

ABOUT THE MAJOR

As a student of the Geological Engineering Program, you will learn to apply engineering and earth science to provide solutions to engineering problems within the context of the natural world. In the Geological Engineering Program, you may choose to study fluid flow and contaminant transport in the subsurface; geo-mechanics (the behavior of earth materials), geo-engineering (design with earth materials); or discovery, development, and utilization of energy resources. This major will teach you to apply knowledge of mathematics, science, and engineering to design and conduct experiments, and analyze and interpret data. With accreditation by the Engineering Accreditation Commission of ABET, the Geological Engineering Program will ensure you receive the broad education necessary to understand the impact of engineering solutions in a global and societal context. You'll take courses in mineralogy, petrology, structural geology, fluid dynamics, ground water, and others, along with classes in allied engineering and science fields, such as surveying, chemistry, physics, and math. This coursework will prepare you to sit for the Fundamentals of Engineering Exam and pursue a number of exciting career paths in both the public and private sectors.




LEARNING OUTCOMES

- Apply the broad education necessary to understand the impact of engineering solutions in a global and societal context
- Recognize the need for professional and ethical responsibility
- Demonstrate an ability to identify, formulate, and solve engineering problems
- Demonstrate an ability to function on multi-disciplinary teams
- Demonstrate an ability to design a system, component, or process to meet desired needs
- Recognize the need to design and conduct experiments, as well as to analyze and interpret data

PLAN & PREPARE

At the U, we plan for our students to have an Exceptional Educational Experience identified by four broad categories we call the Learning Framework: Community, Knowledge & Skills, Transformation, and Impact. This major map will help you envision, explore, design, and plan your personalized Exceptional Educational Experience with the Learning Framework at the core. In addition to assisting you in planning your coursework and navigating the requirements of your major, this map will help you incorporate other kinds of experiences to expand your knowledge, support your development, and prepare you for the future you want.

GET STARTED TODAY

-  Schedule an appointment with an advisor advising.utah.edu
-  Visit ugs.utah.edu
-  Learn more about the Learning Framework ugs.utah.edu/learning-framework



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GEO

GEOLOGICAL ENGINEERING

COLLEGE OF MINES & EARTH SCIENCES



Community



Knowledge & Skills



Transformation



Impact

"Being in the Geological Engineering program at the U prepared me with a strong understanding of the fundamentals that ensured success in my career. Professors challenged me to work hard through practical problems which ultimately made me a better engineer."

*>> Jenna Taylor Chamberlain
Geotechnical Engineer, Rio Tinto*

GEOLOGICAL ENGINEERING

Use this map to explore, envision, design, and plan your Exceptional Educational Experience.

GETTING STARTED

MAKING PROGRESS

FINISHING UP

WHERE CAN I GO AFTER GRADUATION?

COURSES

- Meet with your academic advisor to create a first year course plan
- Take GEO 1100 and GEO 2500 in the fall
- Take an appropriate math course

- Take GEO 2100
- Continue allied science sequence
- Study in the Student Epicenter
- Find professors and book an appointment to discuss research

- Take a Gen Ed class that feels interesting
- Begin allied engineering courses in CVEEN¹, MG EN², and MET E³
- Prepare for Fundamentals of Engineering exam

- Meet with your advisor to review your degree audit
- Prepare to take Field Methods and Field Geology as your capstone experience
- Apply for graduation during your final fall semester

- Geological Engineer
- Geo-technical Engineer
- Petroleum Service Technician
- Petroleum Engineer
- Geologist
- Hydro-geologist
- Environmental Engineer
- Mine Geologist
- Project Geologist Engineer
- Production Mine Geologist

COMMUNITY

- Visit student involvement tables in the fall
- Check social media and calendar of events

- Apply to be a student ambassador (ask your advisor for details)
- Volunteer to help with outreach workshops and building tours (visit the Student Epicenter for details)

- Find a student club or organization at getinvolved.utah.edu
- Experience an alternative fall or spring break through

- Join GeoClub and get involved with the annual Open House, the weekly Distinguished Lectures Series, or sit on the department outreach committee

KNOWLEDGE AND SKILLS

- Meet with a Career Coach
- Interview or job shadow with someone in your field of interest. Connect with a Geological Engineering professor

- Attend the STEM Job Fair in the fall to find internships
- Find a learning abroad experience
- Consider taking GEOG 3100 Intro to GIS & Cartography

- Research professional licensure requirements for geological engineering
- Join a research team. Connect with your current professors or find research interests on the website

- Share your research with the Office of Undergraduate Research
- Present your research at the annual department Open House (email gg-info@lists.utah.edu)

TRANSFORMATION

- Use the Catalog to explore a minor or certificate
- Visit with a Student Success Advocate
- Explore Rio Tinto Kennecott and find a UofU alumni to interview

- Begin research for a senior thesis and work with a geological engineering professor
- Explore the geology of Utah by visiting Utah Geological Survey

- Explore professional societies such as the Geological Society of America or American Geological Institute
- Visit one of Utah's national parks

- Participate in graduation events across campus
- Interview a Distinguished Lecture Series presenter

IMPACT

- Join Inclusive Earth student club
- Attend a MUSE Casual Friday

- Participate in or create your own community service project at the Bennion Center
- Volunteer at the Gardens on campus

- Find volunteer opportunities at geology.utah.gov
- Attend the annual Gem, Mineral and Fossil show (visit www.wasatchgemsociety.com)

- Teach community members about your interests at the annual Open House
- Share your research in the department newsletter (email advisor)

CAREER

- Activate and customize your Handshake account to find jobs, internships, and career events
- Start building your resume with your career coach

- Create a LinkedIn Account
- Research internships through the Hinckley Institute
- Start research with a faculty member

- Apply for research funding through UROP⁴
- Ask your advisor or professors about Learning Abroad experiences for earth scientists
- Attend Career Expos in fall and spring semesters

- Apply for jobs or graduate schools at least 6 months before graduation
- Meet with a Career Coach to practice interview conversations

¹Civil & Environmental Engineering ²Mining Engineering ³Metallurgical Engineering ⁴Undergraduate Research Opportunities Program