

## Guidelines for Earning an M.S. Degree in Geology at San José State University

### Requirements

These are the requirements for completing the Master of Science program in Geology at SJSU (these are also listed in SJSU's academic catalog <https://catalog.sjsu.edu/>).

#### 1. *Bachelor's Degree Equivalent*

All candidates must complete the *equivalent* of the SJSU B.S. degree in geology, with a strong background in science and mathematics. A degree in geology from another institution may be equivalent, but some schools have substantially different programs. A list of courses required at SJSU can be found at the end of this document; substitutions of courses from other universities must be approved by the graduate adviser, but all students will be expected to have completed an intensive field course before award of the degree. Upper-division undergraduate geology courses taken to satisfy this requirement can be applied towards the 12-unit electives requirement for the M.S. degree

#### 2. *Seminar*

All students are required to enroll once in the Seminar, Geology 285. Topics and instructors change each semester. The Seminar can be taken at any time and can be repeated once for credit; the second time it counts as an elective.

#### 3. *Graduate Courses*

Twelve units of a student's program must be selected from graduate courses in geology: Geology 213, 214, 220, 222, 231, 234, 237, 238, 242, and 255. Topics covered in 255 vary and the course can be repeated for credit. Students emphasizing marine geology may substitute appropriate 200-level Marine Science courses offered at Moss Landing Marine Laboratories, subject to specific approval of the geology graduate adviser. However, at least one of the Geology courses listed here must be taken; furthermore, 12 units of the total 30-unit graduate program must be in SJSU Geology courses.

#### 4. *Electives*

Twelve units of a student's program are electives. These can include graduate or upper-division undergraduate courses in the Geology Department or any other department. Up to 2 units (total) of Geology 298 (Research, independent study), and/or Geology 184 (Directed Reading) can be used for elective credit. Up to 6 units may be transferred from another institution, provided they were taken in the Graduate Division there and not counted towards the undergraduate degree. Electives should support the student's field of interest; courses in geology, geography, biology, mathematics, and engineering would be likely choices. Courses designed for General Education are not allowed. The faculty member supervising a student's thesis research must approve the selection of the electives.

5. *Geology 299*

Four units of Geology 299, Master's Thesis, are required to complete the 30-unit graduate program. Typically, one unit is taken each semester, beginning with the first semester at SJSU, until the requirement is satisfied.

6. *Competency in Written English*

All graduate students are required to demonstrate their competency in written English as a requirement for graduation. This requirement may be satisfied in one of several ways; the simplest would be by completing Geology 213, 231, 234, or 238. The list of ways for satisfying this requirement can be found here:

<https://catalog.sjsu.edu/content.php?catoid=2&navoid=116#graduation-writing-assessment-requirement>

7. *Thesis Proposal and Oral Examination*

Students entering the M.S. program with a Geology (or equivalent) B.S. are required to take their oral examination in their **second semester**. Students entering the M.S. program without a Geology (or equivalent) B.S. are required to take their oral examination in their **third semester**. The thesis proposal must be submitted to the thesis committee at least two weeks prior to the oral examination. Students failing to meet the deadline for the oral examination will not be eligible for the full amount of departmental research funds; in addition, students failing to meet these deadlines will be required to convene a meeting with the thesis committee and graduate adviser to ensure that satisfactory progress will be made.

8. *Master's Thesis*

A master's thesis is required of all candidates. Assistance with the thesis and final approval are obtained from a thesis committee of at least 3 and, generally, only 3 persons. The chairperson, who is typically the thesis supervisor, and at least one other member of the committee must be regular faculty members (adjunct faculty are not counted as "regular" faculty) in the Geology Department. Qualified individuals not members of the faculty may serve on thesis committees, but more than half of the committee members must be members of the SJSU Geology faculty.

9. *Oral Presentation of Thesis Research*

Graduate students are required to make an oral presentation of their thesis research prior to graduation. The presentation is to be made at the regular speaker series sponsored by the Geology Club and should last approximately 40 minutes, followed by 10-20 minutes for questions. Immediately following the presentation, the student will meet with their committee in a closed-door setting for further questions and discussions. This closed-door portion of the presentation should not exceed 30 minutes, and the student is responsible for arranging a suitable location.

