

Further information

- The Geological Society
www.geolsoc.org.uk
- University Central Admissions Service
www.ucas.com
- The Trotman Green Guide to Physical Science courses
- University & departmental prospectuses are available free on request. Contact the Admissions Tutor or visit the relevant website.



GEOscience

Choices after school or college



The Geological Society

If you are still at school or college and are making decisions about your future education and career, then this leaflet is for you.

A companion leaflet offering advice on further education and obtaining work as a geoscientist is also available from The Geological Society.

I'd like to be a geoscientist – what do they do and how do I become one?

Geoscience is the scientific study of the structure, evolution and dynamics of the Earth and its natural resources. It investigates the internal and external processes that have shaped the Earth through its 4500 million year history. It is offered as a degree subject by University Departments of Geology, Geoscience or Earth Science.

It may be difficult for you to imagine what sort of work geoscientists actually do, as geology is one of several sciences that are combined in the national curriculum at keystages 3 and 4. Geoscience is actually a huge area of study, with many specialisms. The poster on the reverse shows the many different branches that you can choose from if you decide to become a professional geoscientist.

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 geoscience could be where your career lies.

You can become involved with geoscience at two different levels.

Geotechnical staff are employed by oil and gas companies, engineering and water companies, academic and research institutes. Technical jobs include well-logging activities; obtaining and processing geophysical data; preparing geological maps and sections; laboratory testing of soil and rock samples; and teaching support. Entry requirements vary but leaving school with one A level and approx 5 C-grade or above GCSE subjects will allow you to gain access to further training such as Higher National Diplomas, which are required for some geotechnical posts.

- A degree will equip you for a career as a professional geoscientist. Many employers now ask for a postgraduate qualification such as an MSc or PhD as well. You will also need a first degree to be admitted for a postgraduate teaching qualification known as a PGCE (post graduate certificate of education).



What sort of degree?

About 40 UK universities offer degree courses in geoscience. A traditional first degree takes 4 years in Scotland, and 3 years elsewhere. However there is a range of different degrees to choose from, which are summarised below*.

BSc – this is the classic Bachelor of Science course, as mentioned above. You will usually see it written as BSc (Hons) which means with 'Honours'.

MGeol – this is a 4 year non-postgraduate masters degree. The first two years are likely to be the same as for a BSc at the same university, but there will be a wider range of taught units and a research element.

MSci – Essentially the same as an MGeol, this is a 4-yr non-postgraduate masters degree. Both an MGeol and the MSci are good preparation if you anticipate continuing your education with a PhD/DPhil.

These are general details, some institutions may differ.

Geoscience involves work in the laboratory and the field. Studying geology will include travelling to investigate rocks in their natural setting, and fieldwork tends to unite geology students in a way that is rarely seen in other subjects.

Outdoor scientific study – often under difficult conditions – is a valuable preparation for working life as a geoscientist. A lot of the exploration performed by extractive industries like oil and gas companies is done in remote parts of the world or oceans.



Geological Society accredited degrees

The Geological Society Accreditation Scheme for first degree courses in geoscience was launched in 1997 and has now become an established benchmark of quality awarded to over 80 courses.

Accredited status provides added assurance to prospective students that a department's teaching is of the highest quality, and has been approved by an independent body of academics and industrialists. Many criteria are used to assess each course, including the fieldwork component, employment records post graduation, and of course the quality of teaching and content of the course.



If you choose to study for an accredited degree, your entry to Fellowship of The Geological Society is made easier as your course is automatically accepted. After you have graduated, those holding an accredited degree can apply for Chartered Geologist status one year earlier than those with other degrees. The current list of accredited degrees can be viewed on our website.

What do I need and how do I apply?

For students entering full-time geoscience courses from 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 a mathematical subject. Geography is acceptable for some courses; geology is welcomed but not essential.

You should check precise admissions requirements with the departments that interest you and/or with the guidance offered on the University Central Admissions Service.

If you know that you wish to pursue a geoscience career but cannot be more specific present, you are advised 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.

