ACADEMIC SERVICES

PROGRAMME SPECIFICATION

Part 1: Basic Data			
Awarding Institution	University of the West of England, Bristol		
Teaching Institution	University of the West of England, Bristol		
Delivery Location	Frenchay Campus, Bristol		
Study abroad / Exchange / Credit recognition			
Faculty responsible for programme	Faculty of Environment and Technology		
Department responsible for programme	Department of Geography and Environmental Management		
Modular Scheme Title	Faculty of Environment and Technology UG Modular Scheme		
Professional Statutory or Regulatory Body Links	The Geological Society		
Highest Award Title	BSc(Hons) Geology		
Default Award Title			
Fall-back Award Title			
Interim Award Titles	CertHE Geology DipHE Geology BSc Geology		
UWE Progression Route			
Mode(s) of Delivery	FT / SW		
Codes	**UCAS: F600**	**JACS:**	
	ISIS2:	**HESA:**	
Relevant QAA Subject Benchmark Statements	QAA Subject Benchmark Statement for Earth Sciences, Environmental Sciences and Environmental Studies (2014)		
First CAP Approval Date	22 March 2016	Valid from	September 2016
Revision CAP Approval Date	7 March 2018	Revised with effect from	September 2018
Version	3		

Part 2: Educational Aims of the Programme
This programme allows students to examine the physical structure and composition of the Earth in terms of minerals, rocks and fossils. Students will investigate both internal and surface processes operating on Earth over a wide range of timescales. Students will also study life on

Part 2: Educational Aims of the Programme

Earth, its origin, evolution and diversity through time and the occurrence and exploitation of natural resources. Linked to this will be a consideration of environmental management, natural and technical hazards and their impact on society. Sustainability is a handrail theme that permeates through all three levels of the programme.

The programme aims to equip students to work as geologists or in other related employment.

Specific educational aims are:

1. To enable students to develop knowledge, understanding and skills in Geology.
2. To encourage a critical understanding of key theories and concepts in Geology.
3. To enable students to develop a range of field, laboratory, analytical and communication skills that will be necessary in a range of graduate employment positions.
4. To enable students to use an evidence-based approach in problem identification and solution.
5. To produce graduates who can make informed judgements and devise creative and innovative solutions in relation to environmental management and the sustainable exploitation of natural resources, in particular mineral, water and energy resources.

Programme requirements for the purposes of the Higher Education Achievement Record (HEAR)

This programme allows students to examine the physical structure and composition of the Earth in terms of minerals, rocks and fossils. Students will investigate both internal and surface processes operating on Earth over a wide range of timescales. Students will also study life on Earth, its origin, evolution and diversity through time and the occurrence and sustainable exploitation of natural resources. Sustainability is a handrail theme that permeates through all three levels of the programme. Graduates from this programme will have a wide subject knowledge and field, analytical and communications skills to work as geologists or in other graduate employment.

Part 3: Learning Outcomes of the Programme

The award route provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas:

A. Knowledge and Understanding (subject specific)

By the end of the programme the student should have knowledge and understanding of:

1. The structure and composition of the Earth.
2. The principles of stratigraphy and the relationships between strata.
3. The composition and structure of minerals and rocks.
4. The origin of life on Earth, its diversity and evolution over time.
5. The evolution of the Earth's continental and oceanic crust.
6. Processes operating internally and on the Earth's surface over different temporal and spatial scales.
7. The use and management of natural and geological resources.
8. Human impact on Earth surface processes.
9. Methods of geological data acquisition, analysis and presentation.
10. The skills and actions necessary to acquire graduate-level employment.

B. Intellectual Skills (generic)

By the end of the programme the student should be able to:

1. Formulate and test a hypothesis.
2. Plan, evaluate and conduct a programme of research and produce a report.
3. Select and use principles and procedures in a variety of situations.
4. Research and synthesise information from a variety of sources.
5. Construct arguments logically, identifying any flaws in reasoning and contrasting their merits.
6. Analyse, evaluate, interpret and integrate data from a variety of sources.
7. Think and learn creatively and critically, articulating original ideas and identifying preferred learning styles.