The presentation should not be made before completion of the first draft of the thesis;

moreover, the student must provide a copy of the thesis to the rest of the committee one week before the presentation. Scheduling of the presentation shall be made with the approval of the student's thesis adviser.

#### 10. *Meeting Academic Standards*

In addition to the program requirements listed above, the University requires all students to meet specific academic standards. A graduate student must maintain a cumulative grade-point average of 3.0 (B) in all units attempted subsequent to admission. If a student's grade point average falls below 3.0, the student may be placed on *academic probation* or disqualified from further enrollment. Once on probation, a student must make progress toward returning to clear status by earning better than a 3.0 grade-point average each semester. Graduate students are eligible to repeat courses with letter grades lower than "B" or with grades of "NC," "WU," or "IC" up to a total of 9 units, no matter how many units there are in the individual degree program. Elective classes already taken in the degree program may be added to the candidacy form by means of the Request for Elective Course Substitution in Graduate Degree form. However, all courses taken will be calculated in the GPA because any course taken with its associated grade cannot be removed from the candidacy form.

Moreover, pursuant to University Policy S16-16, a student may be placed on *administrative academic probation* for failure to show satisfactory progress towards completion of the M.S. degree. This decision is made by the thesis adviser in consultation with the graduate adviser and the department chair. To return to good standing, the student must meet with their thesis advisor and design a study plan by the end of the following semester, otherwise they will face disqualification from the Geology Department.

## **Recommended Procedure**

So, what are the steps for completing the program? The typical candidate starts by enrolling in courses. It is important to become acquainted with as many students, faculty members, and activities as possible. Students are the most important source of information on matters of survival in the system. Most of the specific procedures involved in obtaining a degree are worked out in coordination with the thesis adviser so meet with them early and as often as necessary.

As one might imagine, there are forms that need to be submitted at various times. These and other formal steps are summarized here in roughly the order in which they are encountered by a typical student.

### *1. Registration*

Registration for classes at San Jose State University is done online through MySJSU. All students should keep in contact with the Graduate Adviser concerning requirements, etc.

### *2. Thesis Adviser*

During the application process, the student will have contacted their potential thesis adviser, and the student will be accepted into the program with the understanding that they will work with this faculty member. It is expected that the student will consult with their adviser at least once a semester, although more often is preferable. In the event the student selects a thesis topic that better fits the expertise of another faculty member, the adviser can be changed if all parties are in agreement. It is recommended that students begin planning a thesis project as early as possible; thesis research should begin by the start of the second academic year.

### *3. Thesis Committee*

The other members of the thesis committee are selected by agreement between the student and the thesis supervisor. It is recommended that the student take at least one course from each of the faculty members whom they expect to be on their thesis committee.

### *4. Thesis Proposal and Oral Examination*

Before beginning their thesis research, each student is required to submit a thesis proposal and pass an oral examination during which they present and defend their proposal to their committee. Students must take the oral examination in their second semester (students without a Geology or related B.S. can take it in their third semester). The thesis proposal presents background information regarding the student's project (e.g., motivation, relevance, hypothesis), and describes the methods that will be used to carry out the research. The text for the proposal should be 3 -5 pages (double-spaced), with additional pages for figures, tables, and references.

The following is generally included in all proposals:

- 1) *Introduction to the problem*
- 2) *Background information*
- 3) *Hypotheses to be tested and project goals*
- 4) *Methods describing how the hypotheses will be tested*
- 5) *Timeline for research*
- 6) *References*

At least two weeks prior to the oral examination and with approval from the thesis adviser, the student must provide a copy of the thesis proposal to the committee. The oral examination will focus on the thesis and related topics. The Geology Department expects that the student will understand the context of the thesis project, the content of the most relevant references, and the potential value of the thesis project to the geologic discipline. The student should consult with each thesis committee member prior to the examination concerning preparation for it. Following the exam, the thesis committee will exercise one of the following options:

