



# Master of Science in Geology

College of Natural Sciences and Mathematics

## **Why pursue a master's degree in geology?**

**Preparation for the Future:** Our Master of Science in Geology program provides the opportunity to gain in-depth knowledge and experience centered around one of the sub-disciplines of the geological sciences. The master's degree provides a strong competitive advantage for entry into the work force, and is an excellent choice for prospective high-school and community college teachers. A master's degree also makes an outstanding springboard to a Ph.D. degree in Geology, especially for students who need the extra course work or research experience to gain entry into a top Ph.D. program.

**A Dynamic Student-Centered Research Environment:** All of our faculty members pursue active, internationally recognized research programs. Our faculty research covers a broad spectrum of the Earth sciences including: active tectonics, structure, geomorphology, seismology, volcanology, petrology, paleontology, hydrogeology, geochemistry, sedimentology, engineering geology, paleoclimatology, and geoscience education. Advisers design their research projects specifically around the involvement of students. In the course of your graduate studies, you will have ample opportunity to work one-on-one with your faculty adviser on a collaborative research project. Students regularly present their research at major conferences including the annual meetings of the American Geophysical Union, Geological Society of America, National Groundwater Association, Seismological Society of America, and European Geophysical Union.

**Our Reputation:** Our faculty has garnered national recognition for their research in projects funded by the National Science Foundation, Petroleum Research Fund, Southern California Earthquake Center, and numerous other state and local funding agencies. Our department has a reputation for producing successful professional geologists and educators. Cal State Fullerton alumni populate geological consulting firms and educational institutions throughout Southern California. Finally, many of our alumni have moved on to Ph.D. programs at prestigious research universities across the nation.

### **What is required for admission to the master's program?**

**Quality Teaching:** Our faculty members are, above all, excellent teachers. Professors interact closely with students and take a personal interest in guaranteeing their success. Graduate classes are typically small, providing the opportunity for in-depth instruction tailored to your interests.

**Flexibility:** Our graduate program has been designed with the changing needs of our students in mind. Graduate courses have flexible topics that can be modified specifically to meet the needs and desires of the current students. We also offer graduate courses in the early evening hours to accommodate working students.


**Outstanding Opportunities:** Our location within the active tectonic belt of Southern California provides unlimited potential for designing nearby investigations in virtually any field of geology. However, opportunities are not limited to Southern California; our students have pursued research projects around the country and overseas. Our actively engaged faculty members guarantee many exciting research possibilities for graduate students.

An applicant must meet the university requirements for admission, which include a baccalaureate degree from an accredited institution, and a grade-point average of at least 2.5 (4.0) in the last 60 semester units attempted. (See the University Catalog section "Graduate Admissions" for complete statement and procedures.)

In addition, acceptance into this program in a classified standing is contingent upon the following: (1) a bachelor's degree in geology from an accredited institution, with an expected grade-point average of 3.0 in geology courses, which normally includes the equivalent to core courses of Cal State Fullerton's B.S. in Geology program, and a 2.5 grade-point-average in related science and mathematics courses; or, in the case of a bachelor's degree in a related area, a selection of science courses deemed as adequate preparation for further study in geology by the Department Graduate Committee; (2) satisfactory performance on the Graduate Record Examination Aptitude Test with an expected score in the 50th percentile or better on the verbal and quantitative tests; (3) two letters of recommendation; (4) completion of the departmental application; and (5) availability of faculty and resources in the student's stated area of interest.

Students with limited subject or grade deficiencies may be considered for conditional acceptance into the program if they meet all other departmental and university requirements. Conditionally classified graduate standing may be removed upon completion of adviser- and graduate-committee-approved postgraduate courses in geology, mathematics, chemistry or physics, with grades of "B" (3.0) or better.

Students with a degree in a related field and/or substantial subject deficiencies are encouraged to apply. Such applicants may be considered for acceptance if they meet all other departmental and university requirements. Such a student may later qualify for classified standing by completing all courses recom-



mended by the Department Graduate Committee and by maintaining a 3.0 grade-point-average in geology and related science and mathematics courses.

