University of the West of England
`BRISTOL

CORPORATE AND 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	University of the West of England, Bristol	
Faculty responsible for programme	Faculty of Health & Applied Sciences.	
Department responsible for programme	Department of Applied Sciences	
Modular Scheme Title		
Professional Statutory or Regulatory Body Links	None	
Highest Award Title	MSci Environmental Science	
Default Award Title		
Fall-back Award Title		
Interim Award Titles	BSc (Hons) Environmental Science BSc Environmental Science Diploma of Higher Education Environmental Science Certificate of Higher Education Environmental Science	
UWE Progression Route		
Mode(s) of Delivery	FT / SW / PT/ Foundation Year	
Codes	**UCAS:**	**JACS:**
	ISIS2:	**HESA:**
Relevant QAA Subject Benchmark Statements	Earth Sciences, Environmental Sciences and Environmental Studies (2014)	
CAP Approval Date	31/05/2016	
Valid from	Sept 2016	
Valid until Date		
Version	Version 1	

Part 2: Educational Aims of the Programme

The MSci Environmental Science (with foundation year) programme is a five year full-time or six year sandwich degree designed to provide a comprehensive foundation year in science and graduates with the knowledge and skills necessary to work effectively in the field of environmental science, for example in environmental regulation, environmental consultancy or environmental biotechnology. It provides an opportunity for students to explore the theory and practice related to the subject of environmental science, and to develop advanced subject specific skills and important high level transferable graduate and post graduate skills, particularly analytical and communication skills. It aims to develop, in students, an in-depth understanding of the natural world and the potential consequences to the natural environment of a wide range of human activities. Students will also develop a broad understanding of the social, political and economic context within which environmental decisions are made. The final masters-level year provides students with the opportunity to develop advanced research skills by undertaking an extensive original research project, and to critically engage with knowledge and understanding that is at the forefront of their academic discipline.

The design of the programme enables the student to:

- Understand the systematic principles that govern biological, physical and human systems in an environmental context.
- Explore to an advanced level the impact of human activities on these systems, and appreciate the relationship between lifestyle choices (including their own) and the sustainable use of environmental resources at a local, regional and global scale.
- Develop subject-specific research and practical, analytical and communication skills which will equip them for future research and working in the environmental sector.
- Critically evaluate a range of innovative technological enhancements and sustainable adaptions required to meet global environmental challenges linked with increases in population, resource demands and intensification, not only from a scientific perspective, but also taking into account legislative and socio-economic factors and the role of education.

The specific aims of the programme are to:

- Provide the educational and resource environment which will enable students to develop:
    - A strong scientific understanding of the principles and processes that underpin contemporary environmental issues.
    - An understanding of environmental issues from a multi-disciplinary and interdisciplinary perspective.
    - The field, laboratory and investigative skills necessary to undertake independent investigations and analyses of environmental problems at an advanced level, and the presentational skills necessary to communicate their findings to audiences with a variety of backgrounds.
    - The skills of a literate and numerate technologically agile student capable of independent learning.

- Create a friendly and supportive atmosphere that will enable individual students to use the learning experience at UWE to create a graduate foundation, on which they can develop their future careers and on-going social and educational development.

- Provide a curriculum that is enhanced by incorporating the latest research and technological innovations from both academic research and industrial partners.

Part 2: Educational Aims of the Programme

MSci Environmental Science (with foundation year)

The Foundation Year gives students an appropriate grounding in the subject areas of biology, chemistry, physics, mathematics, and psychology. This grounding, in addition to the development of transferable skills, prepares learners to successfully study at Level 1 and beyond. At Levels 1 and above the MSci Environmental Science programme has been designed to provide graduates with the knowledge and skills necessary to work effectively in the field of environmental science to an advanced level. It includes physical, chemical, biological and human processes, and the monitoring and management of natural and human-induced environmental changes. Graduates have an in-depth critical understanding of key environmental problems, including the sustainable use of resources and climate change, and are able to analytically evaluate the range of possible solutions. Students also develop a deep understanding of the social, political, legal and economic context within which environmental decisions are made. The programme also provides opportunities for students to develop important transferable graduate and post graduate skills, particularly analytical and communication skills.

