

# MS IN GEOLOGY

Total units required for MS: 30

## Program Description

The graduate program in Geology offers two tracks to a Master of Science degree in Geology: a thesis-based option in which students pursue a research project and a non-thesis option that culminates in a comprehensive examination. Students who successfully complete the program will upgrade their educational qualifications and be able to advance to doctoral programs or professional positions that require an in-depth knowledge of geologic topics such as tectonics, hydrogeology, environmental geology, and geologic hazards. The University's location in the state capital provides direct access to many local, federal, and state agencies through internship and fieldwork opportunities.

Each student should plan their program according to their background, interests and objectives, in consultation with a faculty academic advisor. Students who are interested in pursuing the thesis-based option should contact potential advisors prior to application to the program. All students enter the program in the non-thesis option and those interested in a thesis must apply to switch to the thesis-based option with the agreement of a faculty advisor.

Graduate students who want to engage in teaching can request an appointment as a Graduate Teaching Associate. Graduate Teaching Associates have the opportunity to teach one to two lower division laboratory courses per semester and are paid at a rate commensurate with their teaching load.

All work toward the degree must be completed within a seven-year period. The general University requirements for graduate degrees are explained in the "Graduate Studies" section of this Catalog or visit the Geology Department's website (<http://www.csus.edu/geology/>).

## Admission Requirements

Admission as a classified graduate student in Geology requires:

- a degree in Geology, or 24 units of equivalent upper-division coursework in Geology which must have been passed with a grade of "C-" or better and includes:

Code	Title	Units
GEOL 10	Physical Geology	3
GEOL 10L	Physical Geology Lab	1
GEOL 100	Earth Materials - Rocks and Minerals	4
GEOL 102	Igneous and Metamorphic Petrology	4
GEOL 103	Sedimentology/Stratigraphy	4
GEOL 110A	Structural Geology and Tectonics	4
GEOL 111A	Field Geology	2
GEOL 111B	Field Techniques	2
<b>Total Units</b>		<b>24</b>

These core undergraduate courses cannot be used as graduate electives by students who do not hold a degree in Geology or equivalent;

- a minimum 3.0 GPA in upper division Geology courses;
- three letters of recommendation from persons familiar with your academic record and professional capabilities, sent directly to the Department;

- a brief statement of interest, faculty sponsorship (for the thesis-based option), area of specialty and long-term goals;
- successful completion of two semesters of inorganic Chemistry with a lab (CHEM 1A and CHEM 1B);
- successful completion of two semesters of Physics with a lab (PHYS 11A and PHYS 11B or PHYS 5A and PHYS 5B); and
- successful completion of two semesters of Math (MATH 30 and MATH 31).

Students who have deficiencies in Admission Requirements that can be removed by specified additional preparation may be admitted with conditionally classified graduate status. Any deficiencies will be noted on a written response to the admission application. You must be admitted to the degree program before graduate level courses will count toward the degree. Students with questions about their qualifications for the program are encouraged to contact the Geology Department Graduate Program Coordinator.

## Admission Procedures

All prospective classified graduate students, including Sacramento State graduates, must follow the application procedures specified by both the Geology Department and the Office of Graduate Studies. *For more admissions information and application deadlines please visit the Office of Graduate Studies website (<http://www.csus.edu/gradstudies/>) and the Geology Department website (<https://www.csus.edu/college/natural-sciences-mathematics/geology/>).*

Applications are accepted as long as space for new students exists. A decision regarding admission will be mailed to the applicant upon review of all application materials.

## Minimum Units and Grade Requirement for the Degree

Units for the MS: 30

Minimum Cumulative GPA: 3.0

- Students must maintain an overall GPA of 3.0 or better in the Program. This means that students who earn a "C" grade in a course can count it towards advancement to candidacy (and count it towards graduation) as long as the overall cumulative GPA remains a 3.0 or better. No more than 6 units of "C" grade will be accepted for graduate credit.


## Advancement to Candidacy

Each student must file an application for Advancement to Candidacy, indicating a proposed program of graduate study. This procedure should begin as soon as the classified graduate student has:

- removed any deficiencies in admission requirements;
- completed at least 12 units in the graduate program with a minimum 3.0 GPA, including at least two courses at the 200-level; Students must maintain an overall GPA of 3.0 or better in the Program. This means that students who earn a "C" grade in a course can count it towards advancement to candidacy (and count it towards graduation) as long as the overall cumulative GPA remains a 3.0 or better. No more than 6 units of "C" grade will be accepted for graduate credit.
- obtained the graduate committee's acceptance of the thesis proposal (for the thesis-based option); and
- taken the Graduate Writing Intensive (GWI) course in their discipline within the first two semesters of coursework at California State University, Sacramento.

Advancement to Candidacy forms are available on the Office of Graduate Studies website. The student must fill out the form after planning a degree program in consultation with their faculty advisor. After approval by the Geology Department Graduate Committee, the completed form is returned to the Office of Graduate Studies for approval.

## Program Requirements

Code	Title	Units
<b>Required Core Courses (9 Units)</b>		<b>9</b>
GEOL 200	Graduate Research Methods Seminar 	3
GEOL 275	Quantitative and Numerical Research Methods	3
GEOL 290	Regional Geology of the Western US	3
<b>Graduate electives (15-21 Units)</b>		
Select 15-21 units of the following: <sup>1</sup>		15 - 21
GEOL 201 SEMINAR IN PETROLOGY		
GEOL 208	Groundwater Modeling	
GEOL 212	Geologic Remote Imaging	
GEOL 213	Seminar in Structural Geology and Tectonics	
GEOL 218	Seminar in Geophysics	
GEOL 220	Seminar in Surficial Processes	
GEOL 223	Seminar in Advanced Geochemistry	
GEOL 227	Seminar in Advanced Hydrogeology	
GEOL 230	Seminar In Geology	
GEOL 240	Advanced Special Topics in Geology	
GEOL 280 SEMINAR IN EARTH'S CLIMATE HISTORY		
GEOL 299	Special Problems in Geology	
<b>Culminating Requirements (0-6 Units)</b>		
Select one of the following plans:		0 - 6
Plan A		
GEOL 500	Master's Thesis	
Plan B		
GEOL 596	Comprehensive Examination	
<b>Total Units</b>		<b>30-36</b>

<sup>1</sup> Courses taken to meet the graduate core requirement will not count as elective courses. Elective courses will be selected with prior approval of the student's faculty advisor. In addition to 200-level courses, these may also include up to 6 units of approved technical electives (but not required courses) from the undergraduate curriculum. GEOL 299 requires prior approval of the Graduate Coordinator, and may constitute no more than 6 units toward the graduate degree.