C. Subject/Professional/Practical Skills (subject specific)

By the end of the programme the student should be able to:

1. Use appropriate geological laboratory and field equipment in a safe, accurate and precise manner.
2. Carry out good laboratory and field practice according to local, national and international health and safety, risk assessment and ethics regulations.
3. Employ a wide variety of field and laboratory data acquisition skills.
4. Make judgements on the suitability of different strategies in natural resource exploitation.
5. Conduct appropriate analytical procedures.

6. Use appropriate specialist geoscience software.
7. Write coherent and well-referenced academic essays.
8. Write rigorous scientific reports with correct referencing.
9. Deliver effective presentations using verbal and visual media.
10. Develop an adaptable and flexible approach to learning and work.
11. Submit competitive applications for graduate employment positions.

D. Transferrable Skills and other attributes (generic)

By the end of the programme the student should be able to:

1. Complete a range of, sometimes complex, tasks independently by thinking logically, demonstrating resilience and solving problems.
2. Communicate knowledge effectively using a range of media.
3. Demonstrate numerical, statistical and analytical skills appropriate to a geoscientist.
4. Use Information and Communications Technology competently and with confidence.
5. Work independently and as a member of a group, with an ability to respect and understand others' perspectives.
6. Identify and use appropriate resources (human and technological) to enable the successful completion of a task.
7. Manage their time effectively and meet deadlines.
8. Critically reflect on their learning and demonstrate how it can be transferred to other situations.
9. Develop a strong sense of self and the life-long learning skills to make an ongoing contribution to society.

Learning Outcomes:	UBGLYD-30-1	UBGMP8-30-1	UBGMQ8-15-1	UBGMN8-15-1	UBGMMP-15-1	UBGMPP-15-1	UBGMJN-30-2	UBGMLP-15-2	UBGML8-15-2	UBGMP9-30-2	UBGMK8-15-2	UBGMLV-15-2	UBGMLE-15-2	UGBMKU-15-2	UBGMRA-15-2	UBGLVX-15-3	UBGMVD-15-3	UBGMQQ-15-3	UBGMQD-30-3	UBGMKP-15-3	UBGMM8-15-3	UBGMPQ-30-3	UBGMQ9-30-3	UBGMSU-30-3
A) Knowledge and understanding of:																								
The structure and composition of the Earth.	*	*		*	*		*	*	*		*				*					*	*	*	*	
The principles of stratigraphy and the relationships between strata.	*	*	*	*	*	*	*		*	*										*	*		*	
The composition and structure of minerals and rocks	*	*		*	*		*	*	*	*	*				*					*	*	*	*	
The origin of life on Earth, its diversity and evolution over time.			*	*		*	*			*				*									*	
The evolution of the Earth's continental and oceanic crust.	*			*		*	*		*	*	*				*						*	*	*	

Processes operating internally and on the Earth's surface over different temporal and spatial scales	*	*		*		*	*	*	*	*	*	*	*	*	*					*	*	*	*		
The use and management of natural and geological resources.		*		*			*	*												*					
Human impact on Earth surface processes.				*		*	*	*	*			*	*	*						*	*	*	*		
Methods of geological data acquisition, analysis and presentation.	*	*	*	*	*	*	*	*	*	*	*			*	*		*	*	*	*	*	*	*	*	*
The skills and actions necessary to acquire graduate-level employment.		*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
(B) Intellectual Skills																									
Formulate and test a hypothesis.							*	*	*		*						*	*	*	*	*	*	*	*	*
Plan, evaluate and conduct a programme of research and produce a report.					*	*	*	*	*								*	*	*	*	*	*	*	*	*
Select and use principles and procedures in a variety of situations.	*		*	*	*		*	*	*	*	*	*	*			*	*		*	*	*	*	*	*	*
Research and synthesise information from a variety of sources.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Construct arguments logically, identifying any flaws in reasoning and contrasting their merits.						*	*	*	*	*					*	*	*	*	*	*	*	*	*	*	*
Analyse, evaluate, interpret and integrate data from a variety of sources.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Think and learn creatively and critically, articulating original ideas and identifying preferred learning styles.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
(C) Subject/Professional/Practical Skills																									
Use appropriate geological laboratory and field equipment in a safe, accurate and precise	*	*	*	*	*	*	*	*	*		*	*	*	*	*		*		*	*	*	*			

