

Options with geology

Your skills

Geology is a multidisciplinary subject which promotes an understanding of the processes which shape the natural world and the way they affect and are affected by human activities. It draws upon both natural and social sciences to examine issues concerning the availability and sustainability of resources. Geology students are thus able to look at problems from a wide perspective. In recent years it has also become an increasingly quantitative subject which has enhanced its value in the wider world.

Geology courses not only give you specific knowledge related to your programme of study but also develop a wide variety of graduate key skills which are sought after by many employers. These include:

- analysing, synthesising and summarising information critically;
- applying knowledge and understanding to complex and multidimensional problems in familiar and unfamiliar contexts;
- receiving and responding to a variety of information sources (e.g. textual, numerical, oral, graphical);
- communicating appropriately to a variety of audiences using written, oral and graphical methods;
- preparing, processing, interpreting and presenting data, using appropriate qualitative and quantitative techniques and packages;
- solving numerical problems using computer and non-computer based techniques;
- planning, conducting, and reporting on investigations;
- undertaking field and laboratory investigations in a responsible and safe manner, paying due attention to risk assessment, rights of access, relevant health and safety regulations, and sensitivity to the impact of investigations on the environment and stakeholders;
- identifying individual and collective goals and responsibilities and performing in a manner appropriate to these roles.

Consider the skills developed on your course as well as through your other activities, such as paid work, volunteering, family responsibilities, sport, membership of societies, leadership roles, etc. Think about how these can be used as evidence of your skills and personal attributes. Then you can start to market and sell who you *really* are, identify what you may be lacking and consider how to improve your profile. Take a look at [applications, CVs and interviews](#) for some useful tips.

Job options

Jobs directly related to your degree

- [Geoscientist](#) - interprets geophysical, geochemical and geological data to develop models of the earth's subsurface with the aim of discovering commercially viable and exploitable reserves of natural resources, such as oil and gas.
- [Wellsite geologist](#) - studies rock cuttings from oil and gas wells to determine what rock formations are being drilled into and how drilling should proceed. Wellsite geologists identify critical strata from core samples and rock-cutting data and build up knowledge of the structure being drilled.
- [Hydrogeologist](#) - investigates the occurrence, circulation and distribution of water flowing through the ground. The role involves studying the quality of groundwater for both natural and man-made constituents and studying how contaminants move through the ground.

- [Seismic interpreter](#) - calculates the depth and outline of underground formations in order to make estimates of mineral or carbon deposits for use by energy or minerals extraction companies. Seismic interpreters play a crucial role in ensuring that investment in exploration and production is directed to the right locations.
- [Mudlogger](#) - collects and monitors information from drilling operations, such as drilling data, gas and samples, using a range of equipment and laboratory techniques including binocular microscopes, ultraviolet fluorescence and thin section analysis.
- [Geochemist](#) - analyses samples of soil, rock and other natural materials to monitor developments in the earth's composition and develop information about the age, nature and structure of specific geographical locations.
- [Engineering geologist](#) - concerned with the detailed technical analysis and broad scientific assessment of the impact of a development on its site and population. Engineering geologists assess the integrity of soil, rock, groundwater and other natural conditions prior to major construction schemes.
- [Geological mapper](#) - surveys and maps areas of land to determine near-surface deposits, rock type and geological structure. This involves collecting, analysing and recording rock, soil and sediment samples. The work is predominantly field-based, though it also combines desk-based research, data analysis, report writing and management tasks.
- [Geophysicist/field seismologist](#) - uses complex equipment to collect data on earthquakes and seismic waves, which move through and around the earth. A geophysicist's main responsibility is controlling data quality by monitoring displays and performing some initial interpretation.

Jobs where your degree would be useful

- [Minerals surveyor](#) - provides valuation services related to mineral-bearing land, extraction sites and waste management sites. Minerals surveyors also advise on developing and managing mineral sites safely and within regulations and on restoring the landscape after extraction is complete.
- [Geophysical data processor](#) - uses computer technology to convert raw geophysical data (usually large volumes of seismic data) into a user friendly format. This is then analysed to determine sub surface geology and used to identify potential oil-bearing rock layers.
- [Drilling engineer](#) - develops, plans, costs, schedules and supervises the operations necessary to the process of drilling oil and gas wells, from initial well design to testing, completion and abandonment.
- [Environmental consultant](#) - works on client contracts in areas such as water pollution, air and land contamination, environmental impact assessment, environmental audit, waste management, environmental policy, ecological/land management and environmental management.