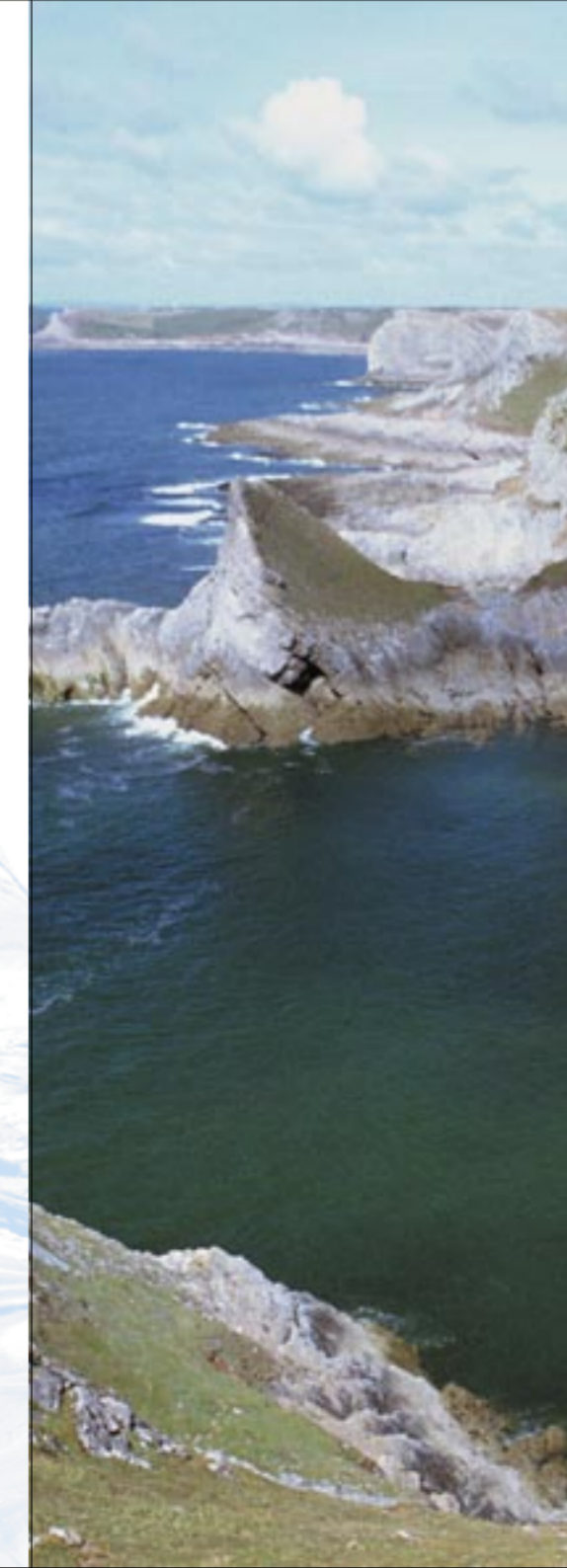
Your careers advisor or sixth form teacher will advise you on how to apply for a university place via UCAS (see 'Further information'). Note that applications can only be made on-line, either by individuals or through a school group. There is a deadline of January in the year of intended entry for most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



