

Student ID: _____
Student Name: _____
Adviser Name: _____

Catalog: Semester Catalog 2016-2017
Program: Geological Sciences, M.S.
Minimum Credits Required: _____

Geological Sciences, M.S.

The Department of Geosciences and Environment offers three postgraduate degrees: Master of Arts in Geography, Master of Science in Geological Sciences (with options in Geology and Environmental Hydrology), and Master of Science in Environmental Sciences (4 options).

Geological Sciences, M.S

The objective of the Master of Science degree in Geological Sciences is to prepare students for professional level employment in industry and government, teaching positions in community colleges, or advanced study towards the Ph.D. degree. A student may achieve this objective by completing the program that culminates in either a thesis or a comprehensive examination. The program has two Options: Geology and Environmental Hydrogeology. The Geology option prepares students for careers in areas of traditional geology and engineering geology. The Environmental Hydrogeology option prepares students for careers in hydrogeology and environmental geochemistry.

Cooperative Program

The Department of Geological Sciences participates in a cooperative program with California State University campuses at Long Beach and Northridge. This cooperative program enables students to apply an unrestricted number of courses from the participating campuses toward the M.S. degree. Students take part on a voluntary basis and are not required to enroll at the Long Beach or Northridge campuses. The cooperative program offers students the advantage of utilizing the faculty and equipment of a larger part of the California State University system.

Admission to the Program

Admission requirements include possession of a Bachelor of Science degree in Geology, Earth or Environmental Sciences, related areas of Natural Science, or Engineering from an accredited college or university, with a minimum 2.75 grade point average in the last 60 semester units and upper division course work substantially equivalent to that required of Cal State L.A. geology majors. Although it is not a general admission requirement, individual faculty may require the GRE before they agree to be the primary advisor. Applicants who lack appropriate courses may be admitted to the program but will be expected to remove any deficiencies by completing courses selected through consultation with the graduate advisor.

Application Procedures

In addition to submitting a University Admissions Application through CSU Mentor (<http://csumentor.org>), applicants must also apply separately to the Department. Application forms are available on the Geosciences and Environment website (<http://www.calstatela.edu/academic/geos/graduates.php>). Completed application, copy of statement submitted to CSU Mentor (career goals and your interest in the program), two recommendation letters, advisor consent form (if the applicant is choosing the thesis route), and unofficial transcripts must be e-mailed to the Graduate Advisor. Please note that the reference letters need to be emailed to the graduate advisor directly from the recommender. All materials must be received by the Graduate Advisor on or before the deadline stipulated on the Graduate Studies Office website (<http://www.calstatela.edu/graduateadmissions>). Official transcripts must also be sent to the Graduate Studies Office ADM 702 before the set deadline.

Requirements for the Degree (30 units)

The graduate program requires 30-semester units of work including 15 units of 5000-level courses chosen with advisor approval. All students must complete either a *Thesis* (GEOL 5990) or the *Comprehensive Examination* (GEOL 5960). Students will only be permitted to enroll in GEOL 5990 after a prospectus is approved and the students have been "Advanced to Candidacy".

With approval of the department graduate advisor, students may substitute appropriate 4000- or 5000-level courses from related areas in science, mathematics, or engineering in the official program to a maximum of 9 semester units.

Options

- Geology
- Environmental Hydrogeology

Option 1: Geology (30 units)

4000-level Elective Courses (maximum of 15 units)

All 4000-level GEOL courses may be applied toward master's degree requirements except the following, GEOL 4000, 4010, 4020, 4100, 4300, 4590, 4600A, 4600B, and 4990.

Subject to limits established by the department and approval of the graduate advisor.

5000-level Elective Courses (minimum of 9 -15 units)

Select from the following list:

Course Name	Credits:	Term Taken	Grade	Gen Ed
GEOL 5250 - Sedimentary Processes, Environments, and Structures	(3)			
GEOL 5280 - Advanced Topics in Igneous and Metamorphic Petrology	(3)			
GEOL 5300 - Seminar: Structural Geology and Tectonics	(3)			
GEOL 5310 - Tectonic Problems of Southern California	(3)			
GEOL 5600 - Hydrogeology	(3)			
GEOL 5610 - Vadose Zone Hydrogeology	(3)			
GEOL 5620 - Contaminant Hydrogeology	(3)			
GEOL 5630 - Water Quality Seminar	(3)			
GEOL 5700 - Special Topics	(1-3)			
GEOL 5810 - Seminar: Engineering Geology	(3)			
GEOL 5840 - Paleoseismology	(3)			
GEOL 5850 - Landslides, Avalanches, and Debris Flows	(3)			
GEOL 5980 - Graduate Directed Study	(1-3)			

Required Culminating Coursework (0 - 6 units)**Comprehensive Exam - Track**

Course Name	Credits:	Term Taken	Grade	Gen Ed
GEOL 5960 - Comprehensive Examination	(0)			
OR				

Thesis - Track

Course Name	Credits:	Term Taken	Grade	Gen Ed
GEOL 5970 - Graduate Research (3)	(1-3)			
and				
GEOL 5990 - Thesis (3)	(1-3)			

Option 2: Environmental Hydrogeology (30 units)**Required Courses (12 units)**

Course Name	Credits:	Term Taken	Grade	Gen Ed
GEOL 4222 - Forensic and Isotope Geochemistry	(3)			
GEOL 4840 - Hydrogeology	(3)			
GEOL 4870 - Watershed Analysis	(3)			
GEOL 5630 - Water Quality Seminar	(3)			

Electives (9-15 units)

Select courses from the following list. At least two must be 5000-level geology courses. Other courses may be substituted with prior advisor approval.

Course Name	Credits:	Term Taken	Grade	Gen Ed
CE 4790 - Groundwater Contamination and Remediation	(3)			
CE 4830 - Hydrology I	(3)			
CE 5790 - Environmental Mass Transfer	(3)			
GEOG 4660 - Remote Sensing	(3)			
GEOG 4690 - Spatial Analysis and GIS Modeling	(3)			
GEOL 4220 - Environmental Geochemistry	(3)			
GEOL 4350 - Coastal Processes and Environments	(3)			
GEOL 4850 - Groundwater Management and Models	(3)			
GEOL 4880 - Hydrologic Modeling (3)				

GEOL 4890 - Remote Sensing Applications in Hydrology also listed as	(3)			
GEOG 4890 - Remote Sensing Applications in Hydrology	(3)			
GEOL 5200 - Environmental Isotope Geochemistry	(3)			
GEOL 4810 - Engineering Geology	(3)			
GEOL 4900 - Special Topics in Geology	(1-3)			
GEOL 4910 - Special Laboratory Topics in Geology	(1-2)			
GEOL 5250 - Sedimentary Processes, Environments, and Structures	(3)			
GEOL 5600 - Hydrogeology	(3)			
GEOL 5610 - Vadose Zone Hydrogeology	(3)			
GEOL 5620 - Contaminant Hydrogeology	(3)			
GEOL 5700 - Special Topics (1.0-4.5)	(1-3)			
GEOL 5810 - Seminar: Engineering Geology	(3)			
GEOL 5980 - Graduate Directed Study	(1-3)			
Required Culminating Coursework (0 - 6 units)				
Comprehensive Exam Track (0)				
Course Name	Credits:	Term Taken	Grade	Gen Ed
GEOL 5960 - Comprehensive Examination	(0)			
OR				
Thesis Track (6)				
Course Name	Credits:	Term Taken	Grade	Gen Ed
GEOL 5970 - Graduate Research (3)	(1-3)			
and				
GEOL 5990 - Thesis (3)	(1-3)			
Notes:				