

Geology, M.S.

DEPARTMENT

MN in Geology, Minor

BS in Geology, B.S.

MS in Geology, M.S.

BS in Environmental Sciences, B.S.

MS in Water Resource Management, M.S. - Continuing & Global Education

CERT in Geographic Information Systems, Certificate of Adv Study - Continuing & Global Education

REQUIREMENTS

Department of Earth and Environmental Sciences

Master of Science in Geology Requirements

Master of Science in Geology

The Department of Earth and Environmental Sciences offers graduate courses and research leading to the Master of Science. The graduate courses and research areas are such that several different career goals can be met, including the following: (1) preparation for enrollment in a Ph.D. program in geology or a related field, (2) preparation for employment as a professional geoscientist with industry or government, and (3) advancement of knowledge of the earth sciences and teaching skills of secondary school and junior college teachers.

Graduate research opportunities are available in several fields, including but not restricted to hydrology/hydrogeology/hydrogeochemistry, geophysics, tectonics, engineering geology, geomorphology, structural geology, volcanology/igneous and metamorphic petrology, sedimentology/paleontology/stratigraphy, paleoclimatology and high temperature, and stable isotope geochemistry.

The graduate program also offers research opportunities in applied geology. This curriculum is usually interdisciplinary, involving coursework in geology, civil engineering, chemistry, soil sciences, and other areas. Applied geology emphases include: (1) engineering and environmental geology and (2) hydrogeology. Students of applied geology are encouraged to undertake theses involving support and supervision by professionals in private and public sectors.

University requirements are met through satisfactory completion of core courses and specialty courses in the curriculum emphasis.

Please see the Geology Graduate Student Handbook <http://fresnostate.edu/csm/ees/degrees-programs/grad-student-handbook.html> or contact the Geology M.S. program coordinator for more information.

Degree Requirements

Fresno State's Master of Science in Geology consists of 30 units of coursework and master's thesis research. Geology M.S. work assumes as its foundation the equivalent of an undergraduate major in geology. The Geology M.S. coursework builds upon this foundation and two-thirds of the 30 units required for the degree must be in geology, with at least 21 of the 30 in graduate level (200-series) courses. For thesis research students are guided by a thesis advisor. The thesis advisor also guides the selection of coursework in the program. For additional details regarding such requirements, procedures, and milestones, please contact the geology graduate program coordinator and the Geology Graduate Student Handbook <http://fresnostate.edu/csm/ees/degrees-programs/grad-student-handbook.html>; for general requirements see Division of Research and Graduate Studies. (See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Course Requirements: Under the direction of his/her thesis advisor, and with approval by the department faculty, each student prepares and submits an individually designed program. Most coursework is elective in nature, in keeping with the department's philosophy that flexibility enables students to develop a path of study best suited to their goals. The course requirements are as follows:

EES 200 (Introduction to Scientific Writing and Presenting) (3 units)

EES 201 (Geoscience Writing and Thesis Proposal Design) (3 units)

EES 299 (Thesis) (6 units)

Approved upper-division or graduate course electives in geology or related fields such as biology, chemistry, physics, engineering, and mathematics. Electives determined in consultation with graduate advisor (18 units)

Total (30 units)

Students studying applied geology should take the following courses before or during their graduate experience: EES 114, EES 117, EES 124.

Modifications in the program of study may be made with approval of both the thesis advisor and graduate program coordinator.

Additional Requirements.

A master's thesis and oral thesis defense are required. Also, an oral defense of a thesis proposal is required as part of EES 201, to ensure that students have selected a problem that is commensurate with an M.S. thesis and that the proposed methods of analysis are appropriate to the task. The thesis defense will include questions about the thesis and questions of a more general nature related to knowledge in the earth sciences. The thesis will be judged by the extent to which a student attempts to solve a scientific problem by employing methods appropriate to the task. The thesis must meet certain minimum standards, which include the following: thoughtful consideration of and reference to prior work in the field of study; a peripheral understanding of the broader scientific value or societal implications of the work, as appropriate; and a demonstration of originality and critical thinking. Graduate students of geology conducting research in a foreign country are expected to be proficient in the language in which source materials are published.

FACULTY

For faculty phone numbers and e-mail, see the campus directory.

For more on the faculty, see the faculty pages.

The faculty pages are updated by the department or program.