manner.																									
Carry out good laboratory and field practice according to local, national and international health and safety, risk assessment and ethics regulations.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*		
Employ a wide variety of field and laboratory data acquisition skills.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*		*	*	*	*	*		
Make judgements on the suitability of different strategies in natural resource exploitation.							*	*	*							*				*			*		
Conduct appropriate analytical procedures.	*	*	*	*	*		*	*	*	*	*			*	*		*	*	*	*	*	*	*	*		
Use appropriate specialist geoscience software.	*	*	*	*		*	*	*	*	*	*			*	*		*		*	*	*	*	*	*		
Write coherent and well-referenced academic essays.			*										*		*							*			
Write rigorous scientific reports with correct referencing.		*		*	*	*	*	*	*	*					*	*	*	*	*	*	*	*	*	*		
Deliver effective presentations using verbal and visual media.			*	*	*		*	*	*							*	*		*		*		*	*		
Develop an adaptable and flexible approach to learning and work.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Submit competitive applications for graduate employment positions.								*	*		*					*	*	*	*	*	*		*	*		
(D) Transferable skills and other attributes																									
Complete a range of, sometimes complex, tasks independently by thinking logically, demonstrating resilience and solving problems.				*	*		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*		
Communicate knowledge effectively using a range of media.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Demonstrate numerical, statistical and analytical skills appropriate to a geoscientist.	*	*	*	*	*		*	*	*	*	*			*	*		*	*	*	*	*	*	*	*		
Use Information and	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		

	Communications Technology competently and with confidence.																								
	Work independently and as a member of a group, with an ability to respect and understand others' perspectives.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*
	Identify and use appropriate resources (human and technological) to enable the successful completion of a task.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Manage their time effectively and meet deadlines.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Critically reflect on their learning and demonstrate how it can be transferred to other situations.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Develop a strong sense of self and the life-long learning skills to make an ongoing contribution to society.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Part 4: Student Learning and Student Support

Teaching and learning strategies to enable learning outcomes to be achieved and demonstrated

This degree programme provides support for students to achieve the learning outcomes in each of the four areas of learning using the following methods:

A. Knowledge and Understanding (subject specific)

- The required knowledge and understanding are taught primarily through lectures, seminars and laboratory work associated with modules.
- Lectures provide the core information on key facts, concepts and theories covering a range of geological themes.
- Students undertake exercises in seminars and laboratory work to reinforce interest and understanding.
- Group discussion and research-based projects strengthen knowledge and understanding.
- Formative and summative presentations to promote independent learning through research, delivery and peer response.
- Laboratory and field work involve application of practical and analytical skills to consolidate knowledge and understanding.
- Specified reading lists are provided for all modules to encourage independent study, to consolidate and supplement what is taught/learnt and to broaden knowledge and understanding.

B. Intellectual Skills (generic)

- Lectures and readings introduce and define knowledge, concepts and theories to be learnt.
- Laboratory and field project work enable students to put their knowledge into practice through problem solving, inquiry and decision making.
- Written and oral presentation of project results and discussion with peers develop creative and critical thinking.

C. Subject/Professional/Practical Skills (subject specific)

- Students engage in a number of modules that cover a range of topics in geology.
- Lectures and readings introduce and define geological facts, concepts and theories.
- Laboratory and field work enable students to acquire practical skills in collecting and analyzing geological data, applying knowledge to solve problems and make decisions.
- Laboratory and field practices embed local, national and international health and safety, risk assessment and ethics regulations.
- Computer-based seminars develop skills in geoscience-related software and geo-statistics.
- Research skills are fostered through lectures, seminar discussion, field work and dissertation supervision.
- Students are expected to supplement their lecture, seminar and practical notes with additional reading and self-directed study.

