TURN OVER FOR A POSTER ON THE FOLLOWING GEOLOGY JOB SECTORS

- RESEARCH, TEACHING AND COMMUNICATION
- MINING AND QUARRYING
- ENERGY
- HYDROGEOLOGY
- ENGINEERING GEOLOGY
- ENVIRONMENTAL GEOLOGY AND CONTAMINATED LAND
- NATURAL HAZARDS AND RISK
- OTHER SECTORS

April 2016
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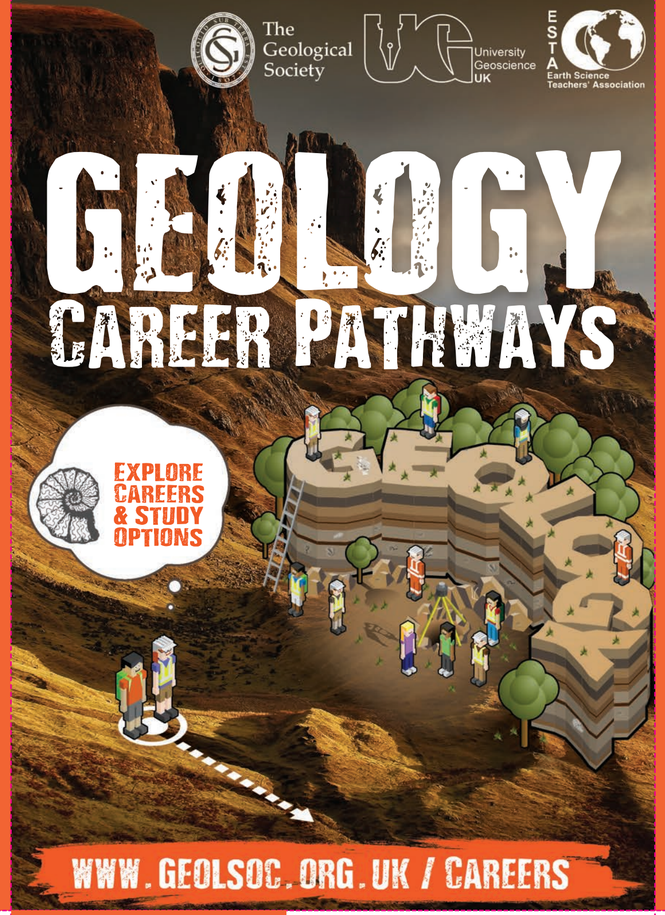


IF YOU ARE AT SCHOOL OR COLLEGE AND EXPLORING YOUR FUTURE CAREER AND STUDY OPTIONS, THIS LEAFLET IS FOR YOU.

WHAT IS GEOLOGY?

Also known as 'geoscience' or 'Earth science', geology is the study of the structure, evolution and dynamics of the Earth and its natural resources. It investigates the processes that have shaped the Earth through its 4500 million (approximate!) year history and uses the rock record to unravel that history. It is concerned with the real world beyond the laboratory and has direct relevance to the needs of society.

Geology is a huge area of study with many specialisms, which overlaps with other sciences, maths and engineering. In schools it is often taught within geography or the sciences instead of as a separate subject; at university it is offered as a degree subject by geology, geoscience or Earth science departments.

WHAT DO GEOLOGISTS DO?

Geologists are employed in a wide range of fields, from research and teaching, to industries focused on natural resources, engineering or the environment. The poster on the reverse shows some of the job sectors you could choose from. A typical working day could be spent outdoors, in the lab or office, or all three:

In the field: Geologists travel all over the world to investigate rocks in their natural setting, sometimes in challenging conditions. Mapping or sampling the rocks in an area or logging the information they record can help locate oil, water or minerals or identify safe locations for engineering projects.
In the lab: Laboratory work often follows on from fieldwork, and can include studying samples under the microscope, testing their strength, or analysing them for minerals or pollution.
In the office: Geologists use specialist computer software to map or process data and simulate geological processes, and many are trained in programming. They also write technical reports.

If you are interested in the natural world around you, are good at investigating and problem solving, are numerate and articulate, have initiative and the ability to work in a team… then the exciting world of geology could be where your career lies.

→ **Explore career pathways at www.geolsoc.org.uk/careers**

CHARTERSHIP AND ACCREDITED DEGREES

In general, to become a professional geologist you need a degree in geology or a related subject. The Geological Society Accreditation Scheme for first degrees and Masters courses is an established mark of quality that has been awarded to over 150 courses. Accredited status shows that a course provides students with the opportunity to gain the core skills necessary to continue to a career as a professional geologist.

