

AS/A2 Level GEOLOGY



Course Guide

Level 3 Two-year course

2010/11

This subject is equally popular with students taking science subjects and those studying arts and humanities subjects who would like a contrast to broaden their knowledge and interests.

A beard and woolly pullover are not essential!

Subject introduction

Geology is the science that deals with the study of the earth. It includes the study of the earth's structure, its composition, the processes taking place at or below the earth's surface, and the changes that have occurred over millions of years.

The AS Level covers three main areas of geology and is ideal for a one-year course. It is suitable for students looking for a broad-based science subject as a contrast, or as a support for other sciences and subjects such as Geography. It is a science subject, so practical work is an important element. No previous knowledge of Geology is required.

Year 1 study outline

Module 1: Global Tectonics

In this module you will study the structure of the earth, its internal processes, earthquakes, continental drift, and the distribution of the tectonic plates. The results of earth movements, such as folds and faults, will also be studied.

Module 2: The Rock Cycle – Processes and Products

In this module you will study the rock cycle, the differences between igneous, sedimentary and metamorphic rocks, and the processes that lead to their formation.

Module 3: Practical Skills in Geology

In this module you will develop skills in analysing geological maps, photographs and data gained from investigations in the field and the laboratory.

Year 2 study outline

The A2 course builds upon the topics studied in the AS modules.

Module 4: Environmental Geology

This module provides an understanding of how geology is applicable to our exploitation and use of energy resources, metal deposits, water supply and materials used in construction.

SEE WHAT'S NEXT

Module 5: Evolution of Life, Earth and Climate

In this module you will study how organisms are preserved as fossils, the morphology of the main invertebrate groups, their evolution and extinction, and the environments in which these groups lived. In addition, the evidence for how the earth's climate has changed over time will be considered.

Module 6: Practical Skills in Geology 2

This module concentrates on developing your skills in observation, description and interpretation. This will involve the use of photographs, photomicrographs, drawings, descriptions, annotated sketches and graphic logs, and the interpretation of geological maps, cross sections and geological histories. This will bring together the range of topics studied in the other modules.

Methods of study

A variety of study methods are used to deliver the course. Wherever possible, theory will be supplemented by practical work in the laboratory, coursework investigations and fieldwork. As part of the assessed coursework, students will have to plan investigations to assess a particular geological problem or situation, collect data through observations and measurements,

analyse the data, and come to some conclusions. An extensive collection of specimens of minerals, rocks and fossils will be used in class, but there is no substitute for fieldwork for seeing 'the real thing'! Research assignments will allow students to develop and further their understanding of some topics.

Special features

Students following the A2 course are given the opportunity to put their skills and knowledge into practice on a residential field course. In recent years this has been to Dorset, an area renowned for its spectacular coastline, and plentiful fossils.

In recent years, students taking the AS course have been given the opportunity to participate on a trip to southern Italy, Sicily and the Aeolian Islands. This takes place in October of their second year and includes the ascent of three active volcanoes, as well as visits to Naples, Pompeii and Palermo.

Subject combinations and careers

The subject is popular with students who wish to supplement other science subjects such as Biology, Chemistry and Physics. Equally, it appeals to students studying arts and humanities subjects, who desire a contrast to broaden their interests. For students with a strong interest in Earth Sciences and the environment, Geology and Geography

are a good combination.

Career possibilities include the exploration, extraction and use of the earth's resources, the management of water resources, civil engineering, surveying, planning, and land-use and environmental management.

Success stories

In recent years, about a third of the students who have completed the A Level course have progressed to Higher Education to study Geology or a related subject. Currently there are former students at the universities of Bristol, Birmingham, Plymouth, Leeds, Leicester, Manchester, Portsmouth, Royal Holloway, Southampton and University College, London.

Methods of assessment

AS – 3 modules 80% exam 20% coursework

A2 – 6 modules 80% exam 20% coursework