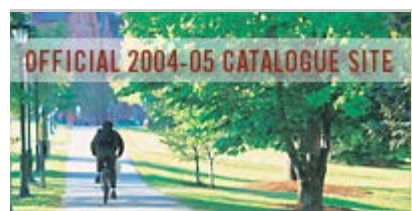
- Fall Semester
 - 3 Functional Area Courses
 - 2 Elective Courses

- Spring Semester
 - 3 Functional Area Courses
 - Elective Course
 - BSAD 396

As an alternative, some students may choose to complete two Advanced courses during the summer session (if available, since summer offerings are limited) in order to reduce their regular semester program to 12 credits.

Affiliations

- Colleges and Schools:[Graduate College](#).[School of Business Administration](#).



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Colleges and Schools > Graduate College > Academic Offerings > Public Administration (M.P.A.)

Public Administration (Master of Public Administration)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Public Administration

A sound academic record, including a baccalaureate degree from an accredited undergraduate institution, satisfactory scores on the general aptitude section of the Graduate Record Examination, three letters of recommendation attesting to the candidate's academic potential for graduate work and motivation for pursuing the MPA. Past experience in public service will be considered. Persons currently employed in administrative positions are encouraged to apply. In addition, a student must have completed these prerequisite courses: Economics, American Government 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.

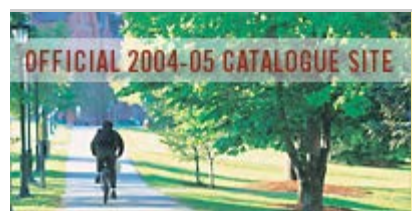
Requirements for Advancement to Candidacy for the Degree of Master of Public Administration

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. Pre-service 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 evaluative device 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.

Education	Affiliations
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<ul style="list-style-type: none">• Colleges and Schools:<u>College of Agriculture and Life Sciences</u>.<u>Graduate College</u>.• Departments and Programs:<u>Community Development and Applied Economics Department</u>.
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Faculty and Administration	
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Colleges and Schools > Graduate College > Academic Offerings > Social Work (M.S.W.)

Social Work (Master of Social Work)

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.

Specific Requirements

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources
Policies and General Information
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Requirements for Admission to Graduate Studies for the Degree 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.
2. 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 which 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

Courses	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

Courses	Credit
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**	6

** Electives require advanced approval of faculty advisors.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Education and Social Services](#).
- Departments and Programs:[Social Work Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Physical Therapy (M.P.T.)

Physical Therapy (Master of Physical Therapy)

Overview

The MPT professional entry-level program contains course work related to the science 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, PT 333, PT 334, PT 335, PT 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.

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources
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Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Master of Physical Therapy

Combined Curriculum (3+3) Option

Students who meet the criteria may be offered guaranteed admission to the Master of Physical Therapy program where they will begin their studies in one of the following majors: all majors in the College of Arts and Sciences; Nutrition and Food Sciences or Biological Science in the College of Agriculture and Life Sciences and begin the MPT program in their senior year. Students who have entered the University of Vermont but who are not initially guaranteed admission, may begin their studies in any of the majors mentioned above and then apply during their junior year to enter the MPT program in their senior year. In both instances, students are awarded the baccalaureate degree in their undergraduate major after the successful completion of their first year of study in physical therapy. The total length of study for these students is six years.

Postbaccalaureate Option

Students may opt not to complete their baccalaureate degree and make their application to the MPT program during their senior year, or sometime thereafter. Applicants who have already completed baccalaureate, master and doctoral degrees in other disciplines may also apply to the program. The total length of postbaccalaureate study in the MPT program is three years.

Prerequisites to the MPT Program for the Degree of Master of 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 level, calculus preferred, or statistics. One semester of biology is strongly recommended.

Admissions Requirements for the Degree of Master of Physical Therapy

Minimum GPA of 3.0 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 500 on the verbal and quantitative sections and 3.5 on the written analytical section is expected. If GRE's were taken prior to fall of 2002, 500 minimum score on the analytical section 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 19 credits of full-time Clinical Education.

Affiliations

- Colleges and Schools:College of Nursing and Health Sciences.Graduate College.
- Departments and Programs:Physical Therapy Department.



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Colleges and Schools > Graduate College > Academic Offerings > Educational Leadership and Policy Studies (Ed.D.)

Educational Leadership and Policy Studies (Doctor of Education)

Overview

A Doctor of Education (Ed.D.) degree is offered in Educational Leadership and Policy Studies. This is an applied research based program for professionals serving 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 leadership and change in educational and social service settings; knowledge and skills in interorganizational relationships; budget and strategic planning and program evaluation.

This program has been designed to respond to the expanding demands placed on leaders in educational and human service organizations where they are increasingly expected 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.

General Requirements

- [Requirements for the Doctor of Education Degree](#)

Specific Requirements

Education	Prerequisites for Admission to Graduate Studies
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>Applicants must possess a master's degree or equivalent, from an accredited institution and a cumulative grade-point average of 3.00 for previous graduate study. Other requirements include a representative scholarly writing sample and a resume. Students applying for graduate fellowships and/or assistantships are required to demonstrate satisfactory scores on the Graduate Record Examination (GRE).</p> <p>Students admitted to graduate studies must complete successfully a core of study consisting of courses in research, foundational, and policy studies, and organizational change and leadership. Upon such completion and submission of a qualifying paper, students will be considered for candidacy for the degree. Students must also pass a written comprehensive examination prior to the award of the degree of Doctor of Education.</p>
Policies and General Information	Prerequisites for Acceptance to Candidacy for the Degree of Doctor of Education
Faculty and Administration	<p>Satisfactory completion of all core requirements and the qualifying paper will satisfy the prerequisites for acceptance to candidacy.</p> <p>Requirements for the degree of Doctor of Education include a minimum of 56 semester credits of doctoral studies completed at UVM following formal admission to the program with the following distribution:</p> <ul style="list-style-type: none">• 15 credits in the core courses (minimum)• 21 credits general distribution (minimum)• 20 credits of dissertation research (minimum) <p>All course credit hours beyond the core are distributed in educational leadership, research, critical perspectives, organizational change and selected specialty content areas.</p>
Catalogue Archives	Transfer of Credit <p>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's Studies Committee and that the credit conforms to all other Graduate College requirements.</p> Residency Requirement <p>The residency requirement for the Doctor of Education (Ed.D.) degree consists of the following:</p> <ol style="list-style-type: none">1. Completion of the five core courses (15 semester hours), and2. 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 General Requirements for the Degree of Doctor of Philosophy.

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, College of Education and Social Services, 311 Waterman Bldg., Burlington, VT 05405-0160.

Affiliations

- Colleges and Schools:[College of Education and Social Services](#).[Graduate College](#).
- Departments and Programs:[Education Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Anatomy and Neurobiology (Ph.D.)

Anatomy and Neurobiology (Doctor of Philosophy)

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

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.

Education

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources

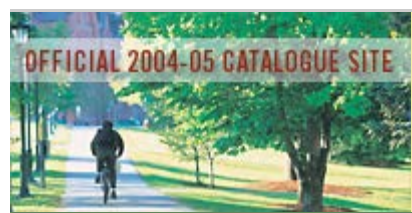
Affiliations

- Colleges and Schools:[Graduate College](#).[College of Medicine](#).
- Departments and Programs:[Anatomy and Neurobiology Department](#).

Policies and General Information

Faculty and Administration

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Colleges and Schools > Graduate College > Academic Offerings > Animal, Nutrition and Food Science (Ph.D.)

Animal, Nutrition and Food Science (Doctor of Philosophy)

Overview

An interdisciplinary program leading to the Ph.D. degree in Animal, Nutrition and Food Science is offered under the direction of a committee composed of faculty members drawn from the Departments of Animal Science and Nutrition and Food Sciences. The goal of this interdisciplinary program is to provide advanced education and research training in mammalian physiology and endocrinology, mammary gland biology, basic and applied nutrition and food microbiology and technology. While all PhD students will complete a common core of courses, they will choose from one of three tracks for specialized study: nutrition, food sciences, or animal science. The program provides 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.

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

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

Education	general qualifying examination administered by the Department of Animal Sciences. Both an oral and written exam are required.
• Graduate College	
• Honors College	Minimum Degree Requirements
• School of Business Administration	The Department of Animal Science 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. The candidate is required to attend and participate in ASCI 301, Graduate Journal Club and ASCI 302, Graduate Seminar every semester that he/she is enrolled for credit. The candidate must also participate in one semester of ASCI 303, Research Proposal Writing. In addition, all courses and seminars as established by the Studies Committee must be satisfactorily met. The student is expected to meet with their committee within the first two semesters and then annually until the doctoral research is completed and an acceptable dissertation written and defended. It is also expected that a Ph.D. student will have at least two publications ready to submit, or already submitted, to an appropriate scientific journal. In accordance with the policy of the Animal Science 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.
• The Rubenstein School of Environment and Natural Resources	
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Affiliations

- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).
- Departments and Programs:[Animal Science Department](#).[Nutrition and Food Sciences Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Biochemistry (Ph.D.)

Biochemistry (Doctor of Philosophy)

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

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 CHEM 141/CHEM 142 or CHEM 143; CHEM 144, CHEM 162 and PHYS 015/PHYS 016); 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 BIOC 301, BIOC 302 or BIOC 305/BIOC 306, BIOC 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.