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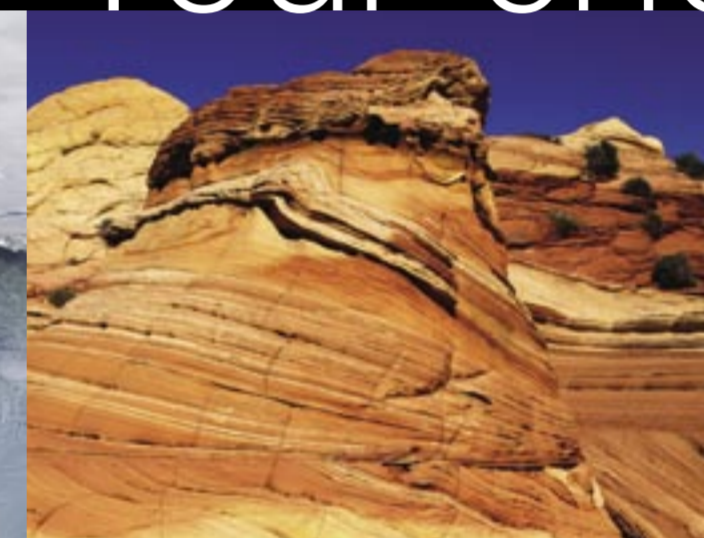
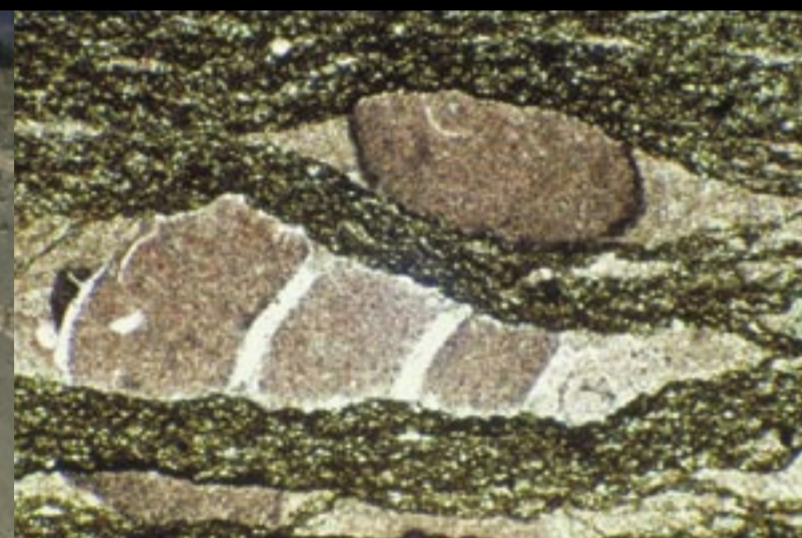
Find out more about the following Geoscience specialties on the back of this leaflet.

- Geophysics**
- Geochemistry**
- Sedimentology**
- Natural hazards**
- Energy resources**
- Stratigraphy**
- Environmental geology**
- Structural geology**
- Palaeontology**
- Hydrogeology**
- Engineering geology**
- Metamorphism**
- Volcanology**
- Oceanography**



GEOscience

Your choice



Geophysics

The study of the physics of the Earth ie the internal structure of Earth, earthquakes, gravity and geomagnetism. Geophysics is used extensively to search for oil and mineral deposits.

Geochemistry

Explores the chemical composition of the rocks and fluids and the chemical processes operating within the Earth and on its surface. Geochemistry is used to locate new mineral deposits.

Sedimentology

The study of sediments, how they accumulate, and how they become sedimentary rocks.

Stratigraphy

The study of the order, nature and rates of change of geological events and processes.

Natural hazards

The features and effects of phenomena such as earthquakes, landslides, tsunamis, volcanoes etc; and the importance of prediction & minimisation of damage.

Energy resources

Not only oil, coal and natural gas; but also uranium and alternative sources such as geothermal energy.

Palaeontology

The study of fossils, from dinosaurs to microorganisms

Environmental geology

Environmental geology – concerned with the air, water and land in or on which people, animals and plants live, and their protection from damage as a result of geological activities eg oil exploration, mining and waste disposal.

Structural geology

Concerned with rock movement and deformation by folding and faulting; including the study of plate tectonics.

Volcanology

The study of volcanoes, their location, formation and prediction, types of eruptions, and the sorts of rocks produced.

Oceanography

Which includes ocean chemistry; ocean floor geology; meteorological oceanography; marine biology; and the physical properties of oceans such as waves and currents.

Metamorphism

How rocks are affected by heat and pressure to produce the range of metamorphic rocks and minerals

Hydrogeology

The branch of geology concerned with underground and surface water; it's movement, behaviour and quality are all the realm of the hydrogeologist.

Engineering geology

A huge discipline encompassing the construction of buildings and dams; slope stability; mine and quarry design; tunnelling; land condition . . .



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