D. Transferable Skills and other attributes (generic)

- Students are encouraged to work independently, through a variety of student-led activities in seminars, laboratory and field work and specifically in their final year projects.
- Specific training is given in different communication skills and students are given formative feedback on their ability to communicate using different media.

Part 4: Student Learning and Student Support

- Students undertake group work in the laboratory and field, completing a range of different activities. Some projects require additional work in the students' own time.
- Training is given in a range of literacy, numeracy and computer skills and formative feedback given to help develop such skills.

At UWE, Bristol there is a policy for a minimum average requirement of 12 hours/week contact time over the course of the full undergraduate programme. This contact time encompasses a range of face: face activities as described below. In addition a range of other learning activities will be embedded within the programme which, together with the contact time, will enable learning outcomes to be achieved and demonstrated.

On the BSc (Hons) Geology programme teaching is a mix of scheduled, independent and placement (optional).

Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits. Scheduled sessions may vary slightly depending on the module choices made.

Independent learning includes hours engaged with essential reading, case study preparation, laboratory work (technician supervised), field work, assignment preparation and completion.

Placement learning: may include a practice placement, other placement, or a year abroad.

Description of the teaching resources provided for students

In addition to the generic Faculty teaching and learning resources:

- Dedicated laboratory and technical support.
- Residential and day cohort field site visits.
- Field equipment.
- Laboratory equipment.
- IT geology specific software.
- Library texts with an emphasis on e-resources.
- Full PPE except for footwear.

Description of any Distinctive Features

- Practical and problem solving approach to studying geology.
- Emphasis on the development and application of field and practical skills.
- Practice facing with a focus on employability.

Part 5: Assessment

A: Approved to University Regulations and Procedures

Assessment Strategy

The programme encompasses a range of **assessment methods.** The QAA Code of Practice on Assessment of Students identifies general principles that must be addressed at programme level:

1. Principles, procedures and processes of all assessments should be explicit, valid and reliable.

- All assessments comply with the University Academic Regulations and Procedures

Part 5: Assessment

- Principles, procedures and processes of assessment are described in module handbooks that are distributed to students at the start of each module.

2. The scheduling and amount of assessment is consistent with an effective and appropriate measurement of the achievement of the intended learning outcomes.

- The programme team reviews assessment across each Level of the programme to prevent the submission of multiple assessments on the same submission date.
- Assessment submission dates are provided to students at the start of each academic year
- Appropriate measurement against learning outcomes is achieved by internal and external scrutiny of assessment, consistent with University Academic Regulations and Procedures

3. Appropriate feedback is provided that promotes learning and facilitates improvement.

- The nature of feedback varies according to the work undertaken. It includes: detailed comments on scripts, model answers and verbal feedback. Marking criteria are distributed to students when assessments are set. All procedures for setting collecting, marking and returning students' assignments conform to the University Academic Regulations and Procedures

At all Levels, students may be assessed by a mix of coursework and examinations (see table below). Across the range of Level 1 modules, the coursework provides a variety of opportunities for students to demonstrate their abilities in both individual and group settings, whilst examinations test their abilities to articulate clearly and accurately the concepts and frameworks that are fundamental to their area of study. At Level 2, the coursework and examinations reflect the curriculum strategy of exploring concepts and developing skills. The assessments enable students to demonstrate the depth of their knowledge and the sophistication of their thinking. At Level 3 the coursework requires students to produce substantial, detailed and sophisticated pieces of work that reflect a wide range of reading and a high level of independent thought. The examinations test students' depth of knowledge, critical thinking and ability to sustain credible arguments. The third year projects test the students' ability to formulate research questions, collect and analyse data and produce a critical, well-argued and referenced report.