Affiliations

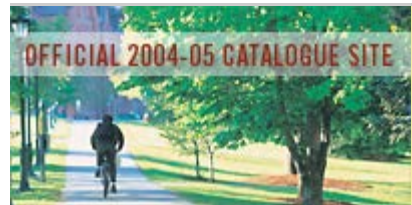
Education

- Graduate College
 - Honors College
 - School of Business Administration
 - The Rubenstein School of Environment and Natural Resources
- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).[College of Medicine](#).
 - Departments and Programs:[Biochemistry Department](#).

Policies and General Information

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Colleges and Schools > Graduate College > Academic Offerings > Biology (Ph.D.)

Biology (Doctor of Philosophy)

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

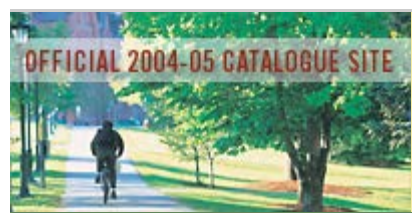
- [Requirements for the Doctor of Philosophy Degree](#)

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

Education	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.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	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.
Faculty and Administration	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.
Catalogue Archives	Affiliations <ul style="list-style-type: none">• Colleges and Schools:Graduate College.College of Arts and Sciences.• Departments and Programs:Biology Department.



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Colleges and Schools > Graduate College > Academic Offerings > Botany (Ph.D.)

Botany (Doctor of Philosophy)

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

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

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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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- Colleges and Schools:[College of Agriculture and Life Sciences](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Botany Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Cell and Molecular Biology (Ph.D.)

Cell and Molecular Biology (Doctor of Philosophy)

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

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

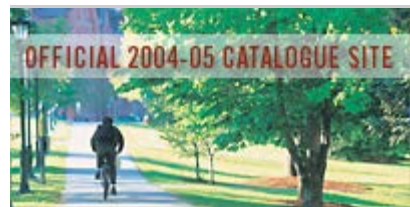
Completion of any deficient admission requirements including one semester of physical chemistry equivalent to chemistry 160.

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.

Education	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.
• Graduate College	
• Honors College	
• School of Business Administration	Affiliations <ul style="list-style-type: none">Colleges and Schools:Graduate College.
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Colleges and Schools > Graduate College > Academic Offerings > Chemistry (Ph.D.)

Chemistry (Doctor of Philosophy)

Overview

Current research in organic chemistry includes design and synthesis of peptide mimics, applications of molecular diversity to catalyst design, syntheses of medically valuable natural products, biomimetic syntheses, preparation of benzomorphans and their analogues which have chemotherapeutic potential, synthesis and reactions of hybrid organic-inorganic polymers, synthesis and properties of carbon-rich organic materials, mechanistic studies of organic chemical reactions, and development of novel synthetic methodologies.

Physical chemistry research projects include hydrogen absorption by metals, alloys, and intermetallic compounds with a view toward storage of hydrogen as a fuel, and the use of various types of molecular spectroscopy, such as fluorescence, magnetic resonance, and IR/Raman, to address questions of structure, bonding, and 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-ray diffraction, complexes of polydentate ligands, physical inorganic and organotransition metal chemistry. Additional research areas include materials chemistry, solid state chemistry, mesoporous materials, biomineralization, and chemical vapor deposition.

Research in analytical chemistry includes electrochemical studies of transition metal complexes and organometallic complexes, electron spin resonance studies of materials in unusual oxidation states, novel reaction of reactive compounds generated electrochemically under high vacuum, studies of factors influencing heterogeneous electron transfer process in nonaqueous media, studies of transient, imploding plasmas as solid sample atomizers for atomic spectroscopy, the development of instrumentation

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources
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and techniques suitable for elemental analysis of nonconducting solid samples via atomic spectrometry, the development and use of analytical methods using stable isotopically labeled tracers and kinetic models to answer questions of human physiology and biochemistry, and the simultaneous physical and 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

- [Requirements for the Doctor of Philosophy Degree](#)

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 credits of research (CHEM 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: CHEM 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'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, CHEM 388 (at least six months prior to the submission of the dissertation).

Affiliations

- Colleges and Schools:[College of Arts and Sciences](#).[Graduate College](#).

- Departments and Programs:[Chemistry Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Civil and Environmental Engineering (Ph.D.)

Civil and Environmental Engineering (Doctor of Philosophy)

Overview

Graduate programs in Civil and Environmental Engineering that lead to the Master of 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 are also 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

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 not English or who have not received their education in English must present satisfactory results from the TOEFL examination. Completed applications are due February 1.

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources

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Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

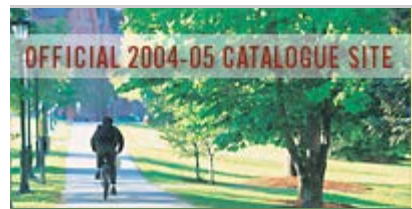
It is ordinarily expected that a student will complete the following requirements for advancement to candidacy prior to the end of the second year in the program: (1) one year of residency at UVM; (2) teaching experience in one course; (3) at least 12 credit hours of research; (4) at least 15 credit hours of course work at the graduate level acceptable to the student's Studies Committee; (5) satisfactory performance on a comprehensive examination that includes a written part and an oral part; and (6) satisfactory record of performance in courses and 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 75 credit hours in approved course work and research (including those required for advancement to candidacy), of which at least 35 credit hours are in research and six credit hours are in course work in disciplines ancillary to Civil and Environmental Engineering; and (2) write and successfully defend an acceptable dissertation.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).
- Departments and Programs:[Civil and Environmental Engineering Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Computer Science (Ph.D.)

Computer Science (Doctor of Philosophy)

Overview

The Department of Computer Science offers graduate programs towards the Master of Science (MS) and the Doctor of Philosophy (Ph.D.). The interdisciplinary Ph.D. program in Computer Science offers study in both traditional and cross-disciplinary areas such as bioinformatics and ecological modeling.

Our faculty in Computer Science is involved in the forefront of research in knowledge and data engineering (such as data mining, database systems, pattern recognition, and knowledge-based systems), software engineering and verification (including programming languages), and computational sciences (comprising computational biology, discrete modeling, and numerical methods).

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

A Bachelor's degree and satisfactory scores on the Graduate Record Examination general section are required of all applicants. Applicants will be evaluated based on their potential for excellence in research, as judged from their academic background, test scores, relevant experience and letters of recommendation. Applicants who have strong academic records in a different discipline and lack an acceptable computer science background (normally including at least courses in Data Structures, Computer Organization and Programming Languages) may be accepted provisionally. Provisionally accepted students will be required to complete an approved program of remedial work

Education	within their first year of study. Applicants whose native language is not English or who have not received their education in English must present satisfactory results from the TOEFL examination. Completed applications are due February 1 (if financial aid is requested) and April 1 (otherwise).
<ul style="list-style-type: none">• Graduate College• Honors College	
<ul style="list-style-type: none">• School of Business Administration	Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy
<ul style="list-style-type: none">• The Rubenstein School of Environment and Natural Resources	Before advancing to candidacy, the student must: <ul style="list-style-type: none">• Demonstrate satisfactory performance in a schedule of courses of at least 15 credit hours of graduate coursework as approved by the student's studies committee, including three credits of the Graduate Seminar (CS 381),• Pass a written comprehensive exam in areas approved by the student's studies committee,• Successfully propose a thesis topic in a public presentation, and• Pass an oral exam before the student's studies committee.
Policies and General Information	
Faculty and Administration	
Catalogue Archives	Minimum Requirements for the Degree of Doctor of Philosophy <p>A minimum of 75 credits of graduate study must be approved by the studies committee and successfully completed, including a minimum of 30 credits of research.</p> <p>The student must describe the completed research in a written dissertation and defend the research in a public presentation of the results.</p> <p>Beyond research and course work, the student must gain appropriate experience in three distinct activities, approved by the student's studies committee: teaching, programming, and communicating technical ideas, both orally and in writing.</p> Affiliations <ul style="list-style-type: none">• Colleges and Schools:<u>College of Engineering and Mathematics</u>.<u>Graduate College</u>.• Departments and Programs:<u>Computer Science Department</u>.



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Colleges and Schools > Graduate College > Academic Offerings > Electrical Engineering (Ph.D.)

Electrical Engineering (Doctor of Philosophy)

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, test engineering, computer engineering, solid state physical electronics, electro-optics, information processing, communication-theory, semiconductor materials, devices and integrated-circuits (VLSI).

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

A master's degree in electrical engineering or the equivalent.

Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Successful completion of Ph. D. comprehensive examinations.

The majority of students will have completed a core program comprising graduate

Education	courses before taking the comprehensive examination.
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>Minimum Degree Requirements for the Degree of Doctor of Philosophy</p> <p>At least 45 credit hours in courses and seminars and 20 credit hours in dissertation. Four courses are to be chosen from a major area of concentration and two from a minor. The requirements specified under the Policies of the Graduate College must also be met. A total of 75 credit hours is required.</p> <p>Affiliations</p> <ul style="list-style-type: none">• Colleges and Schools:<u>College of Engineering and Mathematics</u>.<u>Graduate College</u>.• Departments and Programs:<u>Electrical and Computer Engineering Department</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Materials Science (Ph.D.)

