More than a career

Achieving a bachelor’s degree in geology can be one of life’s greatest satisfactions. With this, you have understanding of the very shape of the landscape, of conditions affecting the availability of clean water, of problems we face in the search for energy and resources, and more. And because the College of Arts and Sciences emphasizes a well-rounded education, you’ll have an appreciation of the humanities and social sciences as well. Even if you never work as a geologist, you’ll be better prepared to make decisions that affect your future.

Career opportunities

At no point in the past 60 years has there been such a sustainable demand for geologists. This involves three distinct employer groups: the energy sector (mostly petroleum), the environment sector (mostly groundwater and hazards) and the government sector (research and regulatory agencies). Their demand for new geologists is many times the number of geology graduates available.

Although every student we graduate is finding job opportunities, we strongly recommend the additional study leading to an M.S. in geology. The master’s is the professional-level degree in geology and carries advancement opportunities that are lacking at the B.S. level. Continuing for a master’s degree right after your bachelor’s can take as little as 15 months if you pay your own way or 24 months if we pay you as a graduate teaching assistant.

Right now, the demand for geologists is reflected in salary offers. The petroleum industry is leading the way, offering as much as $60,000 to B.S. graduates (although few major companies are hiring B.S. graduates). Environmental firms and government agencies are paying more like $35,000 to $45,000.

For new M.S. graduates, petroleum companies are offering more than $80,000, sometimes with major perks. Environmental firms pay exceeds $50,000, and government agencies are not far behind. These figures are based on 2010 reports in various media and cannot be guaranteed.

Financial aid

The alumni of the geology department have shown their support and their generosity by endowing more than 20 scholarships, including several that can be awarded to entering freshmen. In recent years the total scholarship funding for geology majors and graduate students has averaged around $50,000, with individual awards ranging from $500 to $4,000.

K-State geology department

As of fall 2008, the department has 10 full-time faculty members, one research faculty member and one part-time instructor. We expect 13 to 14 graduate students and between 55 and 60 undergraduate majors. As a small department, we know one another. Together with our student clubs, the Williston geology club and the Sigma Gamma Epsilon honor society, we share picnics and pizza lunches, organize field trips and community service events, and host outside speakers. We have research opportunities for upper-level undergraduates as well as graduate students.

Standard curriculum

Geology majors may earn either a B.S. or a B.A. degree, with the difference being foreign language requirement for the B.A. In addition to the College of Arts and Sciences distribution requirements, the major requires eight credit hours of chemistry (CHM 210 and 230), eight of physics (PHYS 113 and 114), four of calculus (MATH 220) and 41 credit hours of geology. Students entering the geology major as freshmen can readily complete the degree requirements in four years, with part of one summer used for a field geology course. A suggested semester-by-semester plan is presented on this sheet.

Every year, some students enter the geology major as transfers. Each case is different, but in general students who have 60 transferable hours including English, speech, math, physics and chemistry requirements, have had GEOL 100 and GEOL 103, and who are entering the program in the fall semester should be able to complete their degrees within two years and a summer. A possible plan is on this sheet.

Other transfer students should plan on three years to complete their degrees. Our advisors will help prepare detailed schedules.

Curriculum variations

Students who feel uncomfortable going directly into calculus are encouraged to take college algebra first. This can be done without upsetting the curriculum. The standard four-year curriculum permits either breadth or specialization in the last three semesters. With room for 11 electives, you can develop skills in geophysics, hydrogeology, geochemistry, petroleum geology or other fields. Alternatively, you could take some courses in each of these to maintain a general background. Explore these options with your advisor.

Other geology programs

The department of geology cooperates with the department of civil engineering to offer a dual degree. We also cooperate with the College of Education to offer an earth science option for high school teachers. Finally, the geology department offers minors in both geology (18–20 hours) and geophysics (16 hours). See the catalog at www.catalog.k-state.edu for details on these.
Two-year transfer curriculum

Junior year

Hrs. First semester
3 GEOL 502 Mineralogy
3 GEOL 581 Invertebrate Fossils
9 Humanities or social science electives* (three courses)
15

Hrs. Second semester
3 GEOL 503 Petrology
3 GEOL 520 Geomorphology
3 GEOL 530 Structural Geology
6 Humanities or social science elective (two courses)
15

Senior year

Hrs. First semester
3 GEOL 605 Introduction to Geochemistry
or
GEOL 640 Introduction to Geophysics
3 GEOL 560 Field Methods
3 Geology elective, 600 or above
6 Humanities or social science electives* (two courses)
15

Hrs. Second semester
3 GEOL 750 Geologic Evolution of Planet Earth
4 GEOL 630 Stratigraphy Sedimentation
3 GEOL 599 Senior Thesis
or
Geology elective, 600 or above
3 Humanities or social science electives* (one course)
3 Elective (free choice)
16

Hrs. Summer
3 GEOL 680 Field Geology, Summer Field Camp (120 hours needed for graduation)
*Distribution requirements

The College of Arts and Sciences requires each student to take 11 credit hours (four courses) in the humanities and 12 credit hours (four courses) in the social sciences. See the undergraduate catalog at www.catalog.k-state.edu for details.

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