With sufficient professional experience after gaining your degree, you can apply for Chartered Geologist (CGeol) status. Holding an accredited degree or MSc can give you a head-start by decreasing the number of years' experience needed to apply for Chartership

→ **Find out more about Chartership at www.geolsoc.org.uk/chartership or explore accredited degrees at www.geolsoc.org.uk/AccreditedDegrees**

DEGREE PATHWAYS

About 40 UK universities offer degree courses in geology. A first or 'undergraduate' degree takes 4 years in Scotland, and 3-4 years elsewhere in the UK. The majority of students enrolling for a first degree are school leavers aged 18–19, but departments welcome applications from mature students and those seeking a career change. There are a number of qualifications to choose from.

BSc – An undergraduate Bachelor of Science degree. This is usually written as 'BSc (Hons)' which means with 'Honours'. Students follow a course of lectures and practical sessions, and usually undertake an independent research or mapping project at the end of the second year.

MGeol/MSci – These are 4 year undergraduate or integrated masters degrees. The first two years are usually the same as for a BSc at the same university, but with a wider range of taught units and a longer research element. These courses are good preparation if you anticipate continuing your education with a PhD/DPhil, but should not be confused with an applied postgraduate Masters (MSc), which is often required for a career in a geological industry.

MSc – Master of Science', a 1 or 2 year postgraduate degree providing training in a specific subject area relevant to a career in industry (such as engineering geology or ore mineralogy). Applying skills learnt at undergraduate level to a particular field is an important first step in continuing professional development (CPD) which will continue throughout your career.

PhD/DPhil – 'Doctor of Philosophy', a postgraduate degree gained through research in a very specific area, usually taking at least 3 years to complete. These are excellent preparation for a research career in universities, government or research organisations, or more senior roles in industry. Gaining a PhD is determined by the submission of a substantial project (a 'thesis' or 'dissertation'), and an interview with external examiners termed a 'viva'.

You will need a good first degree (generally a 2:1 result or higher) to qualify for MSc and PhD courses.

→ **Find out more at www.geolsoc.org.uk/DegreePathways**

DO I NEED A DEGREE?

A variety of Earth science technical and support roles are available, which do not require a degree. Geotechnical jobs include working with data, geological maps and sections, fieldwork, laboratory testing and servicing equipment.

Entry requirements vary but leaving school with at least four GSCEs (A-C) or Standard Grades (1-3), including maths and a science, will give you access to further training such as Higher National Diplomas, which are required for some roles. Some posts require A levels / Highers or NVQs / SVQs.

→ **Find out more at www.geolsoc.org.uk/NonGraduateRoutes**

DURING YOUR DEGREE: TRAVEL OPPORTUNITIES AND PLACEMENTS

Studying geology involves work outdoors 'in the field'. Fieldwork is valuable preparation for working life as a geologist; for example, exploration for oil or minerals often involves travel to remote parts of the world, both on land and at sea.

However, the ability to carry out fieldwork isn't essential to a geological career - laboratory work and data interpretation is equally important. Meanwhile, access to fieldwork for students of all abilities is constantly improving, particularly with the increasing role of technology.

Some degrees offer the chance to broaden your experience through a year in industry or a year abroad. Many students undertake work or volunteering placements during their degree, gaining valuable experience and contacts with potential employers.

→ **Find out what to expect during your degree and how to get the most out of it at www.geolsoc.org.uk/DuringYourDegree**

CHOOSING YOUR DEGREE

The vast majority of people interested in a geological career will study a general 'Single Honours' degree (i.e. one main subject) in geology, geoscience or Earth science. The 'classic' undergraduate geology degree is listed as F600 in the UCAS directory.

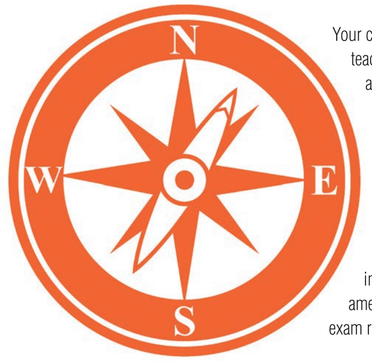
In addition to single honours geology, some students combine geology with another subject. Some universities provide degree courses in specific sub-disciplines such as engineering geology or geophysics. Finally, the curriculum offered by different universities varies, with some programmes focused on applied (industry-linked) geology, and others based on geological theory and research.

