GEOSCIENCES DEPARTMENT

James R. Staub, Chair

Human impact on Earth systems and reliance on Earth's resources will increase as human population and economic production grows. These impacts are creating "global grand challenges": complex, globally important problems that require an interdisciplinary approach. The most pressing grand challenges over the next decade will be resource scarcity/depletion (especially water and petroleum), adaption to and mitigation of climate change and natural hazards, and environmental stewardship of highly stressed physical and biological Earth systems. As University of Montana Geoscientists, we address these challenges in our research and teaching. We develop the knowledge to find and extract mineral and water resources, solve problems caused by using those resources and develop models of the past, present and future Earth. Faculty, staff, graduate students, and undergraduate students are helping Montana and the World develop a sustainable future.

Our Vision:

We will build and teach a fundamental understanding of Earth processes to benefit humankind and sustain Earth systems.

Our Goals:

1. Conduct geoscience research, including obtaining extramural funding to perform essential and transformative research.
2. Disseminate research findings by publishing in peer-reviewed journals and presenting at national and international scientific conferences.
3. Teach students how to learn from known sources of information and create new knowledge from their own research.
4. Engage all graduate students and selected undergraduates in research and publication.
5. Produce graduates competent in their disciplines who can perform well in field, laboratory and computational settings, and who are prepared to serve as high-quality professionals in geoscience and related fields.
6. Provide opportunities for students to work and learn in other countries through international research and learning opportunities.
7. Educate the general student population about the nature of science and basic scientific principles through the study of Earth and its natural systems.
8. Engage the public with important geoscience issues through outreach and community education.

UM Geosciences in the National Context

With B.S., M.S. and Ph.D. degrees, UM Geosciences is one of 120 Ph.D. granting Geoscience departments in the United States. U.S. News & World Report ranks the UM Geosciences program with Universities like Florida State, Michigan Tech, University of Georgia, University of Pennsylvania, and University of South Carolina. We are ranked above schools like University of Idaho, University of Missouri, UNLV, and Notre Dame.

Employment

Geoscientists completing our program are employed by private industry, federal, state, and local governmental agencies, environmental consulting firms, non-profit organizations, and by schools needing Earth Science teachers. Jobs in geosciences are available at the B.S., M.S. and Ph.D. levels. The M.S. degree is considered the main working professional degree. The Ph.D. degree is required for positions at universities and with organizations specializing in research. However, there are ample opportunities for geoscience employment with the B.S. degree. Our graduates have a wide range of educational and employment opportunities. Over the last decade, 95% of our graduate program alumni are employed in Geosciences:

- 13% work for government,
- 23% for industry,
- 31% for consultancies and
- 2% for non-governmental organizations,
- 10% are teaching, and
- 17% went on for a Ph.D.

UM Geosciences graduates have exceptional placement rates.

Undergraduate Degree Requirements

We offer three Bachelor of Science degrees:

- Geosciences B.S.,
- International Field Geosciences Joint B.S. with University of Cork (Ireland), and
- International Field Geosciences Dual B.S. with Potsdam University (Germany).

We also offer an option in Earth Science Education.

The Upper-division Writing Expectation must be met for all degree options by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures (http://catalog.umt.edu/past-catalogs/2017-2018/academics/policies-procedures) section of this catalog or by completing GEO 499.

Undergraduate

- Geosciences B.S. (http://catalog.umt.edu/past-catalogs/2017-2018/colleges-schools-programs/humanities-sciences/geosciences/bs-geosciences)
- Geosciences B.S., Earth Science Education Concentration (http://catalog.umt.edu/past-catalogs/2017-2018/colleges-schools-programs/humanities-sciences/geosciences/bs-earth-science-education)
- International Field Geosciences Dual B.S. (http://catalog.umt.edu/past-catalogs/2017-2018/colleges-schools-programs/humanities-sciences/geosciences/bs-international-field-dual)
- International Field Geosciences Joint B.S. (http://catalog.umt.edu/past-catalogs/2017-2018/colleges-schools-programs/humanities-sciences/geosciences/bs-international-field-joint)

Undergraduate Minors

- Geosciences (http://catalog.umt.edu/past-catalogs/2017-2018/colleges-schools-programs/humanities-sciences/geosciences/minor-geosciences)