We generally require all master's students to complete courses equivalent to our core bachelor's degree requirements. However, if a student is accepted with a degree in geology or a related fields subject without a culminating field camp course (Geological Sciences 481A - Geology Field Camp), then another course such as Geological Sciences 481C (Hydrogeology and Engineering Geology Field Camp), or upper-division math may be substituted for Geological Sciences 481A. Choice of this course depends on the career/educational goals of the student. The field camp course or its substitute is a deficiency and cannot be used on the study plan.

### **What are the program requirements?**

A study plan must contain a minimum of 30 units and be approved by the graduate adviser. At least 21 units must be at the graduate level; a maximum of 9 units may be 400 level. A minimum grade-point average for courses satisfying the study plan is 3.0. The study plan must consist of the following:

#### **Required Courses (9-12 units):**

*Geological Sciences 500 - Advanced Concepts in Geology (3 units).* Current advances in geological concepts with emphasis on Southern California geology. Concepts include: plate tectonics; igneous processes; sedimentary record; surficial processes; water resources.

*Geological Sciences 501 - Research Methods in Geology (1 unit).* Introduction to research planning; choosing a thesis topic; bibliographic search; research design (laboratory and field); research proposal preparation.

*Geological Sciences 590 - Graduate Seminar (1, 1) –* must be taken twice for 1 unit each time. Attendance at departmental and other seminars. Discussion and/or written assignments based on seminar topics required.

*Geological Sciences 598 - Thesis (3-6) (A public, oral defense of the thesis is required).* Design, analysis, and presentation of a research problem culminating in a thesis for the master's degree (may be repeated once).

#### **Related Fields Breadth Courses (0-6 units):**

A maximum of 6 units of graduate adviser-approved 400- or 500-level breadth courses offered by departments other than Geological Sciences. Courses may be taken from departments or programs such as, but not restricted to, Biological Sciences, Chemistry and Biochemistry, Physics, Mathematics, Geography, Civil and Environmental Engineering, or Environmental Studies. Course selection will be dependent on the student's academic objectives, and selected in consultation with the student's thesis adviser.

**Focus Courses (15-21 units):**

Graduate adviser-approved 400- or 500-level geology courses. A maximum of 3 units of Geological Sciences 599 (Independent Graduate Research) and a maximum of 3 units of Geological Sciences 593 (Directed Studies in the Geosciences) may be taken. Course selection will depend on the student's academic objectives, and selected in consultation with the student's thesis adviser. Visit <http://geology.fullerton.edu> for an up-to-date list of our course offerings.

**Who advises me?**

Each graduate student works closely with a thesis adviser who guides the student through the selection, design and execution of an original research program. Graduate students meet regularly with their thesis adviser to formulate a study plan and choose appropriate elective courses. New graduate students should arrange to meet with the department graduate adviser for advisement prior to their first semester of residence.

**What kinds of financial aid are available?**

The Department of Geological Sciences employs graduate teaching assistants to teach lower-division geology laboratories. Research assistantships may also be available. The university offers many additional types of financial assistance including loans, grants, and competitive scholarships and out-of-state tuition waivers.

**What are the application deadlines?**

Application deadlines for RECEIPT of ALL materials are:

Financial aid deadline:	February 15 (fall admission only)
Fall entrance deadline:	March 1
Spring entrance deadline:	October 1

**What application materials are required?**

A complete application includes the following materials:

- Completed department application (available online at <http://geology.fullerton.edu>)
- Completed university application (available at <http://www.csumentor.edu>)
- GRE scores
- TOEFFL for international students
- Transcripts (required by both the university and the Geology Department; transcript copies are accepted by the Department)
- Two letters of recommendation

**How can I obtain additional information?**

For more information about the geology program, please call the department graduate adviser at (714) 278-3882; visit our website at <http://geology.fullerton.edu>; or write to: Graduate Adviser, Department of Geological Sciences, California State University, Fullerton, McCarthy Hall 254, 800 N. State College Blvd, Fullerton, CA 92834.