

# Master of Science in Geology

## Geology Graduate Programs

KU Geology is comprised of students, faculty, staff, and alumni who are inspired by a collaborative and multidisciplinary mission to undertake scientific discovery that benefits society.

Our program is large enough to be led by world-renowned faculty with expertise in areas that span the geosciences, from energy to the environment, volcanology to the cryosphere, microbes to ancient rock, and more. At the same time, we are small enough to offer personalized, student-centered learning experiences. We are located in the world class Earth, Energy, and Environment Center (<https://eeec.ku.edu/>), which houses state-of-the-science laboratories, collaborative spaces, and classrooms.

Our program provides students with a comprehensive curriculum in geoscience with unique research opportunities, including acclaimed field experiences. KU Geology runs one of the oldest field camps in the nation (established in 1922 in Cañon City, CO) and our program emphasizes field instruction at all levels and in locations near and far.

Our students are generously supported by scholarships and resources (<http://geo.ku.edu/facilities/>) that allow them to take advantage of all that KU Geology has to offer. Geoscience is a prolific field, with high demand for our graduates in careers that significantly impact society. We maintain a long tradition of connecting our graduates to career and interview opportunities, as well as to our GHawk Community of successful geoscience alumni and professionals around the world.

We invite you to explore further information about KU Geology on our website (<http://geo.ku.edu/>) and we welcome all inquiries related to our program.

## Admission to Graduate Studies

An applicant seeking to pursue graduate study in the College may be admitted as either a degree-seeking or non-degree seeking student. Policies and procedures of Graduate Studies govern the process of Graduate admission. These may be found in the Graduate Studies (<https://catalog.ku.edu/graduate-studies/>) section of the online catalog.

Please consult the Departments & Programs (<https://catalog.ku.edu/liberal-arts-sciences/>) section of the online catalog for information regarding program-specific admissions criteria and requirements. Special admissions requirements pertain to Interdisciplinary Studies degrees, which may be found in the Graduate Studies section of the online catalog.

## Graduate Admission

Admission is based on academic records including GPA and general preparedness in geology and supporting sciences, letters of recommendation, and the applicant's stated academic and professional interests and goals. An attempt is made to balance the interests of students with the availability of faculty members to supervise them and laboratory space in which they may work.

\*\*Graduate Record Examination (GRE) scores are not required for the application. Applicants may choose to submit GRE scores if they feel

it will help inform the department of their academic abilities. However, choosing not to submit scores will not affect your chances of admission.\*\*

**The Department of Geology will review your application only after the application process is complete. \*Please note that it is essential for all applicants to contact and communicate with a potential faculty supervisor in the Geology Department. Their evaluation and acceptance of graduate students is an important part of the admission evaluation.**

You will need the following for your application:

1. **Official transcripts and proof of graduation:** U.S. universities generally indicate on transcripts if a degree has been conferred. However, if such a statement does not appear on a transcript, separate proof in the form of a degree certificate or diploma, issued directly by the institution, is required. Photocopies are not accepted. Transcripts from all post secondary institutions that you have attended are necessary for your application. Failure to provide them could result in delay processing your application. If a student is admitted before completing his or her undergraduate degree, the documentation proving he or she did graduate must be supplied to the Dept. of Geology *before the end of the student's first semester at KU.*
2. **3 Letters of Recommendation:** You will be asked for the names and email addresses of three people who can write a recommendation letter describing your qualifications for graduate school in geology. Once you submit the application, an email will be sent requesting a letter from each person that you name. Once the applicant submits the online application form (see point 1), referees will receive an email notification with detailed instructions on how to submit a letter of reference.
3. **Resume/CV:** Please include awards, extra curricular activities (student organizations, community outreach), presentations, and publications.
4. **Personal Statement:** This is included in the on-line application form and should be about 2 pages, typed. The Graduate Studies Committee places considerable importance on the thoughtfulness of your remarks – in particular, we are interested in learning about (1) your specific interests within geology and why they are important and interesting to you, (2) what you envision as your educational and career objectives and how a degree from KU Geology helps to meet those objectives, and (3) which of our faculty members you think would be an appropriate graduate advisor and mentor.

## ADDITIONAL REQUIREMENTS

Non-native speakers of English must meet English proficiency requirements (<https://gradapply.ku.edu/english-requirements/>).

**The Department of Geology will review your application only after the application process is complete.**

Submit your graduate application online (<https://gradapply.ku.edu/apply/>).

Inquiries may be sent to the department **Graduate Program Coordinator**

## M.S. Degree Requirements

Detailed information on department regulations for Graduate Students can be found in the KU Geology Graduate Student Handbook. While completing the following degree requirements, graduate students are

expected to understand and follow Office of Graduate Studies policies relevant to their student status and academic standing. These policies can be found in the Policy Library (<https://policy.ku.edu/>).