These approaches are in keeping with the range of module learning outcomes and the diversity of student needs. Emphasis is placed on application of knowledge to investigate real-world problems and this is achieved via laboratory classes, computer-based learning, fieldwork, and group-based problem-solving activities. This approach requires them to think on their feet and to challenge their existing preconceptions, promoting adaptability and flexibility in seeking and receiving information, and preparing them for the way in which they are likely to have to apply their knowledge in their professional careers.

Most Level 2 modules cannot be studied until a proportion of Level 1 modules specified in the curriculum have been successfully completed. These earlier modules are known as "pre-requisite" modules and they are specified to ensure a sound academic progression from broader knowledge into more applied subject areas.

Assessment of the teaching and learning within modules at all Levels is broadly divided into formative assessment and summative assessment. These include written assignments, reports, case studies, presentations, individual and group projects, examinations, and portfolios of competencies. This range of assessments is designed to:

- identify students' learning strengths and weaknesses and continuing performance needs
- expose students to a variety of assessment methods in order to promote inclusive learning
- test students' ability to integrate theory and practice
- allow students to demonstrate the learning achieved as measured against learning outcomes, QAA benchmarks, and professional competency

Part 5: Assessment

- encourage students to develop a deep approach to learning
- enhance learning through assessment by means of self, peer and tutor assessed formative work.
- enhance skills learning and development through assessment by means of self, peer and tutor assessed formative work – including practical, field and presentation (essay, report, oral/visual and data).

Through the use of reading strategies students are encouraged to broaden their subject-specific knowledge progressively. Formative and summative assessments are designed to promote a deeper understanding of material and, at Level 3, to facilitate application to professional practice.

The degree programme assesses students' achievement of the learning outcomes in each of the four areas of learning using the following methods:

A. Knowledge and Understanding (subject specific)

- Student knowledge and understanding is assessed in a variety of coursework assessment methods, including essays, practical portfolios, research proposals, research projects, poster presentations and verbal presentations.
- Essays and practical activities are also undertaken under controlled examination conditions. These are largely in response to unseen papers, but some seen questions are also used.

B. Intellectual Skills (generic)

- Coursework assessment of intellectual skills includes essays with formative and summative written feedback.
- Presentations enable students to offer, test, modify and argue their point of view.
- The professional presentation of research projects allows communication of personal views and the prosecution of original and creative ideas.
- Research proposals and projects assess logical argument and critical reflection.
- Essays to demonstrate intellectual skills are also undertaken under controlled examination conditions. These are largely in response to unseen papers, but some seen questions are also used.

C. Subject/Professional/Practical Skills (subject specific)

- The coursework-based assessment of practical skills occurs through a variety of mechanisms. These include practical portfolios, presentations describing practical work, and reports describing and critiquing the outputs from practical activities.
- Field exercises and presentations, research proposals and research projects test the skills of research design and critical analysis.
- Practical skills are also tested under controlled conditions within practical exams.

D. Transferable Skills and other attributes (generic)

- Coursework assesses a wide range of practical and other transferable skills, through practical and fieldwork portfolios, essays, presentations and written reports.
- Timely submission of assignment relies on good time management and keeping to deadlines.
- Examinations and other controlled assessments test students' ability to apply knowledge to problem solving and in decision making situations.

Part 6: Programme Structure

This structure diagram demonstrates the student journey from Entry through to Graduation for a typical **full time student**, including: level and credit requirements, interim award requirements, module diet, including compulsory and optional modules

