

What can I do with a degree in... **GEOLOGY?**

Why study **GEOLOGY?**

Geology is the study of the Earth, which includes its physical structure; the rocks, soils, streams, and ground-water components; and the processes that shape our planet in the present as well as the past. Geology also includes the study of those same materials and processes on other bodies in the solar system such as the Moon, Mars, and asteroids.

At Western Carolina University, geology is an interdisciplinary, field-based science that includes research components in the form of class-projects, independent studies, fieldtrips, and a senior thesis (group or individual). Each student who graduates from WCU with a degree in Geology will have encountered authentic research experiences, culminating in the senior capstone project.

Beyond fieldtrips associated with individual classes or research projects, students can also participate in a variety of fieldtrip courses. Students will also engage in a number of experiences inside a laboratory setting. Opportunities abound to understand the chemical composition of rocks, minerals, and water; examine materials under a microscope that cannot be seen with the naked eye; and learn how to recognize and classify different rocks, minerals, soils, landscape, and deformation features that tell us about the history of the Earth.

What are the **DEGREE OPTIONS?**

Bachelor of Science (B.S.) in Geology

What are the **CONCENTRATIONS?**

There are three undergraduate degree concentrations available to students within the Geology major: **Environmental Hydrology, Solid Earth, or Interdisciplinary.**



Environmental Hydrology: A focus on water, particularly its movement on the surface and beneath the ground, as well as the ways in which water shapes the soils and landscapes on the surface of Earth.

Solid Earth: A focus on the rocks and minerals of Earth, particularly their identification and their formation mechanism(s) to allow the interpretation of the past history of the Earth from geologic materials.

Interdisciplinary: The most flexible of the concentrations, upper-level science and math courses can be counted towards degree requirements, as well as some upper-level courses from other departments such as environmental policy. This concentration is ideal for students who want to double major, such as with Environmental Science or Education.

What is the **ADMISSION PROCESS?**

Students declare a major in Geology with the Advising Center, located in Killian Annex. Please make an appointment with your advisor via Navigate, located in your MyWCU.

What **JOBS ARE AVAILABLE?**

Depending on the concentration and other qualifications, our graduates are prepared to become a variety of professionals including engineering geologists, atmospheric scientists, water specialists, geochemists, conservation scientists, mudloggers, geophysicists, water resources planners, environmental engineers, hydrogeologists, land agents and land surveyors, water quality specialists, drilling engineers, and volcanologists.

NOTE: Advanced degrees (such as a master's or Ph.D.) may be required for some of the listed professions. Please see a career counselor or a Geology advisor for more information.

Who employs **GEOLOGY** graduates?

Our graduates often work with mining, oil, gas and petroleum industries; groundwater industries; environmental consultancies, civil engineering and construction companies, environmental and government agencies, as well as school systems and other education-related organizations.

MAJOR MAP

How to use this map: Review the four categories and suggestions of activities and when you should consider engaging in them. Remember, these are just suggestions! There is a fillable space for you to add in any other ideas you have to set yourself up for success in life after college.

1st YEAR

2nd YEAR

EXCEL IN ACADEMICS

Many students seeking to apply for the Geology major will focus on the liberal studies requirements as well as introductory geology courses. [Check out the 8-semester plan for your concentration](#) and make an appointment with your advisor.

Students in their second year will likely continue with liberal studies electives as well as additional geology courses. [Check out the 8-semester plan for your concentration](#) and make an appointment with your advisor.

GET HANDS-ON EXPERIENCE

Check out [WCU's DegreePlus program](#) and choose which events in any of the four categories you want to attend. Categories include: Professionalism, Teamwork, Leadership, or Cultural Responsiveness.

Get involved with the Geology Club.

See what on-campus employment opportunities are available by logging in to JobCat via your MyWCU.

If you are thinking about attending a graduate school, start engaging in hands-on experiences required in graduate school admissions.

Engage deeper with [DegreePlus](#); choose an additional competency to complete

Talk to professors about research opportunities.

BE PART OF THE COMMUNITY

Connect with the [Center for Service Learning](#) and ask about the [Lily Award](#), a program aimed to encourage students to be connected with their community.

Job shadow with professionals in the career area you wish to pursue.