Part 3: Learning Outcomes of the Programme

The Learning outcomes of the programme are mapped to the compulsory modules as shown below. This is to demonstrate that all students are able achieve all programme outcomes although many outcome will be re-enforced through optional modules.

Learning Outcomes:	USSKCJ-30-0 Biology in Practice OR USSKDL-30-0 The Living World	USSKCK-30-0 Chemistry in Practice OR USSKDK-30-0 The Chemistry World	USSKCL-30-0 Skills for Science OR USSKDM-30-0 The Physical World	USSKCM-30-0 People and Science OR USSKD1-30-0 Science and People	USSK5C-30-1 Life on Earth	USSJFB-30-1 The Earth	USSKAB-30-1 Environment and Society	USSK5B-30-1 Field Skills	USSK5G-30-2 Env Field Techniques	USSKAF-30-2 Earth Systems Science	USSK5F-30-2 Ecology & Ecosystem Restoration	USSKAH-30-2 People & Env. Change	USSK5K-30-3 Research Project	USSKBC-30-3 Dissertation Project	USSKBE-30-3 Resource Security & Sustainability	USSKM8-30-M Sustainable Futures	USSKM5-30-M Research with Impact	USSKM^-60-M Research in Practice
A) Knowledge and understanding of:																		
1. A multi-disciplinary and interdisciplinary approach in knowledge and understanding of earth systems		X			X	X	X	X	X	X	X	X	X	X	X	X		
2. Processes which																		

Part 3: Learning Outcomes of the Programme																		
shape the natural world including the influence of human activities.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
3. Relevant terminology, nomenclature and classification systems	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
4. Methods of acquiring, interpreting and analysing information and data	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X	X
5. Sustainable use of resources.					X	X	X				X	X			X	X	X	X
6. The contribution of the environmental sciences to debates on environmental issues					X	X	X				X	X	X	X	X	X	X	X
7. The contribution of their subject to the knowledge of the world we live in.	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8. The applicability of the environmental sciences to the world of work.							X	X	X							X	X	
(B) Intellectual Skills																		
1. Using theories and paradigms	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
2. Analyse, synthetise, summarise information	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3. Collect evidence, test/develop hypotheses	X	X	X	X				X	X	X	X		X	X	X		X	X
4. Apply knowledge to problems	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
5. Independent learning, self manager								X	X				X	X	X	X	X	X
6. Appreciate moral, ethical issues around investigation				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(C) Subject/ Professional/Practical Skills																		
1. Plan, conduct report on investigation	X	X						X	X	X	X	X	X	X	X		X	X
2. Collect, record, analyse data	X	X	X		X	X		X	X	X	X	X	X	X	X	X		X
3. Deal with complex issues systematically and creatively,																X	X	X
4. Undertake lab, field investigations	X	X			X	X		X	X	X	X	X	X	X	X	X		X
5. Use of technology for mapping, analyzing data									X				X	X		X		
6. Undertake research project									X				X	X				X
7. Reference work appropriately	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Part 3: Learning Outcomes of the Programme

(D) Transferable skills and other attributes																		
1. Make sound decisions in complex and unpredictable situations																X	X	X
2. Use a variety of sources of information	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3. Communicate appropriately using contemporary technologies			X	X				X	X				X	X		X	X	X
4. Appreciate issues of sample selection, accuracy, calibration, precision, replicability and uncertainty	X	X	X		X	X		X	X	X	X		X	X		X		X
5. Prepare, process, interpret data	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6. Solve numerical problems		X	X	X	X	X		X	X	X	X		X	X	X			X
7. Use the internet and other electronic sources critically	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8. Respect views of others	X	X		X	X	X	X	X	X	X	X	X	X	X		X	X	X
9. Evaluate individual performance			X	X		X		X	X				X	X		X		X
10. Develop skills for life-long learning	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11. Personal, academic and career development.								X	X				X	X		X	X	X
12. Develop an adaptable, flexible and effective approach to study and work.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Part 4: Student Learning and Student Support

The MSci Environmental Science (with Foundation Year) programme is an interdisciplinary degree which combines a sound scientific understanding of environmental systems with the analysis of those socio-economic and political factors which determine the context within which environmental decisions are made. Hence its teaching is support by tutors from not only a wide range of disciplines within the Faculty of Health & Applied Sciences, but also by staff from other Faculties, including the Faculty of Environment and Technology. The sustainable use of natural resources is a theme which is integrated across the programme, as is the importance of interdisciplinarity, which is also developed explicitly through dedicated modules.

