GEOSCIENCE, PH.D.

The Department of Geoscience provides opportunity for advanced study leading to the master of science and the doctor of philosophy degrees. Broad research interests and numerous fields of specialization among the members of the faculty provide research opportunities in all major fields of earth science including geochemistry, geophysics, hydrogeology, microbial geoscience, mineralogy, nano-science, paleontology, paleoclimatology, paleoceanography, petrology, quaternary geology, sedimentology, structural geology, and tectonics.

The graduate student is expected to acquire a broad foundation in geoscience and in the supporting sciences before specializing. Courses are selected by the student in consultation with a three-member guidance and evaluation committee. Individual research and scholarship is required in all graduate work. It is expected that the candidate for an advanced degree will make original contributions, develop new ideas, and complete a dissertation suitable for publication in a peer-reviewed journal, book, or report. Students may also obtain a joint master’s degree in geoscience and water resources management if approved by both programs and the Graduate School.

The department maintains a variety of cutting-edge laboratories in Lewis G. Weeks Hall for the Geological Sciences. Strong connections also exist between the geoscience and geological engineering programs. Library and research facilities are available for advanced work in all important branches of the science. Geological survey offices in the Madison area, both state and federal, provide opportunities for cooperation with Survey geologists and the use of Survey facilities.

The program prepares students for teaching and research in academic positions, research work in state and federal organizations, and research and development in industry. The department coordinates interviews with potential employers several times during the year and maintains information on career placement. Students are actively involved in teaching and research programs and other scholarly activities of the department.

ADMISSIONS

Graduate students may enter the degree program with a bachelor’s degree in geology or a related earth science, or some other field relevant to the intended field of specialization. In addition to meeting the minimum admission requirements of the Graduate School, candidates must have had one year each of college chemistry, physics, and calculus. Graduate students in paleobiology are allowed to substitute statistics courses for the calculus requirement. A student entering the program with an undergraduate degree in geology is expected to have completed a 6–8 credit course in geologic field mapping.

Applicants will not normally be admitted with deficiencies in more than two one-semester courses in the required cognate subjects (for example, a prospective student could be missing one semester of physics and one semester of calculus). Such deficiencies should be removed within the first year of graduate study. A deficiency in field geology normally must be removed before commencing graduate study. Promising students with excessive deficiencies may be advised to take courses as a Special student before becoming eligible to enter graduate studies. They cannot, however, receive financial aid while a Special student.

GRADUATE SCHOOL ADMISSIONS

Graduate admissions is a two-step process between academic degree programs and the Graduate School. Applicants must meet requirements of both the program(s) and the Graduate School. Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/admissions).

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding) is available from the Graduate School. Be sure to check with your program for individual policies and processes related to funding.

PROGRAM RESOURCES

Financial assistance sufficient to meet the ordinary expenses of graduate school is available to qualified students in the form of fellowships and teaching or research assistantships. Prospective students should contact the department for information on available financial aid. All applicants must take the Graduate Record Exam (GRE).

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/ #policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Mode of Instruction</th>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</table>

Mode of Instruction Definitions

- **Evening/Weekend:** These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.

- **Online:** These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.

- **Hybrid:** These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.
**Accelerated:** These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.

**CURRICULAR REQUIREMENTS**

<table>
<thead>
<tr>
<th>Minimum Credit Requirement</th>
<th>51 credits</th>
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<tbody>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>32 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>Half of degree coursework (26 credits out of 51 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide.</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>The Graduate School requires an average grade of B or better in all coursework (300 or above, not including research credits) taken as a graduate student unless conditions for probationary status require higher grades. Grades of Incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.</td>
</tr>
<tr>
<td>Assessments and Examinations</td>
<td>Doctoral students are required to take a comprehensive preliminary/oral examination after they have cleared their record of all Incomplete and Progress grades (other than research and thesis). Deposit of the doctoral dissertation in the Graduate School is required.</td>
</tr>
<tr>
<td>Language Requirements</td>
<td>Contact the program for information on any language requirements.</td>
</tr>
<tr>
<td>Doctoral Minor/Breadth Requirements</td>
<td>All doctoral students are required to complete a minor.</td>
</tr>
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</table>

**REQUIRED COURSES**

Courses are selected by the student in consultation with a three-member Guidance and Evaluation Committee.

**POLICIES**

**GRADUATE SCHOOL POLICIES**

The Graduate School’s Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

**MAJOR-SPECIFIC POLICIES**

**GRADUATE PROGRAM HANDBOOK**

The Graduate Program Handbook (http://geoscience.wisc.edu/geoscience/academics/current-students/graduate-handbook-for-students-entering-program-fall-2014) is the repository for all of the program’s policies and requirements.

**PRIOR COURSEWORK**

**Graduate Work from Other Institutions**

With program approval, students are allowed to count no more than 15 credits of graduate coursework from other institutions. Coursework earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

**UW–Madison Undergraduate**

7 credits from a UW–Madison undergraduate degree are allowed to count toward the degree. Coursework earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

**UW–Madison University Special**

With program approval, students are allowed to count no more than 15 credits of coursework numbered 300 or above taken as a UW–Madison Special student. Coursework earned ten or more years prior to admission to a doctoral degree is not allowed to satisfy requirements.

**PROBATION**

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

**ADVISOR / COMMITTEE**

Every graduate student is required to have an advisor. An advisor is a faculty member, or sometimes a committee, from the major department responsible for providing advice regarding graduate studies. An advisor generally serves as the thesis advisor. In many cases, an advisor is assigned to incoming students. Students can be suspended from the Graduate School if they do not have an advisor.

To ensure that students are making satisfactory progress toward a degree, the Graduate School expects them to meet with their advisor on a regular basis.

A committee often accomplishes advising for the students in the early stages of their studies.

**CREDITS PER TERM ALLOWED**

15 credits

**TIME CONSTRAINTS**

Doctoral degree students who have been absent for ten or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

A candidate for a doctoral degree who fails to take the final oral examination and deposit the dissertation within five years after passing the preliminary examination may by require to take another
preliminary examination and to be admitted to candidacy a second time.

OTHER
Qualified prospective students are considered for financial support in the form of graduate assistantships or fellowships at the same time they are considered for admission.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES
Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd) to build skills, thrive academically, and launch your career.

LEARNING OUTCOMES

1. Formulates and plans original research.

2. Formulates scientific hypotheses, ideas, concepts, designs, and/or techniques beyond the current boundaries of knowledge within geoscience.

3. Creates research and scholarship that makes a substantive contribution.

4. Demonstrates breadth within their learning experiences, gaining a broad awareness of the status of contemporary research beyond the student’s area of specialization.

5. Advances contributions of geoscience to society.

6. Communicates complex ideas in a clear and understandable manner, including the ability to engage and communicate with research professionals in geoscience.

7. Fosters ethical and professional conduct.

PEOPLE

Faculty: Professors Bahr, Brown, Carroll, DeMets, Feigl, Goodwin, Johnson, Kelly, Meyers, Peters, Roden, Singer, Thurber, Tikoff, Tobin, Valley, Wang, Xu; Assistant Professors Cardiff, Marcott, Zoet