Volunteer with area non-profits or organizations which interest you.

Consider the [study abroad programs related to geology](#) Talk with a study abroad advisor about targeted experience for your concentration. Or, take a field trip course.

PREPARE FOR LIFE AFTER COLLEGE

Further explore your career options or career interests using the [Center for Career and Professional Development's](#) online resources, [Focus 2](#), and [Onet Online](#).

Check out [CCPD's list of career-building activities](#) and participate in an activity this year, such as attending Career Fair Plus.

Connect with a career counselor early on to explore opportunities and experiences you can do while in college to further develop your professional resume.

Start a spreadsheet of graduate schools you wish to apply to in a few years with their admission requirements so that you are aware of the expectations.

Looking for a minor? Consider these options:

Anthropology
Biology
Chemistry

Environmental Science
Environmental Health
Geography

Natural Resource Conservation

3rd YEAR

Third level courses focus on upper-level geology and special topics relating to the concentration. [Check out the 8-semester plan for your concentration](#) and make an appointment with your advisor.

Consider internship experiences that will give you practical and hands-on experience to put on a resume.

Consider networking with professionals in your field at national or regional professional conferences such as the Geological Society of America annual or regional meetings, American Geophysical Union Fall meeting, or Lunar and Planetary Science Conference.

Develop deeper relationships with the organizations for which you volunteer. Ask for special projects or responsibilities that you can highlight on a resume.

Connect with alumni in your field through [LinkedIn](#)

Visit the CCPD to hone your professional resume and cover letter. Apply for internships. Utilize the [Writing and Learning Commons](#) for MCAT, GRE, and other professional exam preparation sessions. Use [Big Interview](#) to learn more about professional interviews.

Schedule a visit to tour medical/ graduate schools of your choice, if applicable.

4th YEAR

Courses in your final year will complete the geology and concentration courses, as well as your chosen general electives. Be sure to [check out the 8-semester plan for your concentration](#), make an appointment with your advisor, complete your degree audit, and [apply for graduation!](#)

Investigate requirements for full-time jobs. Assess what skills or experiences you're lacking and invest time in seeking additional opportunities such as certification programs, classes, or professional development workshops during your last year to fill that gap. Connect with your faculty advisor or career counselor.

Join professional Geology organizations such as the Geological Society of America or the Geophysical Union.

Network with employers and non-profits at the annual Career Fair Plus event, held each October and February.

Apply to graduate schools, if applicable.

Look for and [apply for jobs](#) between 4 and 6 months before graduation.

Polish your resume, cover letter, and interview skills by using the [CCPD](#).

Internships are still the number-one educational experience employers look for in a recent college graduate resume. (Chronicle of Higher Education's study on 59,000 employers)

DID YOU KNOW?

MORE INFORMATION

INTERNSHIP Information

At Western Carolina University there are numerous internship opportunities for students. In some cases internships are established through a faculty member in the student's major. Oftentimes students find part-time jobs in an area related to their field of study. When this happens, students should discuss with their academic advisor the possibility of receiving college credit. Generally, three hours of general elective credit can be earned for a minimum of 200 hours of experience.

SKILLS LEARNED in the classroom

The core competencies will center on developing skills, knowledge, and attitudes such as:

- independent thinking
- critical thinking
- problem solving
- observation
- data collection
- written and oral communication
- professional teamwork
- analytical reasoning and interpretation
- curiosity and creativity
- statistical analysis
- research skills
- analytical and quantitative abilities

KNOWLEDGE Base

This program will prepare students to:

- Use effective written, oral, and graphic communication skills in general and within geology.
- Conduct geological research, including problem definition, study design, analytical procedures, analysis of results, and communication of results.
- Use a broad understanding of geological knowledge and supporting field, laboratory, and computer skills.
- Solve problems independently in the field and in the lab.

Professional **RESOURCES**

- American Institute of Professional Geologists: www.aipg.org
- The Geological Society of America: www.geosociety.org/index.htm

QUESTIONS?

For questions, please call the Geology program at 828-227-7367 or visit geology.wcu.edu.

To schedule an appointment with a career counselor, contact the Center for Career and Professional Development, 828-227-7133 or careerservices@wcu.edu.