

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

## Why study **GEOLOGY?**

A geology degree offers a rich, diverse educational experience while opening doors for meaningful careers in earth and environmental science. Geologists contribute to solutions to many societal problems, such as finding new and useful earth resources, minimizing earth hazards such as landslides, securing clean water resources, restoring degraded streams and wetlands, learning how and why climate is changing today and in the past, investigating major extinctions in the past and present, recreating past tectonic events to gain insights on mountain belts and hazards today, and even looking beyond earth to study planetary bodies.

At Western, our students get experience actually doing geology, and are supported by faculty and fellow students in the classroom and lab, at our on-campus hydrological research station, and on many outdoor field trips. All geology majors get an internship-like research experience to solve a real-world geological problem and communicate their results to the professional community. Most alumni pursue geosciences careers, such as work in environmental fields, for government agencies, in K-12 education, and in energy resources. About one-quarter of alumni go onto graduate school for advanced degrees in the geosciences or in other professional programs.

## 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, especially streams and groundwater, and how it shapes landscapes, relates to water quality and climate, is impacted by people, and interacts with ecosystems.

**Solid Earth:** A focus on the rocks, minerals, and tectonics features of Earth, particularly to determine their origin to interpret past Earth history, and better understand Earth resources and hazards today.

**Interdisciplinary:** This flexible concentration requires a core of geology courses plus upper-level science and math courses that include coursework outside of geology. This concentration is ideal for students who want to double major, such as with Environmental Science or Science Education.

## What is the **ADMISSION PROCESS?**

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

## What **JOBS ARE AVAILABLE?**

Jobs are available in lots of areas. Depending on student coursework and experiences, our graduates are prepared to become environmental consultants, water quality specialist, petroleum or mining geologists, stream and wetland restoration scientist, geohazard specialist, volcanologists, geophysicists, and seismologists. **NOTE:** Graduate degrees 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 for government agencies, private companies, and non-profits. Most of our alumni work for environmental companies and agencies, especially related to hydrology and water quality. Alumni also work for energy and mining companies, construction firms, and school systems as well as 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 a Geology major will focus on the liberal studies requirements as well as introductory geology and math courses. [Check out the program page](#) and make an appointment with your advisor.

Students in their second year will begin to take more advanced coursework in geology along with foundation courses in chemistry and math. They will also continue with liberal studies electives. [Check out the program page](#) 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 out-of-class experiences. If you are thinking about attending a graduate school, start engaging in hands-on experiences required in graduate school admissions.

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

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 [Spark 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 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 program page](#) 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 program page](#), 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](http://www.aipg.org)
- The Geological Society of America: [www.geosociety.org/index.htm](http://www.geosociety.org/index.htm)

## **QUESTIONS?**

For questions, please call the Geology program at 828-227-7367 or visit [geology.wcu.edu](http://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](mailto:careerservices@wcu.edu).