All students follow a core first year (year zero) which is designed to prepare students without a strong background in science for success as scientists by studying the breadth and relevance of the natural and social sciences, including the multivariate contexts in which they will encounter the core concepts of mathematics, physics, biology, chemistry, and IT. Core modules in the second year (Level 1) build on this foundation and provide a broad underpinning to the environmental sciences. Core modules in the third year focus on the application of environmental theory to problems in the real world, and help develop students' independent learning skills,

particularly those relating to the planning, implementation, analysis and communication of environmental research. In the third year, all students undertake an independent project, working alongside researchers at the leading edge of the environmental sciences, or developing their own ideas with the guidance of expert tutors. They also study compulsory modules that focus on the key environmental issues of the day, as well as exploring the relationships between science and enterprise. Optional modules in the fourth year allow students to focus their degree studies around a number of themes, including: the quantification and diversity of the living environment; the analysis of the physical environment and sustainable exploitation of earth resources; the management of human: environment interactions in business and industry. Alternatively, students may choose to pick a broad range of modules to match their interests and career aspirations

The final, research-focused advanced year offers an extended research project in an area of the student's choice, working within a UWE-based research team, with a nationally or internationally-recognised conservation organisation, in industry, or with a government or non-governmental organisation. Research projects will be tailored to a student's interests and needs. This research project is supported by masters-level research skill training, including advanced practical skills for environmental science (eg. Climate modelling, coding and remote sensing), as well as project management, science communication and outreach skills.

Transition to HE and student support

MSci Environmental Science (with Foundation Year) is managed as part of a suite of programmes within the Biological and Environmental Sciences & Science Communication Subject Group. Year handbooks are provided at each level providing information on the Faculty, the University, its regulations and procedures. Detailed information is distributed in guides for each module. At the start of the programme, students undertake a comprehensive induction programme and are introduced to university regulation, aims of the programme, laboratory working, support systems (e.g. Drop-ins, PAL) and their personal tutor. Students also have Inductions at the beginning of their second, third and final years of study, which are targeted towards the specific needs of their year. Students are also supported during their time at UWE by a personal tutor, student advisors and module leaders. Guidance on year issues is overseen by the Programme Leader, who is supported by the Teaching Team and Associate Heads of Department. Issues relating to groups of students are dealt with through the Student Rep / Staff Forum (SRSF) that includes student representatives, who also meet with the Programme Leader on a regular basis. Students who elect to undertake a placement year, are allocated a placement tutor who will maintain contact, plan a visit where possible and provide support and liaise with work supervisors. For all students, access to academic staff and the student advisors is via e-mail or by personal access, with most staff offering an office-hours policy facilitating the booking of appointments. The central University counselling and support services provide assistance and guidance for students with special needs. The programme welcomes mature students and students with disabilities. When possible, and following individual consultation, adjustments are made to practical and field work to allow all student to achieve the learning outcomes of the programme.

Teaching and Learning facilities

The university library provides an extensive range of literature that supports the programme. Additional material is held in the Field Studies Resource Room and in the library at Bristol Zoo. Students have 24-hour access to computers, and IT support services are available within the University's Computing Helpdesk. The University's Virtual Learning Environment, hosted by Blackboard has been developed to enhance the student's learning experience and provide comprehensive support on a module-by-module basis. Support includes, access to teaching materials, links to relevant online resources and background reading, facilities for interaction and coordination during group work (e.g. blogs, wiki's) and communication between tutors and students. The Faculty has a well-equipped range of general and specialist laboratories, a

dedicated field laboratory, large glasshouse used for teaching and project work, dedicated project laboratory a wide range of specialist scientific equipment that is available for use by the students at appropriate stages in their study programme.