Materials Science (Doctor of Philosophy)

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 Degree of Doctor of Philosophy

Successful completion of a Ph.D. comprehensive examination in Materials Science and demonstrated competence in computer programming. The comprehensive examination includes the areas of quantum mechanics, solid state theory, 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 following categories: solid state theory, quantum mechanics, applied mathematics, thermodynamics and kinetics, and one course in each of two categories dealing with materials properties of solids. Satisfactory completion of a Ph.D. dissertation including its defense at an oral

Education	examination.
• Graduate College	Affiliations
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Colleges and Schools > Graduate College > Academic Offerings > Mathematical Sciences (Ph.D.)

Mathematical Sciences (Doctor of Philosophy)

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

- [Requirements for the Doctor of Philosophy Degree](#)

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 that applicants for admission will have diverse backgrounds. Admission requirements are therefore flexible. Applicants should have demonstrated strength in either pure or applied mathematics, a bachelor's degree with a major in mathematics or a closely related discipline, and satisfactory scores on both the general and subject (mathematics) sections of the Graduate Record Examination.

Education
• Graduate College
• Honors College
• School of Business Administration
• The Rubenstein School of Environment and Natural Resources
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Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Successful completion of four qualifying examinations, three written and one oral, 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 of study 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 oral defense of that dissertation. The Department requires two semesters of college-teaching experience. Students are expected to demonstrate appropriate proficiency in the use of computers. There is no formal language requirement.

Affiliations

- Colleges and Schools:[College of Engineering and Mathematics](#).[Graduate College](#).[College of Arts and Sciences](#).
- Departments and Programs:[Mathematics and Statistics Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Mechanical Engineering (Ph.D.)

Mechanical Engineering (Doctor of Philosophy)

Overview

Master of Science and Doctor of Philosophy programs are offered. Candidates holding degrees other than those in Mechanical Engineering are encouraged 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

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

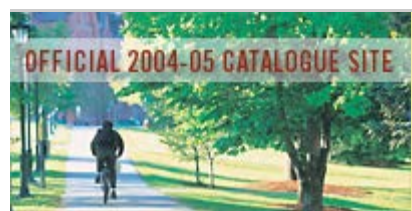
An accredited bachelor's or master's degree in mechanical engineering or closely related discipline is required.

Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Successful completion of the Ph. D. comprehensive examination.

Minimum Degree Requirements for the Degree of Doctor of Philosophy

Education	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.
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	Affiliations <ul style="list-style-type: none">• Colleges and Schools:<u>College of Engineering and Mathematics</u>.<u>Graduate College</u>.• Departments and Programs:<u>Mechanical Engineering Department</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Microbiology and Molecular Genetics (Ph.D.)

Microbiology and Molecular Genetics (Doctor of Philosophy)

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; cell cycle control of transcription and DNA replication in eukaryotes; regulation and enzymology of RNA polymerase II transcription; enzymology and atomic structure of mammalian cell mRNA processing factors; molecular basis of tRNA recognition; ribozyme structure and enzymology; signaling networks that regulate morphogenesis in yeast; isolation and regulation of mating type genes in Schizophyllum; plant growth and development; molecular mechanisms of bacterial adhesion and pathogenesis; molecular and cellular mechanisms of host-pathogen interactions; and bacterial transformations of organic pollutants.

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

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'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 PHYS 011 and PHYS 012); one year of inorganic chemistry and one year of organic chemistry (equivalent of CHEM 001, CHEM 002, CHEM 141 and CHEM 142),

Education	mathematics through calculus (equivalent of MATH 019 and MATH 020); 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.
• Graduate College	
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	Requirements for Advancement to Candidacy for the Degree of 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's thesis advisor and Studies Committee, the Faculty of the Department of Microbiology and Molecular Genetics, and the Dean of the Graduate College.
Faculty and Administration	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.
Catalogue Archives	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. Affiliations <ul style="list-style-type: none">• Colleges and Schools:<u>Graduate College</u>.<u>College of Agriculture and Life Sciences</u>.<u>College of Medicine</u>.• Departments and Programs:<u>Microbiology and Molecular Genetics Department</u>.



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Colleges and Schools > Graduate College > Academic Offerings > Molecular Physiology and Biophysics (Ph.D.)

Molecular Physiology and Biophysics (Doctor of Philosophy)

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Biology, one year; chemistry, organic and physical; physics, one year; mathematics, through calculus. These requirements must be completed by the end of the first year of residency. Satisfactory performance on general (aptitude) section of Graduate Record Examination. A master's degree is not a prerequisite for the Ph. D. degree.

Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Satisfactory completion of basic courses and comprehensive exam; formation of dissertation committee.

Minimum Degree Requirements

MPBP 301, MPBP 303, MPBP 308, MPBP 323; BIOC 301-302; in addition, 21 elective credits, six of which must be in the Department; dissertation research, minimum 20 hours. Other requirements are flexible and will be determined for each individual after consultation with the Studies Committee.

Affiliations

- Colleges and Schools: [Graduate College](#). [College of Agriculture and Life Sciences](#).

Education

College of Medicine.

- Graduate College
- Honors College
- School of Business Administration
- The Rubenstein School of Environment and Natural Resources
- Departments and Programs:Molecular Physiology and Biophysics Department.

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Colleges and Schools > Graduate College > Academic Offerings > Natural Resources (Ph.D.)

Natural Resources (Doctor of Philosophy)

Overview

The Ph. D. program provides the opportunity for focused, in-depth research in any of the specialties of the school, while fostering an interdisciplinary appreciation and perspective through course work and interactions with ecological,physical, and social scientists in an integrated academic setting. Students can develop programs in areas such as pollution ecology, recreation and tourism, conservation biology, and environmental policy, as well as any of the traditional natural resource disciplines featured in our Master's program.

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate studies for the Degree of Doctor of Philosophy

While an undergraduate degree in a discipline appropriate to the field of study will be considered, applicants with a Master of Science degree are preferred. Satisfactory scores on the Graduate Record Examination general (aptitude) section. Acceptability to a potential faculty advisor holding an appointment in The Rubenstein School of Environment and Natural Resources.

Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

It is ordinarily expected that a student will complete the following requirements for advancement to candidacy prior to the end of the second year in the program: (1) one year of full-time graduate study in residence at The University of Vermont; (2) teaching

Education	experience in one course; (3) at least 12 credit hours of research; (4) at least 15 credit hours of course work at the graduate level acceptable to the student's Studies Committee; (5) satisfactory performance on a comprehensive examination; and (6) a dissertation proposal accepted by the student's Studies Committee.
• Graduate College	
• Honors College	
• School of Business Administration	Minimum Degree Requirements
• The Rubenstein School of Environment and Natural Resources	The student must (1) present at least 75 credit hours in approved course work and research, including not less than 20 and not more than 35 credit hours in research; (2) have a reading knowledge of a foreign language or an experience living in or working with another foreign or domestic culture (approved by the RSENR Graduate Studies Committee); and (3) satisfactorily complete and defend the dissertation.
Policies and General Information	Affiliations
Faculty and Administration	<ul style="list-style-type: none">• Colleges and Schools:<u>Graduate College</u>.<u>The Rubenstein School of Environment and Natural Resources</u>.• Departments and Programs:<u>Natural Resources Program</u>.
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Colleges and Schools > Graduate College > Academic Offerings > Pharmacology (Ph.D.)

Pharmacology (Doctor of Philosophy)

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degrees 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 language may 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 BIOC 301, BIOC 302; PHRM 301, PHRM 302, PHRM 303, PHRM 328, PHRM 381, PHRM 491; Biometrics and Applied Statistics 308.

Affiliations

- Colleges and Schools:[Graduate College](#).[College of Medicine](#).
- Departments and Programs:[Pharmacology Department](#).



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Colleges and Schools > Graduate College > Academic Offerings > Plant and Soil Science (Ph.D.)

Plant and Soil Science (Doctor of Philosophy)

Overview

Current research projects are concerned with the solution of horticultural and agronomic problems with special emphasis on environmental physiology, soil chemistry, pasture management, plant nutrition, and pest management. Areas of research include winter hardiness of fruits, and woody and herbaceous ornamentals; cultural and environmental interrelationships as they affect plant growth, crop adaptation, and variety; pasture production and marginal land utilization; crop establishment and soil productivity; mycorrhizal fungi; soil chemistry of the rhizosphere; redox reactions in soils; the behavior of heavy metals; compost and organic matter research; behavior of nitrogen in the soil; nutrient availability to plants; agricultural waste management; biological control of insects, disease, and 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 research efforts of the department.

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree 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 Degree of Doctor of

Education	Philosophy
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>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.</p> <p>Satisfactory completion of a written and oral qualifying doctoral examination as prescribed by the Department.</p> Minimum Degree Requirements for the Degree of Doctor of Philosophy <p>The course requirements are as follows: a total of at least 40 credit hours of which a minimum of 30 must be taken in Plant and Soil Science and closely related disciplines (e.g. botany, chemistry, forestry, microbiology, biochemistry or geology). Satisfactory participation in seminars during residency is required. All master and doctoral students must take part in the Department's undergraduate teaching program.</p>
Policies and General Information	
Faculty and Administration	Affiliations
Catalogue Archives	<ul style="list-style-type: none">• Colleges and Schools:College of Agriculture and Life Sciences.Graduate College.• Departments and Programs:Plant and Soil Science Department.