If you plan on a geology career but are undecided about your particular speciality, it's a good idea to study a single subject degree or to restrict a joint degree to other related science subjects. This will make it easier to progress to a further degree (MSc, PhD) later if you wish.

→ **Find out more about choosing and funding your degree at www.geolsoc.org.uk/DegreeChoices**

SCHOOL QUALIFICATIONS AND APPLYING FOR UNIVERSITY

For students starting geoscience degrees after finishing school, evidence of basic competence in science is normally required (eg two A/AS level/Scottish Higher passes in sciences). Preferred subjects are physics, chemistry, biology, geology and maths. Geography is acceptable for some courses; geology is welcomed but not essential. While not required for degree entry, studying modern languages may give you an advantage later, due to the career opportunities overseas. You should check precise admissions requirements with the departments that interest you (see the university websites) along with guidance offered by the University Central Admissions Service (UCAS) at www.ucas.com.



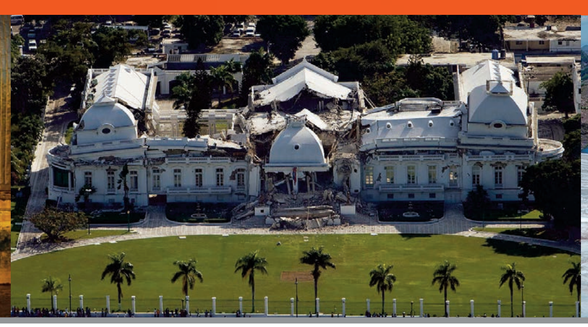
Your careers advisor or sixth form teacher will advise you on how to apply for a university place via UCAS. Note that applications can only be made online, either by individuals or through a school group. There is a deadline of January in the year of intended entry for most subjects, with a clearing system in the summer for last minute or amended applications, dependent on exam results.

→ **Explore advice on applications, work experience and the importance of science and maths at www.geolsoc.org.uk/GeologyAtSchool**

GEOLOGY CAREER PATHWAYS

WWW.GEOLSOC.ORG.UK / CAREERS




UNIVERSITIES

A number of Higher Education establishments employ geologists at all levels. If you do not have a degree there are often opportunities in technical and laboratory-based roles, as well as teaching support. For those with a degree and post-graduate experience, normally a PhD, there are opportunities in research and lecturing in almost any Earth science specialism, from planetary science to climate change.

MUSEUMS, COMMUNICATIONS AND GOVERNMENT

Geologists have important jobs in the communication of science, either to the general public or other professionals, through the work of museums and archives, or through government agencies and membership bodies. Researchers are also employed in this sector.

TEACHING IN SCHOOLS AND COLLEGES

Geologists teaching in schools and sixth form colleges have an enormous influence on students and are vital to the future of the subject.

MINING AND QUARRYING

Working in the mining and quarrying sector involves locating and extracting natural resources including metals and minerals, with applications from agriculture to high-tech industry.

ENERGY

Many geologists are employed in the petroleum sector, in a huge range of jobs related to the search for and extraction of oil and natural gas. Palaeontology and geophysics are just two of the specialisms. Geologists also work in the nuclear sector, and the growing area of sustainable energy, developing geothermal energy, wind and tidal power.

HYDROGEOLOGY

Hydrogeologists specialise in underground water and work in a variety of contexts, from exploration and sustainable management of groundwater resources to contamination and flooding.

ENGINEERING GEOLOGY

Engineering geologists use their understanding of surface and sub-surface geology in engineering projects, from building construction to slope stability, mining, tunnelling or coastal defences.

ENVIRONMENTAL GEOLOGY AND CONTAMINATED LAND

Environmental geologists work to address environmental problems affecting water and land, which may have resulted from human activities or natural processes. Many geologists specialise in remediation of contaminated land, often working for engineering consultancies.

NATURAL HAZARDS AND RISK

Geohazards specialists study phenomena such as earthquakes, volcanoes, landslides, floods and climate change, working to forecast them, improve resilience and minimise damage.

OTHER SECTORS

Geologists may apply their transferable skills, such as numeracy and problem-solving, in a broad range of other sectors, from forensic geology to charities and aid organisations.

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