

# GEOLOGICAL SCIENCES, MS

**Degree:** Master of Science (MS)  
**Field of Study:** Geological Sciences

## Program Overview

The Master of Science in Geological Sciences program, offered by the Earth, Environmental and Planetary Sciences Department, is flexible so as to meet the needs of the individual student. General areas of study include benthic ecology, biostratigraphy and paleontology, environmental and urban geology, geomorphology, limnology, paleoclimatology, petrology, sedimentary geochemistry, sedimentation and stratigraphy, stable isotope studies, meteoritics, planetary materials, geodynamics of planetary interiors, and planetary geology.

## Background Required of Entering Students

The coursework background of all incoming graduate students is evaluated at the time of admission. If deficiencies are deemed to exist in some areas, admission may be contingent upon completion of background courses. After arrival, the coursework background of each incoming graduate student will be reviewed by the student's advisor to determine whether background deficiencies exist for their planned program of study. A student whose background is deemed deficient will, in consultation with their faculty advisor, determine which courses shall be taken to alleviate the deficiencies. Background deficiencies will normally be made up in the first year of graduate study. Some remedial coursework may not count toward graduate credit.

## Advisor

Each incoming graduate student will be assigned an advisor from the faculty of the department. The assignment will be based on the background and interests of the student. The advisor may be changed with the approval of the student's Graduate Committee. The student should meet with their advisor before registration for the first semester of study in order to outline an initial program of studies for the Geological Sciences MS degree. Additional meetings with the advisor should take place before the student registers for subsequent semesters, and from time to time, to review and update this program and discuss the student's progress.

The Graduate School requires that each student file an official Program of Study with the Office of Graduate Studies before they can receive a degree. Normally, this document is submitted during the second semester, subject to later revisions as conditions necessitate.

## Graduate Committee Progress Reports

In addition to the regular, continuous contact the student has with their advisor, the student will receive an annual review of their progress from their Graduate Committee. These progress reports will be based on coursework performance and Graduate Committee discussions with the faculty advisor.

## Graduate Policies

For graduate policies and procedures, please review the School of Graduate Studies section of the General Bulletin.

## Program Requirements

Students must satisfy the university requirements stipulated in the General Bulletin as well as the departmental requirements described below. A minimum of 30 credit hours beyond the bachelor's degree is required for the MS, and the student must spend at least one year in full-time residence at CWRU. Full-time graduate study consists of 12 credit hours, or 9-10 credit hours where the student has contractual assistantship obligations to the department.

Every graduate student must register once for EEPS 490. As part of EEPS 490, the student will develop skills in preparing a research project and writing a research grant proposal. Registration for this course is typically in the spring of the first year of the program.

All graduate students are expected to regularly attend Earth, Environmental, and Planetary Sciences Seminars.

The university requires that students maintain a cumulative grade-point average of at least 2.75 for all courses; the department requires a 3.0 cumulative average for Earth, Environmental, and Planetary Sciences courses. Courses below the 300-level may not be counted for degree credit. With the approval of the Graduate Committee, a maximum of 6 credit hours of graduate-level credit may be transferred from another university. Transfer credit will not be given for courses used for degree credit by the student elsewhere. A student will be terminated for any of the following reasons:

- A grade of F in any Earth, Environmental, and Planetary Sciences course
- More than one grade of C or lower in Earth, Environmental, and Planetary Sciences courses
- More than one grade of F in a non-Earth, Environmental, and Planetary Sciences course
- A grade of I that is not converted within one calendar year

Any 300-level Earth, Environmental, and Planetary Sciences course in which a grade of C or below is obtained will not be counted toward the degree requirements. No course in which a grade of D or below is earned will be counted toward the degree requirements.

Students can complete degree requirements for a Geological Sciences MS under one of two tracks: thesis-focused or project-focused.

### Thesis-focused MS

During the second semester, the student will present their thesis prospectus. This will usually be done at a seminar open to the department and will typically follow the work in EEPS 490. The seminar consists of a discussion of the project and the general field in which it lies in order to determine the preparedness and capabilities of the student and the practicability of the project.

A thesis describing original and independent research by the student is required for the MS degree under the thesis-focused track. In preparing the thesis, the student will have the guidance of one or more advisors, and the thesis should be submitted with their approval. Approval of the format of the thesis must be obtained from the Graduate Office at least one month before graduation (see "Instruction for the Preparation of Theses and Dissertations," available on request in the Office of Graduate Studies). The thesis must be orally defended before the project committee in an examination which is open to the public. The defense must be taken at least one week before the granting of the degree. In

practice, a longer period of time should be allowed so that the student can incorporate any corrections suggested at the defense.

### **Project-focused MS**

This requires a comprehensive oral examination involving knowledge of the principles of a student's area of study. This examination is usually given in the final semester. The examination will be given by a committee consisting of the student's advisor and at least two other faculty members selected by the advisor. The examination is open to other faculty members who may ask questions but have no vote in the grading. One question will be given to the student by the examining committee, not more than seven days nor less than two days prior to the examination. This question will be conceptual in nature and will test the student's ability to reason and find a method of solution for a particular problem. The examination will begin with a discussion of this question. A unanimous vote of the committee is required to pass the examination. If two-thirds of the members vote to recommend passing, the committee may then consider passing the student contingent upon the fulfillment of other conditions. A unanimous vote is required for the stipulation of specific conditions.

If the examination is not passed, the student may retake it after a successful petition to the Graduate Committee, but re-examination must be before the end of the first month of the next semester. No examinations will be given later than the last day of classes. A student who fails re-examination or is denied re-examination is terminated from the Geological Sciences MS program.