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Colleges and Schools > Graduate College > Academic Offerings > Psychology (Ph.D.)


Psychology (Doctor of Philosophy)

Overview

Additional clinical, research, and adjunct faculty supervise students in clinical and research placements.

The Ph. D. Program in General/Experimental psychology admits students in three broad areas of concentration ("clusters"): Biobehavioral Psychology; Developmental/Social Psychology;and Behavioral Psychopharmacology.

The Ph. D. program in Clinical Psychology places equal emphasis on research and 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, clinical and research facilities, specialty areas, ongoing research, and faculty, as well as 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 1.

General Requirements

- [Requirements for the Doctor of Philosophy Degree](#)

Specific Requirements

Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Education	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.
• Graduate College	
• Honors College	
• School of Business Administration	Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy
• The Rubenstein School of Environment and Natural Resources	For the General/Experimental Program, satisfactory completion of minimum degree requirements for Master of Arts degree or equivalent; for the Clinical Program, satisfactory performance of the Ph. D. comprehensive examination.
Policies and General Information	Minimum Degree Requirements for the Degree of Doctor of Philosophy
Faculty and Administration	Both the General/Experimental and the Clinical Program require a minimum of 75 credit hours. However, each program requires proficiency in several specific areas. In order to achieve such proficiency, most students must 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 PSYC 200 through PSYC 400 sequences of the psychology curriculum, or acceptable courses at the PSYC 200 or PSYC 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.
Catalogue Archives	Affiliations
	<ul style="list-style-type: none">• Colleges and Schools:College of Arts and Sciences.Graduate College.• Departments and Programs:Psychology Department.

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Academic Offerings > Counseling (Post-Master's Certificate)

Counseling (Post-Master's Certificate)

Overview

A Certicficate of Advanced Study (sixth-year certificate), a 24-30 graduate credit program beyond the master's degree, is offered in counseling.

Individuals who have completed a master's degree in counseling or a related field are eligible for admission to the C.A.S. program. The program is designed to further develop skills in counseling, consultation, and program planning and coordination. Inquiries about the counsHall, Trinity Campus, 208 Colchester Avenue, University of Vermont, Burlington, VT 05405-1757, (802) 656-3888.

Affiliations

- Colleges and Schools:[College of Education and Social Services](#).
- Departments and Programs:[Integrated Professional Studies Department](#).



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Academic Offerings > Educational Leadership (Post-Master's Certificate)

Educational Leadership (Post-Master's Certificate)

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 Educational Leadership.

The program is designed to prepare administrators and planners for public schools, educational and social agencies, and middle management positions in higher education.

Affiliations

- Colleges and Schools:College of Education and Social Services.



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Academic Offerings > Integrated Studies (Post-Master's Certificate)

Integrated Studies (Post-Master's Certificate)

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 degree and are interested in exploring a self-designed, integrated program of study drawing 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.

Affiliations

- Colleges and Schools:College of Education and Social Services.



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Academic Offerings > Special Education (Post-Master's Certificate)

Special Education (Post-Master's Certificate)

Overview

The Program in Special Education offers the Certificate of Advanced Study to students with appropriate master's degrees in the following areas: consulting teacher/learning specialist, intensive special education and literacy and special education. A minimum of 30 credit hours of course work is required.

Affiliations

- Colleges and Schools:[College of Education and Social Services](#).
- Departments and Programs:[Integrated Professional Studies Department](#).



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Academic Offerings > Teacher Preparation (Postbaccalaureate Certificate)

Teacher Preparation (Fifth-Year Postbaccalaureate Certificate)

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:

- PreK-Grade 3: Early Childhood
- Grades K-12: Art, Music, Physical Education
- Grades K-6: Elementary
- Grades 5-9: Middle-Level
- Grades 7-12: Secondary [English, Foreign Language (French, German, Latin, and Spanish), Mathematics, Science (Animal Sciences*, Biological Science, Chemistry, Earth Science, and Physics), Social Studies (Anthropology, Economics, Geography, History, Political Science, and Sociology)]
- Grades 7-12: Family and Consumer Sciences

* 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 art candidates: Previous course work must include 39 credit hours of appropriate studio art and 9 hours of art history.
6. For elementary candidates: Previous course work must include 30 semester hours in a single liberal arts discipline.
7. For middle-level candidates: Previous course work must include two approved areas of concentration, with 18 credits in each.
8. 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 academic areas to meet Vermont state licensure requirements for the major academic concentration.

Middle Level and Secondary Education also have a master's degree option offered jointly by the College of Education and Social Services and the Graduate College:

Secondary Majors: Biological Science, Chemistry, Earth Science, English, French, Geography, German, History, Latin, Mathematics, Physics, Spanish.

Secondary Broad Field Majors: Anthropology, Biological Science, Economics, Geography, History, Physical Science, Political Science, and Sociology.

Middle Level students are required to have at least 18 credit hours in each of two disciplines.

The Post-Baccalaureate curriculum includes both undergraduate and graduate courses. 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 programs in Secondary Education and Middle-Level Education is March 15 for the next academic year. Course work begins during the summer 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, (802) 656-1411.

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, (802) 656-3356.



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Colleges and Schools > Graduate College > Requirements > Requirements for the Doctor of Education Degree

Requirements for the Doctor of Education Degree

Please consult the [program description](#) for specific degree requirements.



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Colleges and Schools > Graduate College > Requirements > Requirements for the Doctor of Philosophy Degree

Requirements for the Doctor of Philosophy Degree

In addition to the requirements described below, individual programs may have their own specific requirements. Students must consult and familiarize themselves with their program requirements.

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

Education	academic credit is allowed, will be determined by each candidate's program.
• Graduate College	<div>Language Requirement</div> <p>Demonstration of competency in foreign languages is required in some programs. The requirement may be 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.</p> <p>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.</p> <div>Studies Committee</div> <p>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.</p> <div>Comprehensive Examination</div> <p>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.</p> <p>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.</p> <div>Research and Dissertation</div> <p>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</p>
• Honors College	
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
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research. Only a member of the Graduate Faculty may supervise dissertation research for the Ph.D.

Dissertation Defense Forms

Defense Committee Membership and Defense Notice forms must be submitted 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.

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

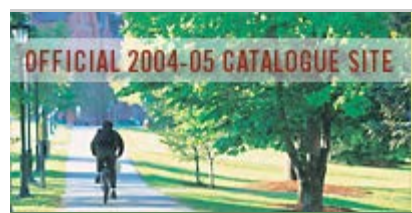
Upon receipt of a completed dissertation, the Dean of the Graduate College will appoint a Dissertation Defense Committee based upon nominations submitted by the candidate's advisor. The Dissertation Defense Committee consists of a minimum of four University of Vermont faculty members, all regular members 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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• Continuing

Colleges and Schools > Graduate College > Requirements > Requirements for the Master of Education Degree

Requirements for the Master of Education Degree

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 credits of approved course work or 24 credits earned in courses and six credits 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 inadequate to begin study at the graduate level, additional undergraduate courses will be required. Each Master of Education degree program must include a minimum of six semester hours of graduate work in the foundations of education unless this requirement or its equivalent has been met previously. Graduate courses which currently fulfill this requirement include: EDFS 203, EDFS 204, EDFS 205, EDFS 206, EDFS 209, EDFS 255, EDFS 302, EDFS 303, EDFS 314, EDFS 347, EDFS 352, EDFS 354, EDSS 313, and EDLS 377.

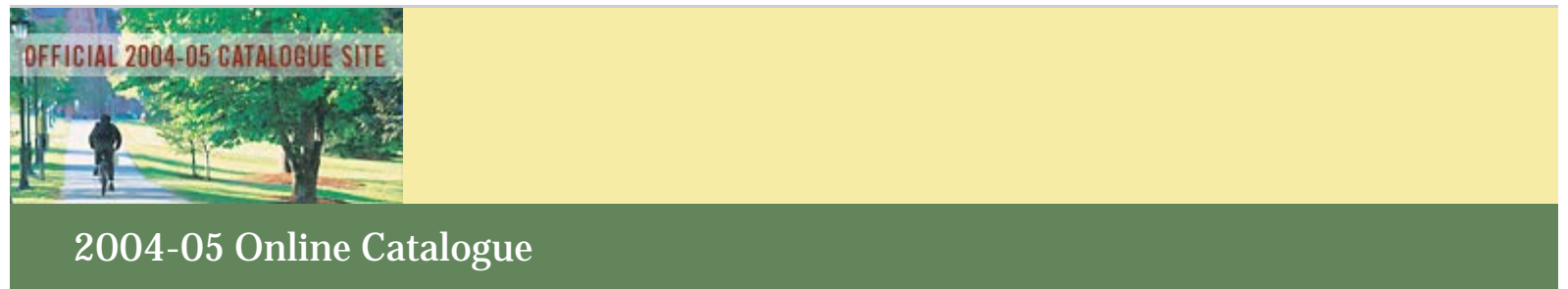
To insure effective planning of a graduate program for the degree of Master of Education, no more than nine hours credit will be accepted in partial fulfillment of degree requirements for courses taken prior to acceptance to the Graduate College.

Comprehensive Examination

A comprehensive examination is required. However, it may be written, oral, or both. The choice of the examination format will be made by faculty members in the area of specialization after consultation with the advisor and the candidate.