		Compulsory Modules	Optional Modules	Interim Awards
ENTRY	Year 1	From 2019/20: UBGLYD-30-1 Dynamic Earth Transitional structure in 2018/19: UBGLYD-30-1 Earth Science UBGMP8-30-1 Earth Materials UBGMQ8-15-1 Living Earth UBGMN8-15-1 Geological Field Skills UBGMMP-15-1 Geological Maps UBGMPP-15-1 Stratigraphy of the British Isles	None	Cert HE Geology 120 credits with at least 100 at level 1 or above
	Year 2	UBGMJN-30-2 Research in Geology UBGML8-15-2 Hydrogeology 1 UBGMK8-15-2 Igneous and Metamorphic Petrology UBGMLP-15-2 Geotechnics UBGMP9-30-2 Sedimentary Environments and Palaeoecology	15 credits from the following options: UBGMLV-15-2 Understanding River Dynamics UBGMLE-15-2 Understanding Coastal Dynamics Transitional structure in 2018/19: UBGMKU-15-2 Climate Change: Tracing the Record To be available from 2019/20: UBGMRA-15-2 Tectonic processes and landforms	Dip HE Geology 240 credits with at least 100 at level 2 or above and 220 at level 1 or above.

Year Out: Students on the sandwich (SW) programme take a placement year after completing their first two levels of study. As a connection between university study and work, the placement allows the application of academic knowledge to a professional environment.

Within the BSc(Hons) Geology programme, placements aim to provide appropriate training and experience that will:

- Enrich programme activities.
- Assist students to appreciate the practical relevance of the programme subject matter.
- Provide the opportunity for students to apply their knowledge and gain experience in a professional environment.
- Place students in a situation which will enable them to observe the economic, social and administrative framework within which organisations operate.
- Assist students to appreciate the contribution of other professions and the need for co-ordination of effort in problem solving for the benefit of stakeholders/clients/users.

In BSc(Hons) Geology the placement is related to module UBGLVX-15-3 Placement. On successful completion of this module students will be able to:

- Analyse an organisation in terms of structure, strategy, operations and ethos.
- Demonstrate how a subject specialism may be applied to and be influenced by a professional organisation.
- Evaluate the relationship between academic material and professional practice.
- Demonstrate the development of their professional competence through reflective practice.
- Critically evaluate the relationship between academic theory and professional context.
- Demonstrate key skills in communication, self-management, IT in context, problem formulation and decision making, awareness of professional literature, teamwork.

The student must be in approved employment for a minimum of 24 weeks (equivalent to 1000 hours, enabling longer part-time placements to be set up). A placement position must be authorised in advance by the module leader.

Students who take UBGLVX-15-3 take UBGMQQ-15-3 Independent Project (Geology).

	Compulsory Modules	Optional Modules	Interim Awards
Year 3	UBGMQD-30-3 Final Year Project UBGMKP-15-3 Hydrogeology 2 UBGMM8-15-3 Geotechnical Hazards UBGMPQ-30-3 Structural Geology and Geophysics Placement students (SW) take: UBGLVX-15-3 Placement AND UBGMQQ-15-3 Independent Project (Geology)	Full-time students take 30 credits from the following options: UBGMSU-30-3 GIS and Remote Sensing Applications UBGMQ9-30-3 Applied Sedimentology	BSc Geology 300 credits with at least 100 at level 2 or above and at least 280 at level 1 or above.

GRADUATION

Part 7: Entry Requirements

Tariff points: 300

GCSE: Grade C or above in English Language and Mathematics, or equivalent. Please note the University does not accept Level 2 Key Skills, Functional Skills or Certificates in Adult Numeracy and Literacy as suitable alternatives to GCSEs.

A-level subjects: You must have a minimum of two A-Levels, including one of the following: Geology; Biology; Chemistry; Environmental Science; Geography; Maths; Physics. Points from General Studies and AS-Level subjects (not taken onto full A-Level) can be included towards overall tariff.

Relevant subjects: Geography, Environmental Studies, Land and Environment

EDEXCEL (BTEC) Diploma: A minimum of DDM from a BTEC Extended Diploma in one of the following: Aeronautical Engineering; Applied Science; Construction and the Built Environment; Countryside Management; Electrical Electronic Engineering; Engineering; Environmental Sustainability; Information Technology; Manufacturing Engineering; Mechanical Engineering; or Pharmaceutical Science.

Access: Achievement of the HE Diploma; to include 30 Level 3 credits at Merit including Science and Maths; Level 2 credits giving GCSE equivalency (where appropriate) in English Language.