- (a) Pass
- (b) Qualified Pass: the student may be asked to complete remedial reading, additional coursework, or other specified work
- (c) Fail: the student must repeat the exam during the following semester
- (d) Fail: the student will be dismissed from the program

Upon successful completion of the oral examination, the student is eligible for a \$350 grant from the Geology Department to help defray research costs (e.g., travel, equipment, etc.). A brief one-page budget and budget justification must be submitted to the department chair to access these funds. The student must submit receipts to the department for reimbursement. Graduate students failing to take their orals within the specified times will not be eligible for the full amount: for each semester that the oral exam is delayed, the award amount is decreased by \$100. Moreover, these students will need to convene a meeting with their committee and the graduate adviser to develop a plan to ensure that satisfactory progress will be made.

#### 5. *Candidacy Form*

The "Petition for Advancement to Graduate Candidacy" form is a contract that lists the 30-unit program of courses that must be completed by each student to graduate. This form is submitted after the student has successfully completed the Graduate Writing Assessment Requirement and passed her/his oral exam. The form is filed with the Graduate Admission and Program Evaluation (GAPE) office and may be filed before all of the courses have been completed but must be submitted at least 8–9 months prior to graduation. After passing the oral exam, a student should see the graduate adviser to have the proposed program prepared and submitted. Upon approval by the Office of Graduate Studies, this becomes an "approved program," and the student is advanced to candidacy for the Master's degree. If a change is made to the program, the "Request for Course Substitution" form must be submitted to GAPE.

No course included in the program may be older than 7 years at the time a student receives the Master's degree. New courses must be added to the program to replace those that become outdated. Under certain circumstances, expired courses may be "revalidated" by a written examination or other test of subject competency as required by the faculty. No more than one-third (10 units) of the program may be revalidated.

6. *Oral Presentation*

See p. 2, item 9.

7. *Application for Award of Master's Degree*

Early in the student's final semester (check the Graduate Studies website for the exact date), the student must file an Application for Award of Master's Degree, available from the Office of Graduate Studies. If the thesis is not completed that semester, the student must re-file the application and pay a fee.

8. *Geology 1290R*

Students who have completed all of their degree requirements other than their thesis **and** are not enrolled in any other courses **must** sign up for a unit of 1290R. Enrollment must be repeated each semester until degree completion. There are no class meetings for the course as it is supervisory in nature; however, there is a modest fee associated with it. Registration for the course is delayed until students are given the opportunity to enroll in other courses. The Registrar's Office will check to determine the students who are eligible and will notify the students via a MyJSU message. The students may then register online through MyJSU.

9. *Thesis Approval*

The thesis should be prepared in close consultation with the thesis supervisor and thesis committee. Specific information about format guidelines, deadlines, and other matters can be found on the websites of the College of Graduate Studies (GCS) and the Geology Department. Other specific questions should be directed to the thesis supervisor or graduate advisor.

The signatures of all members of the thesis committee must be secured before submitting the thesis to CGS as a .pdf file, for approval. CGS will only review a thesis once each semester.

Full-text versions of the thesis are available through the MLK Library's online institutional repository, depending on the publishing and license options the student selects. Students may order bound paper copies of their thesis through the ETD administrator.

A pdf of the thesis and a paper copy must be submitted to the Geology Department when the final electronic version is sent to GUP.

When the course work has been completed and the thesis has been signed by the thesis

committee and accepted by the College of Graduate Studies, the University will award a Master's degree at the next commencement.

Congratulations!

**CORE GEOLOGY CLASSES REQUIRED FOR NON-MAJORS EARNING AN M.S. GEOLOGY DEGREE**

1	General Geology	3
7	Historical Geology	4
28	Geology Outdoors	1
120	Fundamentals of Mineralogy	3
122	Petrology	4
124	Sedimentology & Stratigraphy	3
125	Structural Geology	4
129	Field Geology (Field Camp)	4

**REQUIRED SUPPORTING COURSES**

Calculus – 2 semesters (with the thesis adviser’s approval, 1 semester of statistics may be substituted for the second semester of calculus)

Chemistry – 2 semesters

Physics – 2 semesters