1. The written comprehensive examination will cover the field of education with

Education	emphasis on the area of specialization.
• Graduate College	2. The oral comprehensive examination will emphasize the area of specialization.
• Honors College	All examinations are taken on the University campus in Burlington. Only one re-examination is permitted for any final comprehensive examination. It is the responsibility 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 contact the respective program chairperson or advisor regarding program policy.
• School of Business Administration	
• The Rubenstein School of Environment and Natural Resources	
Policies and General Information	If the thesis option is elected, there must be an oral or written comprehensive examination prior to the oral examination in defense of the thesis.
Faculty and Administration	Requirements for Admission to Graduate Studies for the Degree of Master of Education Eighteen credits 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 Major Program in the Department of Integrated Professional Studies. This is particularly true of persons seeking positions which do not require public school certification.
Catalogue Archives	Minimum Degree Requirements Eighteen credits in courses in Education numbered above 200, including a minimum of six graduate credits in the foundations of education,* 12 additional credits in approved courses or six additional credits and thesis research; a year of successful experience in teaching or in a related educational activity. * This requirement no longer applies to the program in Special Education.



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Colleges and Schools > Graduate College > Requirements > Requirements for the Masters Degree

Requirements for the Masters Degree

In addition to the requirements described below, individual programs may have their own specific requirements. Students must 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

Master's degrees require a minimum of 30 hours of credit; some programs require more. 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.

Education	Comprehensive Examination
<ul style="list-style-type: none">• Graduate College• Honors College• School of Business Administration• The Rubenstein School of Environment and Natural Resources	<p>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 taken on The University of Vermont campus in Burlington. One re-examination only is permitted for any failed comprehensive examination. The comprehensive examination is not the same as the oral thesis defense, and must be passed satisfactorily before defending the thesis. Consult individual program descriptions for specific information.</p> <p>When students plan to take their comprehensive examination they must enroll in GRAD 397: Master's Comprehensive Examination. There is no fee. A grade of "S" or "U" is recorded.</p>
Policies and General Information	Research and Thesis
Faculty and Administration	<p>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 faculty member 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.</p>
Catalogue Archives	Thesis Defense Forms
	<p>Defense Committee Membership and Defense Notice forms must be submitted 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.</p>
	Thesis Format
	<p>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.</p> <p>The 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.</p> <p>Students must enroll in GRAD 399: Thesis Defense prior to defending their thesis.</p> <p>The oral defense of a thesis may 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.</p>

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 and their faculty advisor in the Department of Education.

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, 100-level course toward their degree. Consult specific department listings for additional requirements and policies related to this degree program.



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Admissions for Graduate Students

Admissions criteria, procedures and deadlines for graduate programs varies by individual program. Current information about graduate admissions can be found on the [Graduate College Admissions](#) page on the Graduate College Web site.



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Change of Graduate Program

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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Concurrent Master's and Doctor of Philosophy Credit

Up to 24 credits 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 a Ph.D. at UVM, provided that the credit is appropriate for the Ph.D. program.

No provision is made for a person to employ the same credit to satisfy two master’s degrees at The University of Vermont.

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Conferral of Graduate Degrees

Degrees are conferred only in October, March, and May of each year. Diplomas are issued only in May.

It is the graduate student’s responsibility to make sure that their name has been submitted by their department or program, to the Dean’s Office of the Graduate College for Graduation.

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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Continuous Graduate Registration

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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Deactivation and Reactivation in Graduate Programs

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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Enrollment Policies and Procedures for Graduate Students

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’s 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.

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's 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, Physics, Public Administration, and Statistics. Please consult the program listings 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 **Inc** 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** 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**) 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**) 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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Fellowships, Assistantships, Traineeships, Stipends, and Grants for Graduate Students

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 \$12,600 for 2003-2004. 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 \$12,600 to \$20,000 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: stuaffasn@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 2003-2004 is \$21,500 to \$27,000; assistants on 9-month appointments receive proportionate payments. Part of the salary is for tuition at the in-state 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, <http://www.uvm.edu/~gradcoll/>.

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, <http://www.uvm.edu/~gradcoll/>.

Other Fellowships

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



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Financial Aid for Graduate Students

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	team.a-f@uvm.edu
Team G-M	(802)656-8531	team.g-m@uvm.edu
Team N	(802)656-2474	team.n@uvm.edu
Team O-Z	(802)656-8532	scholarships@uvm.edu

The Financial Aid Office Fax number is: (802)656-4076. Please visit the [Financial Aid Web site](#) 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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Financial Aid Programs for Graduate Students

Federal Family Education Loan Programs

Federal Stafford Loan Program

The Federal Stafford Loan Program is available for needy graduate students. Graduate students are eligible to borrow a maximum \$8,500 per year, depending upon the level of their need. (The balance of the \$8,500 may be borrowed under the Unsubsidized program listed below.) A cumulative loanlimit of \$65,500 is allowed for a combination of graduate and undergraduate Stafford Loan borrowing. Federal Stafford Loans are interest free while the student is enrolled at least half-time in a degree program. Thereafter, the interest rate is variable with a 8.25 per cent cap; repayment begins six months after leaving school or reducing enrollment to less than half-time.

Federal Unsubsidized Stafford Loan Program

The Federal Unsubsidized Stafford Loan Program provides loan funding up to a maximum of \$18,500 per year (less any Federal Stafford subsidized loan listed above). There is a cumulative total of \$73,000 (including any undergraduate borrowing). Payments on the loan principal may be deferred until after graduation. Repayment of interest (the rate is variable with a cap of 8.25 per cent) may be made on a quarterly basis to the lender or may be capitalized and added to the principal.

Federal Perkins Loan Program

A very limited number of Perkins Student Loans are available for graduate students and are administered by the University of Vermont. The amount of the loan will depend upon available funds. Federal Perkins loans are interest free while the student is enrolled at least half-time in a degree program. The interest rate thereafter is 5 per cent and

repayment begins nine months after leaving school or reducing enrollment to less than half-time.

Job Programs

Federal Work-Study Program

A limited amount of Federal Work-Study funding is available for needy graduate students. The Federal Work-Study Program provides financial assistance through employment with both on-campus and with off-campus agencies which have agreements with UVM. Students have the opportunity to select jobs in their field of study, interest and/or skills. The Work-Study Coordinator is located in Career Services.

The Career Services office also assists students in locating other part-time job opportunities. Student should contact Career Services, E Building, Living/Learning Complex. The phone number is (802)-656-3450.

Veterans Benefits

The University provides support and advising to any veteran or dependent eligible for benefits under Federal Law, Chapters 30, 31, 32, 34, 35 or 106. Students eligible for these benefits should contact the Registrar's Office, Waterman Building, at least one month prior to registration each semester. Students wishing to register for benefits should be prepared to present their certificates of eligibility.

It is important that all veterans and dependents keep in contact with the University for the latest information regarding benefits and requirements. Also, those students involved in the Veterans Program should contact the University in the event of any change in credit loan, dependency status, address, or major. The phone number is (802) 656-2045.

New England Regional Student Program

An opportunity for qualified legal residents of New England states to enroll at reduced rates for some programs which are not offered by the home state university but are offered in another New England state is available under an arrangement entitled the New England Regional Student Program. A list of the available graduate programs is listed in the "Apple Book" and may be examined in the Graduate College Admissions Office or obtained from the New England Board of Higher Education, 45 Temple Place, Boston, MA 02111.


Applicants must indicate clearly, both in their initial inquiries and on their application forms, that they are seeking admission under the terms of the New England Regional Student Program. In cases where the program of study is clearly unique or distinctive to the out-of-state institution, the UVM Graduate College Dean's Office will certify directly the applicant's eligibility to apply under the New England Regional Student Program. In cases where an apparently similar program of study is available at both institutions involved, the graduate deans of the two institutions will determine whether regional student status is appropriate.



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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 [Graduate College Web Site](#) .

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Graduate Admission Tests

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](#) . 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.

Applicants must consult the listing of the program to which they are applying to determine exactly which test scores are required. Students who are seeking financial aid in the form of assistantships or fellowships are required to submit GRE or GMAT scores. Scores must be from tests taken within five years of the date of application.



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Honors and Awards

Doctoral Student Scholar Award

Through their research and scholarship, doctoral students make significant contributions to the Univeresity, state and broader society, and their disciplines. The UVM Doctoral Student Scholar Award celebrates research and scholarship, and graduate education generally, by recognizing exemplary and outstanding scholarly work completed by FUVVM doctoral students. Normally, two awards are made each year to graduating students, one in the biomedical, life, physical and applied sciences, and one in the social sciences. The Doctoral Student Scholars for 2004 are Jacob Diaz (Educational Leadership and Policy Studies) and Christine Negra (Plant and Soil Science).

Graduate Teaching Assistant Award

Each year, a number of graduate students who serve as Graduate Teaching Assistant are recognized for their teaching excellence; one of those is named Graduate Teaching Assistant of the Year. The most recent recipient of the Graduate Teaching Assistant of the Year Award is Stevenson Flemer, Chemistry, 2004.

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.

University Scholar Awards

The University Scholar Awards program was established by the Graduate College to

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recognize outstanding and sustained contributions of University faculty to research and scholarship in their disciplines. Each year, four faculty members are selected for this award. For the academic year 2004-2005 the recipients are Richard Albertini (Medicine), Dwight Matthews (Chemistry), Beth Mintz (Sociology) and David Scrase (German and Russian).