Although some of the jobs listed here might not be first jobs for many graduates, they are among the many realistic possibilities with your degree, provided you can demonstrate you have the attributes employers are looking for. Bear in mind that it's not just your degree discipline that determines your options. Remember that many graduate vacancies don't specify particular degree disciplines, so don't restrict your thinking to the jobs listed here. Look at [your degree... what next?](#) for informed advice on career planning and graduate employment, or take a look at [what jobs would suit me?](#), a helpful starting point for self-analysis.

[Explore types of jobs](#) to find out more about the above options and related jobs.

Career areas

Statistics collected from geology students graduating in 2008 show that 45% of those surveyed were in full-time paid work six months after graduation. The majority of these were employed as scientific research, analysis and development professionals (23%) with a further 6% in engineering and 15% employed as other professionals and in associate professional and technical occupations. A smaller number of graduates (4%) were attracted to roles as business and financial professionals and associate professionals. Some were in jobs that were probably not permanent, such as the 15% employed as retail, catering, waiting and bar staff and the 10% in other clerical and secretarial occupations.

Many geology graduates enter professions directly related to their degree. Popular roles include exploration and production, water supply, environmental engineering and geological surveying.

Where are the jobs?

Typical employers of geology graduates include the oil, gas and petroleum sector and environmental consultancies and civil engineering companies. Overseas work can be a common feature of careers using geology. Some experienced professionals may also become self-employed consultants.

To find out more about potential roles open to geology graduates see the following employment areas:

- [Energy and utilities](#) - comprising the oil, gas and petroleum industries, and also nuclear power, coal, renewable energies, waste management and water.
- [Engineering](#) - an ever-changing industry including areas such as transport, rail and telecommunications, with energy becoming an increasingly major issue.
- [Environment and agriculture](#) - EU legislation and pressures of the green agenda have led to a growth in environmental careers.

See [industry insights](#) for further information on possibilities in other employment areas.

Statistics are collected every year by the Higher Education Statistics Agency (HESA) (<http://www.hesa.ac.uk>) to show what HE students do immediately after graduation. These can be a useful guide but, in reality, with the data being collected within just six months of graduation, many graduates are travelling, waiting to start a course, paying off debts, getting work experience or still deciding what they want to do. For further information about some of the areas of employment commonly entered by graduates of any degree discipline, check out [what do graduates do?](#) and [your degree...what next?](#)

Further study

A high percentage of geology graduates choose to do further study. For example, of those who graduated in 2008, around 25% went on to full- or part-time further study. The majority opt for a vocational MSc such as Petroleum Geology, Engineering Geology or Geochemistry whilst others choose to do a PhD. Specialising in this way may enhance your job prospects, but it is always a good idea to seek advice from relevant graduate recruiters and check the destinations of students who have completed the course of your choice to help you decide.

Each year some geology graduates also choose to train as teachers by embarking on a Postgraduate Certificate in Education (PGCE) course (or Professional Graduate Diploma in Education (PGDE) in Scotland).

These trends show only what previous graduates in your subject did immediately upon graduating. Over the course of their career - the first few years in particular - many others will opt for some form of further study, either part time or full time. If further study interests you, start by thinking [about postgrad study](#). [Find courses and research](#) of interest to you; you can also [apply for](#)

[courses online](#).

Look at [funding my further study](#) for details relating to finance and the application process.

What next?

The skills you develop on your geology course, such as problem-solving, lateral thinking, resilience, teamworking and communication are highly prized. As businesses respond to increasingly stringent European Union directives and environmental issues become a higher priority, new opportunities are arising in a wide range of sectors. Some graduates choose to enhance their qualifications by undertaking paid or voluntary work on short-term environmental projects in the UK or abroad. Whether or not you decide to continue in the geology field, a period spent gaining work experience or shadowing can help you make decisions about your future career and you will also find it motivating when you apply your expertise to solve problems in a different context.

This should have started you thinking about your future. Whether you are in the early stages of career planning, or you have definite ideas about what you want to do, you will find further information to help you in the following sections:

- Analyse your skills, interests and motivations to find out [what jobs would suit me?](#)
- [Explore types of jobs](#) to find out about entry requirements, salaries and working conditions.
- See [industry insights](#) for hints on breaking into various industries.
- [Find graduate employers](#) and see what they have to offer.
- You may want to investigate [self-employment](#) or [flexible working](#).
- Look at the advice on [applications, CVs and interviews](#).
- Get [work experience](#) through vacation work or a work placement.
- [Find courses and research](#) and investigate postgraduate study opportunities.
- If you are thinking about taking time out, volunteering or travelling consider a [gap year](#) or explore [working and studying abroad](#).
- If you have already graduated, get online [interactive advice](#).
- Visit [your university careers service](#) for a wealth of advice and resources to help with your career planning.

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