

CARDIFF
UNIVERSITY

PRIFYSGOL
CAERDYDD

School of Earth
and Ocean Sciences

Ysgol Gwyddorau'r
Ddaear a'r Môr

GEOLOGY

**A subject guide for students,
parents, advisors and teachers**



What is geology?

Geology is the study of Earth, how it formed, what it's made of, and how earth processes such as landslides, earthquakes, floods, and volcanic eruptions change the world around us.

Geologists explore for water, oil, natural gas, minerals and metals such as lithium to create clean batteries. They're also making a positive contribution to a more sustainable future by finding innovative ways to extract, use and recycle resources.

Geologists examine land formations, earlier climates and fossils to unravel the history of our planet and its life forms. Understanding Earth's past helps to explain current events and predict what might happen in the future.

Why study geology?

Geologists have an important role to play in solving today's most pressing global challenges. With energy and sustainability, climate change, water management, mineral resources and natural hazards at the forefront of many global challenges, there is an ever-increasing demand for geological skills.

If you're a fan of geography and science, then geology combines the best of both worlds. As a subject for curious people, it brings together skills and knowledge from biology, physics, chemistry, geography and maths to unearth new findings about the world, how it works, and how we can preserve it for future generations.

Geology is a cutting-edge science that works with the latest in artificial intelligence analytics, machine learning, satellite imagery and drone technology to make new discoveries about the world.



What subject areas can I choose from?

From volcanoes, plate tectonics, glaciers, floods, groundwater flow to fossilised remains and the evolution of life, there are so many different aspects of geology - it's hard not to be excited by a few of them!

If some of the following topics sound intriguing, then studying geology could be the right option for you.

- Volcanoes and earthquakes
- Tectonics
- Climate change
- Natural resources
- Evolution of life on Earth
- Engineering geology
- Geoenergy
- Water resources

Different universities will offer modules in several areas of geology, so you'll need to make sure the ones that interest you are included in your course.

When it comes to finding the right course for you, it's important to know that geology is sometimes referred to as geoscience, natural science or Earth science, it's even a large part of many physical geography courses. Degrees in these areas include other subjects linked to the Earth along with geology.

What's it like to study geology at university?

Geology is a hands-on and practical subject involving a fun fusion of lectures, seminars, lab and fieldwork. If you like to travel and spend time outdoors, then field trips will give you the perfect opportunity to explore the UK, Europe and possibly even further afield.

As well as learning about a broad range of topics, you'll develop skills crucial in all the sciences. These skills, such as teamwork, communication and analytical skills, are transferable to many other fields.

You'll also study real-world examples of how geological processes can affect the planet, by looking at natural wonders like the Grand Canyon, the Ring of Fire, the East African Rift and the Himalayas.



What qualifications do I need?

To study geology, geoscience or Earth science at university, you'll need an A-level in at least one science subject or geography, and you may need two for some courses.

Most universities ask for one or a combination of the following:

- Geology
- Environmental science
- Computer science
- Mathematics
- Geography
- Biology
- Chemistry
- Physics

Grades between AAA - CCC at A-level are usually required. A typical International Baccalaureate offer is around 32-30 points, including one science at Higher Level.

What jobs can I get?

There are many careers available to geologists in fields including environmental geology and geoscience, pollution control, glacial geology, geological surveying, water hydrogeology, engineering geology, ground investigation, geochemistry, volcanology, field seismology and geotechnical engineering.

Further study or independent research is essential for research positions and for some roles in government and senior geological positions.

If you decide to change career path, the skills that you learn in your degree will still be useful. For instance, communication skills, project management, quantitative reasoning and digital skills will allow you to move into many other areas such as research, civil engineering, laboratory work, finance, government consultancies and journalism.

Cardiff University offers a range of undergraduate geology courses including:

Exploration Geology | Geology | Environmental Geoscience

These are available as a BSc or MSci and include the option to complete a Professional Placement Year.

Contact us

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