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Leave of Absence for Graduate Students

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

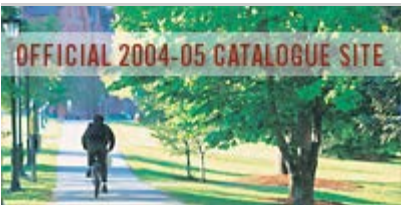
Students request a leave of absence from their program director or chairperson. If the program approves the request, the chairperson or director completes the Leave of Absence form available in the Graduate College Blue Book or from the Graduate College Office and forwards it to the Dean for approval. 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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Rights and Responsibilities of Graduate Students

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 Cat's Tale](#) and the catalogue, respectively. In cases of conflict, the Graduate Catalogue supersedes academic policies in The Cat's 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's scholarly and professional interests. The committee meets regularly to discuss the student's progress 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's Tale 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 or employment 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 at [UVM Policies Procedures and Guidelines](#).

Appeals

The Graduate College is ultimately responsible for grievances regarding policies and procedures related to graduate education. A grievance properly begins within the student's 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 a student's 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. Specifically excluded are grievances that contest grades on grounds other than due process, or grading that is arbitrary and capricious.

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Sponsored and Institutional Research for Graduate Students

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

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Support Services for Graduate Students

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.

The ALANA Student Center 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 there to serve.

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

The Center for Health and Wellbeing 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 health fee. 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.

The Counseling Center is located on the corner of Main St. and So. Williams. Hours are from 8:00-4:30, Mon-Thu, and 8:00-5:30, Fri, during the academic year and 8:00-4:30 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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Time Limits for Graduate Degree Completion

Master's Degree

Status	Time Limit
Full-Time Student	3 years
Part-Time Student	5 years

Doctoral Degree

Status	Time Limit
All Students	9 years

Individual departments may set deadlines within these time limits.



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Policies and General Information

Transfer Credit and Credit by Examination for Graduate Students

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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Policies and General Information

Tuition and Fees for Graduate Students

The tuition and fee charges listed here are for 2004-05 only and are subject to change in future years.

Application Fee

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

Tuition

Rates for the 2004-05 academic year are as follows:

For Vermont residents, \$379 per credit hour; \$4,544 flat rate for 12 credits and \$379 per credit in excess of 12 credits. For out-of-state students, \$947 per credit hour; \$11,364 flat rate for 12 credits and \$947 per credit in excess of 12 credits.

The lower rates for Vermont residents are made possible by a subvention to the university from the state of Vermont.

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 - \$158, 5 credits - \$186, 6 credits - \$206, 7 credits - \$234, 8 credits - \$260, 9-11.5 credits - \$284, 12+ credits - \$498.

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 Well-being. There is an additional charge for this extended coverage beyond the student health fee. The 2004-05 cost for one year's coverage for single students is estimated at \$1,386. 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.

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.

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:

Degree Program	Fee
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's 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, 332 Waterman, in order to have a degree awarded.

Housing and Living Expenses

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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Policies and General Information

Withdrawal from a Graduate Degree Program

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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Board of Trustees

The University of Vermont

Daniel M. Fogel, B.A., M.F.A., Ph.D., President, *ex officio*
James H. Douglas, Governor, A.B., *ex officio*

Term Ending March 2005

- Frank J. Cioffi, B.A., St. Albans, Vermont
- Margaret P. Hummel, B.A., M.A., Underhill, Vermont
- Alysia Krasnow-Butler, B.A., Charlotte, Vermont
- Colin M. Robinson, Burlington, Vermont
- Malcolm F. Severance, B.S., Ph.D., Colchester, Vermont

Term Ending March 2006

- Christine E. Hertz, Burlington, Vermont
- Bruce Lisman, B.A., New York, New York
- C. Dean Maglaris, B.S., M.B.A., New Canaan, Connecticut
- 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, Jr., B.A., South Londonderry, Vermont
- Thomas A. Little, A.B., J.D., Shelburne, Vermont
- Mark S. Young, Orwell, Vermont

Term Ending March 2008

- Robert F. Cioffi, B.A., M.B.A., Rowayton, Connecticut


- Carl H. Lisman, A.B., J.D., Charlotte, Vermont
- Raymond C. Pecor, Jr., 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

Term Ending March 2010

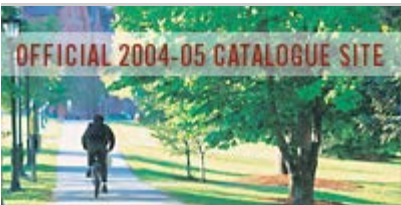
- James M. Betts, B.S., M.D., Oakland, California
- Anne N. Dodge, A.A., B.A., Manchester, Massachusetts
- John R. Snow, B.A., Charlotte, Vermont

See also, *[the Board of Trustees Web site](#)* .

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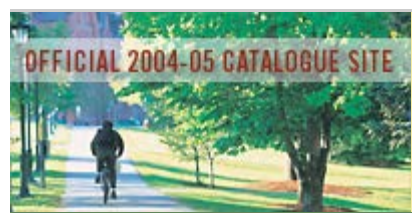
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Administration The University of Vermont

- 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, Rubenstein School of the Environment and Natural Resources
- DeWitt, Rocki-Lee, Ph.D. (2002), Dean, School of Business Administration
- Evans, John N., Ph.D. (1976), 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
- 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
- deGroot, Ian W., B.S. (1984), Vice President for University Development & Alumni Relations
- Gower, J. Michael (2003), Vice President for Finance and Administration
- Gustafson, Thomas J., Ed.D. (1978), Vice President for Student & Campus Life
- Meyer, Karen N. (2002), Vice President for State and Federal Relations
- Nestor, David A., Ed.D. (1994), Associate Vice President for Campus Life & Student Affairs

A current organizational chart  is available from the Office of Institutional Studies.

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University Professorships

- **The Williams Professorship of Mathematics**, 1853, honors Azarias Williams of Concord, Vermont, merchant and judge, native of Sheffield, England, who in 1839 deeded to the University extensive land holdings.
- **The Marsh Professorship of Intellectual and Moral Philosophy** was established in 1867 to honor James Marsh, distinguished UVM president and philosopher of the 1830's. William E. Mann is the Marsh Professor.
- **The Pomeroy Professorship of Chemistry** was established in 1878 by John N. Pomeroy, A.B., 1809, who lectured on chemistry and served as trustee of the University. William E. Geiger is the Pomeroy Professor.
- **The Howard Professorship of Natural History and Zoology** was established in 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 established in 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 to honor 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** was established in 1926 through grants made by Gov. and Mrs. John G. McCullough. Alan P. Wertheimer, Professor of Political Science, is the McCullough Professor.
- **The Perkins Professorship of Zoology** was established in 1931 to honor 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 1934 by 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 the 1890's and a University trustee from 1895-1939. Z. Philip Ambrose, Professor of Classics, is the Lyman-Roberts Professor.
- **The Corse Professorship of English Language and Literature** was established in 1952 by Frederick M. and Fannie C.P. Corse. Anthony G. Bradley, Professor of English, is the Frederick M. 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 Professor of Theatre, is the Lawrence Professor.
- **The Sanders Professorship** was established in 1968 by UVM alumni, honoring the Rev. Daniel Clarke Sanders, first president of the University.
- **The John L. Beckley Professorship in American Business** was established in 1983 by John L. Beckley, 1934 graduate of UVM a trustee from 1966 to 1970, to encourage economic education. 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 1984 to honor Ernest Hiram Buttles, Professor of Pathology and Bacteriology, 1921 to 1946. Bruce R. MacPherson is the Buttles Professor.
- **The McClure Professorship in Musculoskeletal Research** was established in 1988 by J. Warren and Lois H. McClure. Robert J. Johnson is the McClure Professor.
- **The E. L. Amidon Professorship in Medicine** was established in 1989 to honor Dr. E.L. Amidon, a revered teacher and former chair of the Department of Medicine. Dr. Burton E. Sobel is the Amidon Professor.
- **The Roger H. Allbee Endowed Research Fellowship in Surgery** was created 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** was created in 1999 through a generous bequest from the estate of Genevieve Patrick. The endowment is intended to support the study or specialty of nephrology. Dr. F. John Gennari is the Patrick Professor.
- **The Gund Chair in Liberal Arts**, established in 1995 by Gordon and Lulie Gund, provides the College of Arts and Sciences with the opportunity to attract a leading teacher-scholar to one of the liberal arts disciplines. Phillip J. Cooper, Professor of Political Science, is the first Gund professor.
- **The Wallace Professorship in the Department of Pediatrics** was established in 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. Stuart Martin in memory of his wife, Dorothy Webster Martin, to support an outstanding individual

in the field of engineering or a related science. Sean Wang is the Dorothean Chair.