Prerequisites normally include credit in one year each of general biology, general chemistry, general physics, and calculus, plus junior- or senior-level courses in mineralogy, petrology, structural geology, paleontology, stratigraphy, geophysics, and a summer course in field geology. Students planning to specialize in geophysics also should have more advanced backgrounds in calculus and physics. Incoming graduate students meet with a departmental advisory review committee before enrollment to identify deficiencies and strengths and to set up curricula aimed at providing a broad background in geology at the intermediate to advanced level during the first year. Some deficiencies may be waived at this time if they are deemed nonessential.

Geology has many subdisciplines, and the department tailors each student's curriculum to the needs of the individual. There is no departmental core curriculum. For elective course options, please review the 500 level or above Geology courses (<https://catalog.ku.edu/archives/2024-25/liberal-arts-sciences/geology/#courseinventory>) listed in the academic catalog.

## **Required Courses**

GEOL 701 Graduate Students Professional Skills & Ethics with a grade of "B" or higher

Thesis Option (M.S. Degree) – 6 credit hours of GEOL 899 Master's Thesis

## **Thesis Option (M.S. Degree)**

The master's degree curriculum requires completion of 30 credit hours, including up to six credit hours for thesis research, and an acceptable master's thesis. At least 50% of coursework for the master's degree must be taken at 700 level or above. The student sets the curriculum in consultation with a 3-member advisory committee selected from the Graduate Faculty and approved by the Graduate Advisor. Course work counted toward the degree must be distributed to provide a comprehensive general knowledge of geology in addition to specialized knowledge required for the thesis. It may include courses in departments other than Geology. Courses numbered 500 level or above can count toward the master's degree.

Although the Department of Geology does not award a master's degree in geophysics, students can specialize in geophysics at the master's level. The requirements for the degree are overseen by geophysics faculty within the Department and scientists on the staff of the Kansas Geological Survey. Geophysics research projects are also supervised by Departmental geophysics faculty and scientists on the staff of the Survey. Similar arrangements with faculty outside the Department can be made for students specializing in geobiology, glaciology, hydrogeology, paleontology, sedimentology, or tectonics.

Students seeking to earn an M.S. in geology must maintain at least a 3.0 grade-point average in geology and supporting science courses and pass a final oral general examination with emphasis on the areas of geology relevant to the thesis project.

## **Thesis Defense**

Students should submit theses and dissertations directly to their advisors, and this advisor's approval must be received before a "clean and complete" version of this document is passed on to other committee members and the final oral defense is scheduled.

- Before the final oral defense can be held, the thesis must have the approval of the student's committee and a copy of the thesis must be shared to the entire faculty for comment for at least one week. The thesis should be submitted to the Graduate Academic Advisor so it can be distributed to all faculty, courtesy, and emeriti.

- No later than 3 weeks prior to the scheduled defense, the student must submit a list of committee members, the proposed date and time, and the thesis title to the Graduate Academic Advisor. The Graduate Academic Advisor will file a petition of completion of Master's exam with the College so that the milestone can be noted on the student's record. Pre-approval from COGA is required. This approval must be sought by the department at least two weeks prior to the exam date. COGA checks to ensure that the student has fulfilled certain University requirements.

The M.S. thesis defense starts with a twenty-minute presentation by the student with a summary of the thesis research. Following the presentation, student, other guests, and faculty members may ask questions of the student; such questions typically are related to the presentation. After the question period, all guests are excused, and questioning continues with only the committee and the student. After this second period of questioning the student is excused and the committee discusses the performance.

The student can receive a satisfactory or unsatisfactory grade for the defense from each committee member. Department guidelines consider that a student passes the defense if most of the committee views the defense to be satisfactory, which means the student has successfully completed requirements of the degree program. The defense may be repeated once, if an unsatisfactory grade is received.

## **Nonthesis Option (M.S. Degree)**

A student may complete an M.S. degree program based primarily on course work and specialized skills. For this degree, a minimum of 36 credit hours of graduate-level study must be completed, including two written reports based on small projects (non-thesis with projects) or a single written report on a prescribed topic (non-thesis without projects). At least 50% of coursework for the master's degree must be taken at 700 level or above. The student determines the structure of the curriculum and projects in consultation with an advisory committee of 5 faculty members. A student must declare an intention to follow the nonthesis option during the first semester of graduate study. The nonthesis degree is a terminal degree and normally cannot lead to doctoral study. In addition to maintaining a 3.0 grade-point average in course work, the student must demonstrate proficiency in the areas of geology covered by the program. This is accomplished by satisfactory performance on a series of written examinations assembled and administered by the advisory committee (non-thesis with projects) or an oral examination (non-thesis without projects). These constitute the final examination for the degree and may be repeated once, if necessary.

During or after the period of residence, a student who wishes to change to an M.S. (thesis) program or a Ph.D. program must petition the Geology Graduate Studies Committee.