Baccalaureate IB: 26 including one of the following at Higher level: Biology; Chemistry; Computer Science; Geography; Mathematics; Physics.

Part 8: Reference Points and Benchmarks

The structure and content of this programme have been informed throughout by the following reference points and benchmarks:

1. QAA Subject Benchmark Statement for Earth Sciences, Environmental Sciences and Environmental Studies (2014)

The subject coverage and knowledge from the QAA subject benchmark statement (SBS) informed the design of the programme so that graduates will have appropriate knowledge of the main aspects of Earth Sciences, listed in the SBS as:

- A holistic view of the present and past interactions between components of the Earth system, including the effects of extraterrestrial influences on these interactions.
- The cycling of matter and the flows of energy into, between and within the solid Earth, the Earth's surface, the hydrosphere, the atmosphere and the biosphere.
- The study of the biological, chemical and physical processes that underpin our understanding of the structure, materials and processes relevant to the Earth and planetary bodies.
- The central paradigms in the Earth sciences: uniformitarianism (the present is the key to the past); the extent of geological time; evolution (the history of life on Earth); and plate tectonics.
- Geological time, including the principles of stratigraphy, the stratigraphic column, the methods of geochronology, the rates of Earth processes, major events in Earth history, the evolution of life as revealed by the fossil record, the quaternary and anthropocene.
- Collection and analysis of Earth science data in the field, and subsurface, the appropriate presentation, manipulation and extrapolation of these sometimes incomplete data in both two and three-dimensions, including the generation of geological maps and cross sections.
- The study of structures, materials and processes that includes an appreciation of temporal and spatial variations at appropriate scales.
- The study of the structure, the composition and the materials of the solid Earth (core, mantle, crust, asthenosphere, lithosphere and so on), the hydrosphere, the atmosphere, the cryosphere and the

Part 8: Reference Points and Benchmarks

biosphere, and the processes operating within and between them.
- An understanding of other planetary bodies.
- Earth science terminology, nomenclature and classification of rocks, minerals, fossils, and geological structures.
- The identification of rocks, minerals, fossils, and geological structures.
- Surveying and measurement both in the field and laboratory, and using quantitative and instrumental techniques.
- An awareness that the understanding and knowledge gained from the subject and its application has to be considered within a wider socio-economic and environmental context.

The threshold level of intellectual, practical, communications personal and professional skills expected for graduates from this programme were also linked to the SBS where threshold levels of performance are given as:

Intellectual skills (knowledge and understanding)

Graduates of an honours degree in Earth Science demonstrate:

- knowledge and understanding of subject-specific theories, paradigms, concepts and principles
- an ability to integrate evidence from a range of sources to test findings and hypotheses
- an ability to consider issues from a range of interdisciplinary and multidisciplinary perspectives
- an ability to analyse, synthesise, summarise and critically evaluate information
- an ability to define complex problems and to develop and evaluate possible solutions
- a critical approach to academic literature, data and other sources of information.

Practical skills

Graduates of an honours degree in Earth Science demonstrate an ability to:

- conduct fieldwork and laboratory investigations competently (as appropriate)
- describe and record observations in the field and laboratory
- interpret and evaluate practical results in a logical manner
- undertake laboratory and fieldwork ethically and safely
- plan, conduct and present an independent project with appropriate guidance
- prepare, manipulate and interpret data using appropriate techniques
- use appropriate numerical and statistical techniques
- use appropriate technologies in addressing problems effectively.

Communication skills

Graduates of an honours degree in Earth Science demonstrate:

- an ability to communicate effectively to a variety of audiences using a range of formats
- good interpersonal communication skills to enable effective team working
- an ability to argue a case in an effective manner.

Personal and professional skills

Graduates of an honours degree in Earth Science demonstrate an ability to:

- work effectively as a team member
- recognise and respect the views of others
- demonstrate an awareness of the importance of risk assessment and relevant legislation
- develop the skills for autonomous learning

Part 8: Reference Points and Benchmarks

- identify and work towards targets for personal, career and academic development
- reflect on the process of learning and to evaluate personal strengths and weaknesses
- display an appreciation of developing their graduate skills relevant to career pathways.

2. QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland (FHEQ) (2008)

Descriptors used to inform the nature and characteristics of the main qualifications at each level – Cert HE, Dip HE and BSc.

3. QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education: Students with Disabilities (1999)

4. Equality Act (2010) and

5. Special Education Needs and Disability Act (SENDA 2001)

Reference points 3-5 indicate the need to ensure consideration is given to the means, where possible, of enabling disabled students' participation in all aspects of the programme. There is no distinction in the University's admissions policy with regard to disability and it aims to make all reasonable adjustments so that students can study the course of their choice. However, due to field work and some laboratory requirements, students with certain mobility and visual disabilities may be unable to achieve some of the programme learning outcomes.

6. Universityof the West of England Access Agreement 2016/17

This strategy links to social mobility, widening participation and giving those who are able to succeed at University the opportunity to do so. The programme will provide equitable opportunities as required by the Agreement.

7. The Geological Society of London requirements for accreditation

Departments applying for accreditation are required to demonstrate that their programmes introduce students to the major aspects of their degree subject and specifically that appropriate skill levels are attained in specified topics. The guidelines issued by the Geological Society have contributed to defining the learning outcomes for this programme.

8. Chartered Institution for Water and Environmental Managers

The requirements for accreditation of the academic content of the course(s) relate to the disciplines of the water and environmental management professions as specified in the Institution's Charter and Bye-Laws. CIWEM has accredited a number of the department's programmes since 2004, there is confidence that BSc Geology will meet the requirements.

9. University Teaching and Learning Policies: University of the West of England Learning 2020 Strategy

The key aspirations have fed into the design of this programme in particular:

- Inspiring, well connected and passionate colleagues (see reference point 9 below)
- Innovative learning strategies and environments, with considered use of TEL
- Relevant, authentic and engaging assessment strategies
- Experiencing practice-based learning within and out of the university
- A leading-edge research-informed and scholarly focus

Part 8: Reference Points and Benchmarks

10. Staff research interests and expertise

Programme content is founded upon the strengths of active staff research. Current staff members have expertise in Quaternary geology, sedimentology, fluvial and coastal systems, natural hazards, sustainability and environmental management. New research-active staff will be appointed to the Department to complement and broaden existing expertise.

11. Earth Science in the National Curriculum

Geology in the National Curriculum was revised in 2013 to enable candidates to study Earth internal and surface processes, evidence of past life and the uses made of geological materials, addressing environmental, technological and economic issues. The BSc Geology programme will provide students with the opportunity to develop their understanding and skills further and help them to prepare for graduate level employment.

What methods have been used in the development of this programme to evaluate and improve the quality and standards of learning? This could include consideration of stakeholder feedback from, for example current students, graduates and employers.

The programme team has sought feedback from BSc Geography and BEng Civil and Environmental Engineering students. There have also been discussions with potential employers. These discussions have highlighted the discipline themes that are important to practice and employability and these themes have informed curriculum design. In addition, the programme team's considerable experience of programme design and delivery has been important to the design.

Quality and standards are not static, and will be constantly reviewed as the programme is delivered. Evaluation and improvement of quality and standards of learning will be informed by:

Professional accreditation and review
Periodic programme review
Subject external examiners
Student feedback on modules, student fora, APT and NSS
Stakeholder feedback
Staff performance and development review

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of individual modules can be found in module specifications, available on the University's website.

FOR OFFICE USE ONLY

First CAP Approval Date	22 March 2016			
Revision CAP Approval Date *Update this row each time a change goes to CAP*		Version	1	Link to MIA (ID 3435)
	30 May 2017		2	Link to RIA (ID 4282)
	7 March 2018		3	Link to RIA (ID 4681)
Next Periodic Curriculum Review due date	2022			
Date of last Periodic Curriculum Review				