- **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 the chair of the Department of Obstetrics and Gynecology hold this endowed faculty position. This position is currently held by Mark Phillippe, M.D., Chair and Professor of Obstetrics and Gynecology, he is the second person to hold the Maeck 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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- [Absher, Richard G](#) - Professor of Electrical and Computer Engineering Emeritus
- [Aines, Linda D](#) - Associate Professor in Extension Emerita
- [Albee, George](#) - Professor of Psychology Emeritus
- [Albertini, Richard Joseph](#) - Professor of Microbiology and Molecular Genetics 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
- [Ambrose, Jane P.](#) - Professor Emeritus of Music

- Anderson, Richard - Professor of Electrical Engineering Emeritus
- Andrea, Alfred J. - Professor of History Emeritus
- Andreas, Rosalind E. - Assistant Professor of Education Emerita
- Arns, Robert G. - Professor of Physics Emeritus
- Ashman, Jay Irwin - Senior Lecturer of Community Development and Applied Economics Emeritus
- Ashman, Marguerite G - Extension Professor Emerita
- Atherton, Henry V. - Professor of Animal Science Emeritus
- Atwood, Elizabeth F. - 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

- Bevan, Rosemary - Professor of Pharmacology Emerita
- Bevins, Malcolm - Professor of The Rubenstein School of Environment and Natural Resources Emeritus
- Biddle, Arthur W. - Professor of English Emeritus
- Bigalow, Charles - Extension Professor of Community Development and Applied Economics Emeritus
- Bishop, Kathleen - Associate Professor of Social Work Emerita
- Blair, Alice J. - Extension Associate Professor Emerita
- Bland, John H. - Professor of Medicine Emeritus
- Bliss, Francis R. - Professor of Classics Emerita
- Bloom, Thomas K. - Associate Professor of Community Development and Applied Economics Emeritus
- Bogorad, Samuel N. - Professor of English Emeritus
- Boller, Betty M. - 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
- Bucke, David P. - Associate Professor of Geology Emeritus
- Buechler, John L. - Library Professor Emeritus
- Burdett, Carol A. - Assistant Professor of Education Emerita
- Burns, Stanley - Professor of Medicine Emeritus
- Burrell, Leon Frederick - Lecturer of Leadership and Developmental Sciences, Professor of Social Work Emeritus
- Buxton, Beatrice F. - Extension Associate Professor Emerita

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Y	Z					

- 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, Mary C - Extension Assistant Professor 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
- [Chase, Richard X.](#) - Professor of Economics Emeritus
- [Cheney, Arthur H.](#) - Assistant Professor of Organizational, Counseling, and Foundational Studies Emeritus
- [Chiu, Jen-fu](#) - Professor of Biochemistry Emeritus
- [Christie, Lu S.](#) - Lecturer in Special Education Emerita
- [Clark, Virginia](#) - Professor of English Emerita
- [Clarke, John H.](#) - Professor of Education Emeritus
- [Clemmons, Jackson J.](#) - Professor of Pathology Emeritus
- [Cochran, Robert W.](#) - Professor of English Emeritus
- [Coffin Jr., Laurence H.](#) - Professor of Surgery Emeritus
- [Cohen, Julius G.](#) - Professor of Psychiatry Emeritus
- [Conrad, David](#) - Professor of Education Emeritus
- [Cook, Philip W.](#) - Associate Professor of Botany Emeritus
- [Cooke, Roger L.](#) - Professor of Mathematics and Statistics Emeritus
- [Corey, William M.](#) - Extension Professor Emeritus
- [Costante, Joseph](#) - Professor of Plant and Soil Science Emeritus
- [Craighead, John](#) - Professor of Pathology Emeritus
- [Crichfield, Grant](#) - Associate Professor of Romance Languages Emeritus
- [Cronin, Mary Julia](#) - Associate Professor of Nursing Emerita
- [Crouch, Milton H](#) - Library Professor Emeritus
- [Cutler, Stephen Joel](#) - 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
- [Davison, William E](#) - Professor of Honors College Emeritus
- [Deane, Robert S.](#) - Professor of Anesthesiology Emeritus
- [Deck, Edith F.](#) - Associate Professor of Professional Nursing Emerita
- [Demers, Louise Aline](#) - Associate Professor of Professional Nursing Emerita
- [Detenbeck, Robert W](#) - Professor of Physics Emeritus
- [Dickerson, Mary J](#) - Associate Professor of English Emerita
- [Dietzel, Cleason S.](#) - Clinical Associate Professor of Psychology Emeritus
- [Donnelly, John R](#) - Professor of Natural Resources Emeritus

- [Doolan, Barry Lee](#) - Associate Professor of Geology Emeritus
- [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
- [Drake, John C.](#) - Associate Professor of Geology Emeritus
- [Ducharme, Edward R.](#) - Professor of Organizational, Counseling, and Foundational Studies Emeritus
- [Dumville, Robert Whitney](#) - Extension Assistant Professor Emeritus
- [Dunkley, Thomas C.](#) - Assistant Professor of Human Development Studies Emeritus
- [Durfee, Herbert A.](#) - Professor of Obstetrics and Gynecology Emeritus
- [Duthie, Alexander](#) - Professor of Animal Science Emeritus
- [Dwork, Julius S.](#) - Associate Professor of Mathematics Emeritus



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- Eddy, Dwight K. - Extension Professor of Agricultural and Resource Economics Emeritus
- Edgerton, James A. - Extension Professor Emeritus
- Edwards, Margaret F. - Associate Professor of English Emerita
- Elkins, Alan M. - Professor of Psychiatry Emeritus
- Elliott, Carolyn Margaret - Professor of Political Science Emerita
- Elliott, Norris A. - Extension Associate Professor Emeritus
- Emerson, Faith G. - Associate Professor of Professional Nursing Emerita
- Emery III, E. Stanley - Professor of Neurology Emeritus
- Erb, Clinton A. - Associate Professor of Education Emeritus
- Eschholz, Paul A. - Professor of English 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, Alfred Paul - Associate Professor of Sociology 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
- Fives-Taylor, Paula M. - Professor of Microbiology and Molecular Genetics Emerita

- Flanagan, Ted B - Professor of Chemistry and Mechanical Engineering Emeritus
- Flanagan, Theodore R. - Extension Associate Professor of Plant and Soil Science Emeritus
- Foote, Murray W. - 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
- Frey, Lois - Extension Associate Professor 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
- Fuller, 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

- [Gora, Irene T.](#) - Lecturer of Merchandising, Consumer Studies and Design Emerita
- [Gordon, Lawrence Russell](#) - Professor of Psychology Emeritus
- [Gotlieb, Alan B.](#) - Extension Professor of Plant and Soil Sciences Emeritus
- [Gould, Nathaniel](#) - Associate Professor of Orthopaedics and Rehabilitation Emeritus
- [Graham, William G.](#) - Professor of Medicine Emeritus
- [Greig, Harold A.](#) - Assistant Professor of Human Development Emeritus
- [Gribbons, Jackie Marie](#) - 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

- Hanson, John S. - Professor of Medicine Emeritus
- Happ, George - Professor of Biology Emeritus
- Harris, Everett W. - Associate Professor of Community Development and Applied Economics Emeritus
- Hasazi, Joseph E. - Associate Professor of Psychology Emeritus
- Haviland, William A. - Professor of Anthropology Emeritus
- Heinrich, Bernd - Professor of Biology 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
- Hilberg, Raul - Professor of Political Science Emeritus
- Hill, H. Charles - Associate Professor of Dental Hygiene Emeritus
- Hirth, David Hammond - Associate Professor of Wildlife and Fisheries Biology Emeritus
- Hochheiser, Louis I - Professor of Family Practice Emeritus
- Hong, Richard - Clinical Professor of Pediatrics Emeritus
- Honnold, Robert E. - Extension Professor Emeritus
- Hood, Kenneth W. - Assistant Professor of Education Emeritus
- Hopp, Susan M. - Research Associate Professor of Agriculture Emerita
- Horton, Chesley P. - Extension Assistant Professor Emeritus
- Horton, Edward S. - Professor of Medicine Emeritus
- Houghaboom, Verle R. - Extension Professor of Agricultural and Resource Economics Emeritus
- Houston, Charles S. - Professor of Epidemiology and Environmental Health Emeritus
- Howard, Phillip - Professor of Pathology Emeritus
- Howe IV, James Robinson - Professor of English Emeritus
- Howell, David C. - Professor of Psychology Emeritus
- Huddle, David Ross - Professor of English Emeritus
- Huessy, Hans Rosenstock - Professor of Psychiatry Emeritus
- Hundal, Mahendra S. - Professor of Mechanical Engineering Emeritus
- Hunt, Allen - Professor of Geology Emeritus
- Hutton, Patrick H. - Professor of History Emeritus
- Hyde, Beal B. - 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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- Emeriti Faculty
 - 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
 - Johansson, Jan Erik - Lecturer of Mathematics and Statistics 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

- [Kunin, Arthur S.](#) - Professor of Medicine Emeritus
- [Kunkel, John R.](#) - 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
- [Leff, Herbert Leroy](#) - Associate Professor of Psychology Emeritus

- [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
- [Lipson, Marjorie Youmans](#) - 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 Emerita
- 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

