

EARTH SCIENCES

Program of Study

Master's and Ph.D. degrees are awarded by the Department of Earth Sciences. Faculty and graduate student research focus on four major areas: 1) climate change, glacial geology, glaciology and Quaternary studies, 2) environmental geosciences, hydrogeology and low-temperature geochemistry, 3) geodynamics, crustal studies and rheology of Earth materials, and 4) marine geology, coastal processes, sedimentology and sea-level studies.

A Bachelors degree in geology or closely related discipline is suggested before enrolling in the graduate programs. The Master's degree requires 24 credits of course work and 6 credits of thesis work. The Ph.D. requires the completion of 18 credits of course work beyond a Master's degree in geology or related field. Ph.D. students must pass a written and oral comprehensive examination.

Financial Aid

Seven teaching assistantships are available from the Department. These are awarded competitively based on transcripts, GRE scores, letters of recommendation, and match between student and faculty interests. TA's are preferentially awarded to students who are proficient in the English language. Research assistantships are awarded by individual faculty members who have secured research funding.

Research Facilities

Numerical
Microdynamics
Rock Preparation Laboratory
Analog Laboratory
Departmental Computer Cluster
Marine Geophysics Facilities
Marine Sediments Laboratory
Microstructures Laboratory
Stable Isotope Laboratory
X-ray Diffraction Laboratory
Electron Microprobe Laboratory
Mineral Separation Facilities
Glacial Sediments Laboratory
Mineral Weathering Laboratory
Microanalytical Laboratory
Geohydrology Facilities
Near Surface Geophysics
Affiliated with the Environmental Chemistry Laboratory

Students

The Department has about 30 graduate students and about 40 undergraduate students. Graduate students come from many different countries. Undergraduate students are primarily from the New England area in the northeastern U.S.A.

Applying

Students typically have an undergraduate degree in a field broadly related to the Earth Sciences, but we also welcome students with degrees in math, physics and engineering. Preparation typically includes 1 year of Physics, 1 year of Chemistry, 1 year of Calculus, as well as basic undergraduate Geology courses. Students who do not meet these requirements may still be admitted, but will need to work with their advisory committee on an appropriate course of study. Review of applications requesting TA support begins in February, but most of our students are supported on grants and applications are welcome at any time.

Correspondence

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Graduate Faculty

Daniel F. Belknap, Ph.D. (Delaware, 1979), Professor and Chair. Sedimentology, marine geology, stratigraphy.

Joseph V. Chernosky, Jr., Ph.D. (M.I.T., 1973), Professor. Geochemistry, experimental petrology.

George H. Denton, Ph.D. (Yale, 1965), Professor. Quaternary and glacial geology.

Christopher C. Gerbi, Ph.D. (Maine, 2004), Assistant Professor. Mineralogy, rheology, geochronology and techtonics.

Edward S. Grew, Ph.D. (Harvard, 1973), Research Professor. Metamorphic petrology.

Brenda L. Hall, Ph.D. (Maine, 1997), Associate Professor. Quaternary and Glacial Geology, millennial-scale climate change and ice sheet stability.

Terence J. Hughes, Ph.D. (Northwestern, 1968), Professor. Glaciology, materials science.

Scott E. Johnson, Ph.D. (James Cook, 1989), Associate Professor. Structural geology, microstructural processes, Earth rheology, tectonics, coupling of deformation and metamorphism.

Joseph T. Kelley, Ph.D. (Lehigh, 1980), Professor. Marine geology, sedimentology (Maine Geological Survey).

Thomas B. Kellogg, Ph.D. (Columbia, 1973), Professor. Marine micropaleontology.

Peter O. Koons, (E.T.H., 1983), Associate Professor. Mechanics of mountain building, interaction of surface processes and plate tectonics, metamorphism and deformation, the evolution of active continental margins and deformation in the mantle.

Karl J. Kreutz, Ph.D. (New Hampshire, 1998), Assistant Professor. Stable isotope geochemistry, paleoceanography, ice core geochemistry.

Daniel R. Lux, Ph.D. (Ohio State, 1981), Professor. Isotope geochemistry, geochronometry.

Kirk A. Maasch, Ph.D. (Yale, 1989), Associate Professor. Climate Modeling.

Paul A. Mayewski, Ph.D. (Ohio State, 1973), Professor. Glaciology and climatology.

Stephen A. Norton, Ph.D. (Harvard, 1967), Professor. Environmental geochemistry.

Andrew S. Reeve, Ph.D. (Syracuse, 1996), Associate Professor. Hydrogeology.

Martin Yates, Ph.D. (Indiana, 1987), Associate Scientist. Microprobe analysis, ore deposits.