

# Doctor of Philosophy 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

### Admission Requirements

- All applicants must meet the requirements outlined in the Admission to Graduate Study (<https://policy.ku.edu/graduate-studies/admission-to-graduate-study/>) policy.
- Bachelor's degree: A copy of official transcripts showing proof of a bachelor's degree (and any post-bachelor's coursework or degrees) from a regionally accredited institution, or a foreign university with equivalent bachelor's degree requirements is required.
- English proficiency: Proof of English proficiency (<https://gradapply.ku.edu/english-requirements/>) for non-native or non-native-like English speakers is required. There are two bands of English proficiency, including Admission and Full proficiency. For applicants to online programs, Full proficiency is required.

## 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. Students with exceptional records may be invited to study for the Ph.D. without first earning the M.S. degree.

\*\*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.

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

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

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

## Ph.D. Degree Requirements

Doctoral students can complete their studies in any area of faculty expertise, including sedimentology, paleontology, tectonics, geobiology, glaciology, geophysics and hydrogeology. Prospective Ph.D. candidates are subject to the same initial requirements as master's students, but the master's degree is not a prerequisite for acceptance into the doctoral program.

The student's advisory committee and the student construct a curriculum that offers the best preparation for the chosen field of interest and satisfies the research skills requirement. Moreover, each student is expected to enroll in courses in supporting fields to develop a broader perspective on the geological sciences and related fields.

Incoming graduate students meet with their advisor before enrollment to identify needed prerequisites and to set up curricula aimed at providing a broad background in geology at the intermediate to advanced level during the first year. Some prerequisites may be waived at this time if they are deemed nonessential. Prerequisite courses may not count toward graduate degrees. The actual program of study will be developed by the advisory committee in consultation with the student, and will be designed to meet the needs of the student's research and career interests.

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/>).

Code	Title	Hours
GEOL 701	Graduate Students Professional Skills & Ethics	2
	Research Skills: In consultation with the advisory committee, the student must choose at least 3 graduate level courses from outside of the department that are relevant to their research. See Research Skills & Responsible Scholarship below for more information about this requirement.	9
	Electives: These courses are selected with the student's faculty advisor. They may be Geology courses or courses outside of the department	15
<b>Total Hours</b>		<b>26</b>

## Research Skills & Responsible Scholarship Requirements

The university requires that every doctoral student have training in responsible scholarship, and in research skills pertinent to the field of research and appropriate to the doctoral level. This requirement must be met before taking the comprehensive oral exam. Doctoral students in geology meet this requirement by the following:

- Completion of GEOL 701 Graduate Students Professional Skills & Ethics with a grade of "B" or higher will satisfy the Responsible Scholarship Requirement.
- With the approval of the advisory committee, the student may meet the research skills requirement by taking either a curriculum of at least three graduate-level courses outside the department that are relevant to the specialty, or by completing a combination of languages, research skills, and courses.

Either coursework plan must be approved by the Director of Graduate Studies, and a list of these courses must be included in the student's

file. Contact your advisor or the Director of Graduate Studies for further information about research skills and responsible scholarship.

## Admission to Candidacy

To be admitted to Ph.D. candidacy, a student must pass an oral comprehensive examination on the field of geology in which the student is doing doctoral research, and on other relevant areas of geology and the supporting sciences. The student must prepare a research proposal based on the doctoral research project before the oral comprehensive examination, and have it approved by the advisor and advisory committee. The examination is based on the material presented in the proposal and its application to the geological sciences in general. The examination is conducted by a 4-member committee in compliance with the Doctoral Student Oral Exam Committee Composition policy (<https://policy.ku.edu/graduate-studies/doctoral-student-oral-exam-committee-composition/>). The same committee is also responsible for conducting a final oral examination based on the doctoral dissertation. Three members of the committee are responsible for supervising the research and preparing the student for writing of the dissertation.

The criteria for admission to candidacy is at the discretion of the committee. The minimum requirements are an Oral Comprehensive Exam and Proposal Defense. Other things could be added, for example, a Written Exam. Here are a few examples of what has been done to meet the requirement.

1. Ph.D. Proposal Defense followed by the Oral Comprehensive Exam on the same date
2. Ph.D. Proposal Defense and Oral Comprehensive Exam on different dates
3. A Written Exam followed by the Ph.D Proposal Defense and Oral Comprehensive Exam,
  - Generally a written exam should be completed first, and on a separate date
  - The proposal defense and Oral Comprehensive Exam can then be taken on the same date, or on different dates as above.

## Dissertation Defense

When the advisory committee has approved the dissertation as defensible, the student requests approval to schedule the final oral exam, which consists of a defense of the dissertation. The final dissertation defense begins with a public lecture on the dissertation research by the candidate. This lecture typically lasts no more than 45 minutes. Members of the Department faculty, students, and the public are encouraged to attend this presentation. Following the lecture, the candidate may be questioned by students, guests, and faculty members. Following the initial period of questioning, students and guests are excused; and the examination continues with questioning by the committee and other faculty members within the department who wish to participate. At the end of this second period of questioning, the candidate is excused, and faculty members in attendance discuss the defense. Members of the committee then determine whether the dissertation was satisfactory or unsatisfactory.

For the Oral Comprehensive Exam and the Dissertation Defense, two outcomes are possible: satisfactory or unsatisfactory. If the student receives a grade of unsatisfactory on either examination, it may be repeated once on the recommendation of the advisory committee. If the student receives an unsatisfactory grade a second time, they will be recommended for dismissal from the program.

## Shared Doctoral Program with Kansas State University

The Department has a shared education program whereby doctoral students may study under the direction of a faculty member of the Department of Geology at Kansas State University, with a KU faculty member as co-chair of the dissertation committee. After one year of course work in Lawrence to fulfill the residency requirement, students may enroll at Kansas State University. Degrees are awarded by KU. For specific information on departmental practices in shaping individual curricula, in controlling general examinations, and in evaluating dissertation proposals, contact the department Director of Graduate Studies.

At the completion of this program, students will be able to:

- Demonstrate the ability to identify and articulate a significant problem in the geosciences.
- Demonstrate a mastery of previous work and published literature relevant to both the research topic, and its geosciences context.
- Demonstrate familiarity with methods consistent with the state-of-the-art within the discipline.
- Demonstrate the ability to produce an original contribution to knowledge within the geosciences.
- Demonstrate the ability to communicate efficiently and effectively through technical writing, and publication of research results.
- Demonstrate the ability to defend the work when questioned by the advisory committee and peers.