- [McConaughy, Stephanie Hooker](#) - Research Professor of Psychiatry Emeritus
- [McCormack, John Joseph](#) - Professor of Pharmacology Emeritus
- [McCormick, Thomas J.](#) - Extension Professor Emeritus
- [McCrorey, H. Lawrence](#) - Professor of Molecular Physiology and Biophysics Emeritus
- [McEntee, Harry J.](#) - Assistant Professor of Education Emeritus
- [McFeeters, Donald J.](#) - Extension Professor Emeritus
- [McGill, J. Bishop](#) - Associate Professor of Surgery Emeritus
- [McKay Jr., Robert J.](#) - Professor of Pediatrics Emeritus
- [McLean, Donald L.](#) - Professor of Plant and Soil Science Emeritus
- [McSweeney, Douglas E.](#) - Assistant Professor of Surgery Emeritus
- [Mead, Philip Bartlett](#) - Clinical Professor of Obstetrics and Gynecology Emeritus
- [Melville, Donald B.](#) - Professor of Biochemistry Emeritus
- [Mercia, Leonard S.](#) - Extension Professor Emeritus
- [Meserve, Bruce E.](#) - Professor of Mathematics Emeritus
- [Metcalfe, Marion E.](#) - Lecturer in Music Emerita
- [Metcalfe, William](#) - Professor of History Emeritus
- [Meyer, Diane H.](#) - Research Assistant Professor of Microbiology and Molecular Genetics Emerita
- [Meyer, William L.](#) - Professor of Biochemistry Emeritus
- [Milhous, Raymond Lee](#) - 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
- [Moehring, Joan M.](#) - 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
- [Mulieri, Louis Anthony](#) - Research Associate Professor of Molecular Physiology and Biophysics Emeritus
- [Munger, Bethia N.](#) - Extension Associate Professor Emerita
- [Murray, Barbara Lee](#) - Associate Professor of Nursing Emerita
- [Murray, Roger](#) - 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
 - Nielsen, Gordon R. - Extension Assistant Professor of Plant and Soil Science Emeritus
 - Novotny, Charles P. - Professor of Microbiology and Molecular Genetics Emeritus
 - Nyborg, Wesley L. - Professor of Physics Emeritus



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 - Olson, James Paul - Associate Professor of Civil and Environmental Engineering Emeritus
 - 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
 - Owre, Edwin M - Professor of Art 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

- [Phillips, Carol F](#) - Professor of Pediatrics Emerita
- [Pilcher, David B.](#) - Professor of Surgery Emeritus
- [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
- [Reagin, Dolores M.](#) - 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
- [Reit, Ernest](#) - Associate Professor of Pharmacology Emeritus
- [Richardson, Jean](#) - Professor of Natural Resources Emerita

- Richel, Veronica C. - Associate Professor of German Emerita
- Riggs, Heath K. - Professor of Mathematics Emeritus
- Rippa, Alexander S. - Professor of Organizational, Counseling, and Foundational Studies Emeritus
- Rogers, David L. - Lecturer of Animal Science Emeritus
- Roland, Margaret - Associate Professor of Art Emerita
- Rosa, Alfred F - Professor of English Emeritus
- Rosen, James C - Professor of Psychology and Psychiatry Emeritus
- Roth, Wilfred - Professor of Electrical Engineering Emeritus
- Rothwell, Kenneth - Professor of English Emeritus
- Royce, Blanche E. - Lecturer of Education Emerita
- Ruess, Johanna - Assistant Professor of Orthopaedics and Rehabilitation Emerita
- Runge, Carl F. - Associate Professor of Medicine Emeritus
- Russo, 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
- [Sandoval, Dolores](#) - Associate Professor of Education Emerita
- [Sargent, Frederic O.](#) - Professor of Agricultural and Resource Economics
- [Emeritus Savitt, Ronald](#) - Professor of Business Administration Emeritus
- [Sawyer, Janet R.](#) - Professor of Professional Nursing Emerita
- [Scarfone, Leonard M.](#) - Professor of Physics Emeritus
- [Schaeffer, Warren I](#) - Professor of Microbiology and Molecular Genetics Emeritus
- [Schenk, William M](#) - Professor of Theatre Emeritus
- [Schlunk, Robin R.](#) - Professor of Classics Emerita
- [Schmidt, Frederick Eberhard](#) - Associate Professor of Community Development and Applied Economics Emeritus
- [Schmokel, Wolfe W.](#) - 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
- Schwalb, Roberta B. - Associate Professor of Professional Nursing Emerita
- Scrase, David Anthony - Professor of German Emeritus
- Secker-Walker, Roger - Professor of Medicine Emeritus
- Sekerak, Robert John - Library Associate Professor Emeritus
- Senghas, Dorothy C. - 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
- Shinozaki, Tamotsu - 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
- Sjogren, Robert - 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
- Squire, Horace - Associate Professor of Business Administration
- Stanfield, Robert E. - Professor of Sociology Emeritus
- Stanton, Michael Neill - Associate Professor of English Emeritus
- Staron, Stanislaw J. - Professor of Political Science Emeritus
- Steele, Doris H. - Extension Professor Emerita
- Steen, M. Dale - Extension Associate Professor Emerita
- Steffenhagen, Ronald A. - Professor of Sociology Emeritus
- Steffens, Henry J. - Professor of History Emeritus
- Stephany, William A. - Professor of English Emeritus
- Stephenson, John F. - Extension Professor Emeritus
- Stevens, Dean F. - Associate Professor of Zoology Emeritus
- Stevenson, S. Christopher - Professor of Education Emeritus
- Stinebring, Warren R. - Professor of Microbiology Emeritus
- Stirewalt, William S. - Associate Professor of Obstetrics and Gynecology Emeritus

- [Stout, Neil R.](#) - Professor of History Emeritus
- [Strassburg, Kathleen](#) - Extension Professor of Textiles, Merchandising and Consumer Studies Emerita
- [Strauss, Michael John](#) - Professor of Chemistry Emeritus
- [Stryker III, Barent W.](#) - Extension Professor Emeritus
- [Sullivan, Anne Marie](#) - Associate Professor of Biomedical Technologies Emerita
- [Sumner, J Williams](#) - Extension Assistant Professor Emeritus
- [Sweterlitsch, Richard Carl](#) - Associate Professor of English Emeritus

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- [Tabakin, Burton S.](#) - Professor of Medicine Emeritus
- [Tashman, Leonard Jay](#) - Associate Professor of Business Administration Emeritus
- [Taylor, Fred](#) - Professor of Botany Emeritus
- [Thanassi, John W.](#) - Professor of Biochemistry Emeritus
- [Thibault, Marlene](#) - Extension Professor of Community Development and Applied Economics Emerita
- [Thimm, Alfred L.](#) - Professor of Business Administration Emeritus
- [Thompson, Harry L.](#) - Associate Professor of Social Work Emeritus
- [Thompson, Lee J](#) - Professor of English Emeritus
- [Thompson, Noah C.](#) - 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

- Tremblay, Raymond H. - Professor of Agricultural and Resource Economics Emeritus
- Trent, Elizabeth Scannell - Extension Associate Professor for Community Development and Applied Economics Emerita
- True., Marshall M. - Associate Professor of History Emeritus
- Tufo, Henry M. - Professor of Medicine Emeritus
- Tuthill, Arthur F. - Professor of Mechanical Engineering Emeritus
- Tuxbury, Vernon - Extension Associate Professor of Community Development and Applied Economics Emeritus
- Twardy, Edward Stuart - Associate Professor of Public Administration Emeritus



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- [Ugalde, Louis Maldonado](#) - Professor of Romance Languages Emeritus
- [Ullrich, Robert C.](#) - Professor of Botany and Agricultural Biochemistry Emeritus
- [Ure, Helena A.](#) - Associate Professor of Professional Nursing Emerita



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- [Van Buren, H. Carmer](#) - Associate Professor of Medicine Emeritus
- [Van Buskirk, David](#) - Associate Professor of Psychiatry Emeritus
- [Vander Meer, Canute](#) - Professor of Geography Emeritus
- [Vane, Dennis William](#) - Professor of Surgery and Pediatrics Emeritus
- [Vogelmann, Hubert W.](#) - Professor of Botany Emeritus
- [Von Turkovich, Branimir Francis](#) - Professor of Mathematics and Statistics Emeritus, Professor of Mechanical Engineering Emeritus

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- [Waller, Julian A.](#) - Professor of Medicine Emerita
- [Wallman, Lester J.](#) - Professor of Neurosurgery Emeritus
- [Wang, Jue-Fei](#) - Research Professor of Educational Leadership and Policy Studies Emeritus
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- [Way, Winston A.](#) - 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

- 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
- Whitmore Jr., Roy A. - 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
- Winstead-fry, Patricia - Professor of Nursing Emerita
- Wood, Glen M. - Professor of Plant and Soil Science Emeritus
- Wood, Hazen F. - Coordinator of the Professional Laboratory Experiences Emeritus
- Woodruff, William A. - Associate Professor of Psychiatry Emeritus
- Woodworth, Robert C. - Professor of Biochemistry Emeritus
- Woolfson, Peter - Professor of Anthropology Emeritus
- Wootton, Dorothy - Associate Professor of Dental Hygiene Emerita
- Worley, Ian Almer - Professor Emeritus in the Rubenstein School of Environment and Natural Resources



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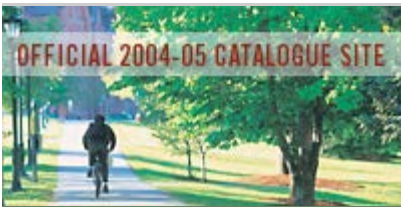


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 - [Zarate, Armando](#) - Professor of Spanish Emeritus
 - [Zucker, Barbara M](#) - Professor of Art Emerita
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