

Programme Specification

1	Awarding body	University of London					
2	Teaching Institution	Birkbeck College					
3	Programme Title(s)	BSc Environmental Geology					
4	Programme Code(s)	UBSGLEVI_C					
5	UCAS code (if applicable)	N/A					
6	Home Department	Earth and Planetary Sciences					
7	Exit Award(s)	Cert HE in Geology					
8	Duration of Study (number of years)	4 years Part time					
9	Mode of Study	FT		PT	X	DL	X
10	Level of Award (FHEQ)	6					
11	Other teaching depts or institution	N/A					
12	Professional, Statutory Regulatory Body(PSRB) details	N/A					
13	<u>QAA Benchmark Statement</u>	Earth Sciences					

14	Programme Rationale & Aims
	<p>Main Aims:</p> <p>The programme has a common 1st and 2nd year with our B.Sc. Geology. Students specialise in Environmental Geology in their 3rd and 4th years by choosing appropriate advanced level modules and an environmental project. Many aspects of this document are similar to that for B.Sc. Geology.</p> <p>Important differences are noted.</p> <p>Consistent with the general aim of the teaching provision within the College to provide higher education for people otherwise engaged during the day, through teaching in the evening, and in line with the benchmark statements for Earth Sciences (ES3), our BSc Environmental Geology, aims to:</p> <ol style="list-style-type: none"> 1) widen admission, in particular through distance learning, to include those with genuine ability and enthusiasm, but lacking traditional academic qualifications; 2) provide research-based teaching to enable students to understand a systems approach to the Earth Sciences; 3) provide earth science perspectives on sustainability and social awareness (e.g. renewable versus non-renewable resources, climate change, the history of life and biodiversity); 4) foster independent and critical thought, so that students can reach appropriate conclusions based on relevant evidence;

5) provide general skills in learning, information technology, data processing and communication appropriate to any subsequent employment.

6) provide research-based teaching to enable students to understand a systems approach to Environmental Geology.

The programme considers the following:

a) Earth System Science

- A holistic view of the present and past interactions between components of the Earth system and the effects of extra-terrestrial influences on these interactions
- Understanding of the cycling of matter and the flows of energy into, between and within the solid Earth, hydrosphere, atmosphere and biosphere
- The chemistry, physics, biology and mathematics that underpin our understanding of Earth structure, materials and processes.

b) Major Geoscience Paradigms

- Uniformitarianism: the present is the key to the past
- The extent of geological time
- Evolution: the history of life on Earth
- Plate tectonics

c) Temporal and Spatial Scales

- Geological time, including the principles of stratigraphy, radiometric dating, the stratigraphic column, rates of Earth processes, major events in Earth history, and the evolution of life as revealed by the fossil record
- The study of structures, materials and processes ranging in scale from atoms to planets.

d) Earth Structure, Materials and Processes

- Studies of the structure and composition of the solid Earth (core, mantle, crust, asthenosphere, lithosphere etc.), the hydrosphere, the atmosphere, the cryosphere and the biosphere and the processes operating within and between them.

e) Terminology, Nomenclature and Classification and Practical Knowledge

- Earth science terminology, nomenclature and classification of rocks, minerals, fossils, and geological structures
- The identification of rocks, minerals, fossils, and geological structures.
- Collection and documentation of geological information in the field, including the production and interpretation of geological maps.
- Surveying and measurement both in the field and laboratory, and using qualitative, quantitative and instrumental techniques

f) Awareness and Informed Concern of Earth Science Issues

- The exploration for, and the development and exploitation of, Earth resources
- Geological aspects of human impacts on the environment.
- Geohazards and their impacts on human societies.

	<p>g) Special emphasis on how the above are related to the evolution of the Earth's environment.</p> <ul style="list-style-type: none"> - modules in environmentally relevant subjects are given - the programme differs from the B.Sc. Geology and B.Sc. Earth Sciences in that a different group of advanced modules is taken by the two cohorts of students and an environmentally based project replaces the map and thesis module; the degrees share a common 1st and 2nd year.
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15	Entry Criteria
	<p>Students who have recently taken A level qualifications require a minimum of two A' Levels or equivalent. We also welcome applications from applicants without traditional entry qualifications as we base decisions on our own assessment of qualifications, knowledge and previous work experience. We may waive formal entry requirements based on judgement of academic potential.</p>

16	Learning Outcomes
	<p>To gain the qualification the learner will have demonstrated the following skills specified in the learning outcomes for approved modules in the programme and for the programme as a whole:</p> <ol style="list-style-type: none"> 1. Subject Specific <ol style="list-style-type: none"> a) Recognising and using subject-specific theories, paradigms, concepts and principles 2. Intellectual <ol style="list-style-type: none"> a) Powers of observation, analysis and imagination to make decisions in the light of uncertainty b) Integration of information from fieldwork, experimental and theoretical investigations and have used both quantitative and qualitative approaches to acquiring and interpreting data. 3. Practical <ol style="list-style-type: none"> a) Planning, conducting and reporting investigations including using secondary data b) Collecting, recording and analysing data, using appropriate techniques in the field and laboratory c) Undertaking investigations in field and laboratory in a safe manner, paying due attention to risk assessment, rights of access, health and safety regulations, and sensitivity to the impact of investigations on the environment and stakeholders. 4. Personal and Social <ol style="list-style-type: none"> a) Understanding individual and collective goals and responsibilities and performing in an appropriate way b) Recognising and respecting the views and opinions of others; evaluating individual performance c) Skills necessary for self-management and lifelong learning (time-management, working independently setting realistic targets) d) Adaptable and flexible approach to work and study.

Learning, teaching and assessment methods

The teaching team are committed to the provision of face-to-face evening teaching, and the lecture remains central to the learning experience that we provide. Nevertheless, we use a wide range of other teaching methods. This diversity develops independence of learning and critical thought, and illustrates the value and nature of group work and teamwork. Modules from the Department of Earth and Planetary Sciences are provided as downloadable PDF files, containing full text, diagrams and photographs of lecture and practical material, as well as videos of lectures.

In the first two years of the BSc, about 70% of contact time involves practical classes, problem solving, fieldwork and group work. In advanced modules the proportion of time devoted to lectures increases (remaining above 50%), but considerable time is given to practicals, poster sessions, oral presentations, independent research, problem-solving, and IT sessions. Field-based modules are compulsory.

Assessment methods used and rationale:

A variety of assessment methods are utilised in different modules to assess the different types of learning outcome. Assessment criteria clearly state expected levels of achievement. Comments of visiting examiners, both from within the university and from other universities are discussed at a variety of teaching committees and sub-boards and where possible suitable changes are made to the curriculum and syllabus. We believe that our criteria discriminate effectively because of the range of classes of degrees awarded with approval of external examiners.

Within the BSc programme, assessment methods are very diverse. We believe that such diversity, together with associated instruction, increases the range of key skills, and allows students, with different existing skills, the opportunity to demonstrate their academic ability.

Many modules have continuous course assessment and most have an unseen written examination. Assessed coursework includes:

- practical reports;
- essays;
- problem solving and data analysis;
- oral communication and poster presentations;
- internet surveys;
- literature review

Workloads:

Because of the special circumstances of Birkbeck College students we ensure a reasonable distribution of workloads by:

- setting staggered deadlines for course work;
- setting defined milestones within project work.

Some assessment has additional formative value, e.g. oral and poster presentations, and computer based tests, are part of the assessment process but also contribute to the development of key skills. Coursework of different kinds allows student to use different skills. By providing coursework students learn key personal and transferable skills. Especially in later stages of the programme, assessed coursework provides the opportunity for students to become self-motivated learners.

18	Programme Description
	This programme can be studied part-time over 4 years. To complete the BSc Environmental Geology, students will take a total of 360 credits (120 at level 4; 120 at level 5, 120 at level 6).

19	Programme Structure			
Part Time programme (4 years)				
Year 1				
Level	Module Code	Module Title	Credits	Status*
4	SCES057H4	Earth's Interior Geology	15	Compulsory
4	SCES058H4	Methods in Earth and Planetary Science	15	Compulsory
4	EASC038H4	Introduction to Geochemistry	15	Compulsory
4	EASC057H4	Foundations of Mineralogy	15	Compulsory
4	SCES052H4	Assessed Field Techniques 1 (previously level-5)	15	Compulsory
4	SCES051H4	Earth's Surface Geology (new module)	15	Compulsory
			Total 90	
Year 2				
Level	Module Code	Module Title	Credits	Status*
4	EASC042H4	Invertebrate Palaeontology	15	Compulsory
4	EASC050H4	Earth History	15	Compulsory
5	SCES005H5	Igneous Petrology	15	Compulsory
5	SCES006H5	Metamorphic Petrology	15	Compulsory
5	EASC011H5	Structural Geology I	15	Compulsory
5	EASC054H5	Assessed Field Techniques 2	15	Compulsory
			Total 90	
Year 3				
5	EASC005H5	Geophysics	15	Compulsory
5	SCES053H5	Global Tectonics	15	Compulsory
5	SCES008H5	Principles of Sedimentology	15	Compulsory
5	SCES054H5	Scientific Computing and Data Modelling	15	Compulsory
6	EASC055H6	Assessed Field Techniques 3	15	Compulsory
Plus ONE compulsory level 6 module from list below:				
6	EASC048H6	Earth's Resources and Raw Materials	15	Option
6	SCES0136H6	Planetary and Environmental Isotopes	15	Option
6	EASC044H6	Geological Hazards	15	Option
			Total 90	
Year 4				
6	SCES020D6	Project BSc Environmental Geology	60	Core
Plus TWO level-6 compulsory from list above			30	
			Total 90	

Status*

CORE – Module must be taken and passed by student; COMPULSORY – Module must be taken, mark can be reviewed at sub-exam board OPTIONAL – Student can choose to take this module

20	Programme Director	Dr Charles Underwood
21	Start Date (<i>term/year</i>)	October 1995
22	Date approved by TQEC	c. 1995
23	Date approved by Academic Board	c. 1995
24	Date(s) updated/amended	May 2020