The university's campus at Frenchay covers over 60 hectares, and provides a wide range of habitats that can be utilized by students for formal and informal learning, including ponds, grassland, woodland, and the built environment which includes some buildings that incorporate cutting-edge sustainable building design and micro-generation technologies. In addition, the geographical location of Bristol gives access to a wide variety of natural and man-made environments and provides students with opportunities for fieldwork that enhance their learning experience. Local sites that are frequently utilized in teaching and research include the Severn Estuary, the Somerset Levels, Wick Quarry, Gordano Valley, Bristol City Centre and Harbour, Newport Wetlands and a range of local rivers.

In addition to programme-specific facilities, the university offers a wide range of opportunities for learning and participation outside of the formal curriculum. These include: research talks by visiting experts and UWE research staff, and access to research seminars hosted by other organisations in Bristol, for example Bristol Zoo; a wide range of student societies, some which are particularly targeted at environmental issues; a wide range of volunteering opportunities including working with local environmental organisations and supporting pupils in local schools; and opportunities to get involved with entrepreneurial projects, publish their own work, or take part in environmental, conservation, or development projects at home and abroad. Such extra-curricular activities can now be formally recognised through the UWE Bristol Futures Award.

Preparation for the world of work
An aim of this programme is to produce graduates that are ready for the world of work.

Environmental Science graduates have a long track record in gaining employment across a number of different professions including environment-based industries. This is due to the wide range of skills they develop in the study of the subject through hands-on learning activities such as fieldwork, laboratory work and team-based projects. Working in the natural environment provides opportunities and constraints on project work that are different, unexpected and more challenging than those found in classroom-based activities. The skills and qualities developed through studying Environmental Science are highly transferable into a variety of roles and different working environments, including the ability to think through issues, analyse situations and problems and come up with creative solutions, and to work with others in sometimes difficult and tight timeframes, and unfamiliar environments.

Students are introduced to the world of work through their taught modules, especially the 'Skills' modules at levels Zero, One and Two, and especially through their group and one-to-one tutor sessions at all three levels. These sessions focus on the identification of career aspirations, analysis of skills gaps and acquisition planning, C.V. preparation and the job application process. Students are encouraged to take the Placement Year to build up their work experience skills and this occurs between year 2 and year 3. Scientific and generic careers events are organised throughout the year for student at all levels and careers advice is available from academic staff and the university's Careers Service. Enterprise, social enterprise and consultancy are all key topics delivered in the optional level 3 module 'Scientific Frontiers and Enterprise'.

Field work is of fundamental importance to the development of employability skills and understanding in wildlife conservation, and occurs across a range of modules at all levels, including half-day, whole day, and residential visits. In particular, residential field trips take place in Year 1 (compulsory), Year 2 (compulsory) and Year 3 (optional modules). The costs associated with compulsory field trips are generally met by the Faculty; however, optional trips

may incur an additional cost. All third Year students undertake an independent research project. This is supported by compulsory modules at Levels 1 and 2 during which students develop the skills to project plan, self-manage, collect data, analyse and interpret data and write scientific reports. In addition, in their final (Master-level) year, students undertake an extended research project, developing the advanced research skills required to take on PhD or other research-based post-graduate opportunities.

In addition to the practical work experience opportunities throughout this programme, technology is used to enhance teaching, learning and employability. Environmental scientists are often required to communicate and disseminate their findings through a variety of modern media, to a range of audiences. A number of the technologies incorporated within this programme link directly to feedback from employers on relevant graduate skills (e.g. GIS, data bases, webpages, blogs, new media).

Teaching and Learning, Technology Enhanced Learning (TEL)
In order to support students during their transition to HE and to help students become independent learners, taught sessions in Year Zero (the foundation year) and Year 1 are a mixture of interactive lectures, tutorials, workshops, laboratory, field and computer practical's. During these years students are taught the skills necessary to engage with appropriate technologies to allow a gradual move towards facilitated learning in Years 2, 3 and 4. The taught sessions at UWE utilise TEL to support pedagogy of Inductive Learning where the students engage in facilitated activities such as debates, problem based learning, group working, research etc. Integral to this programme is the use of subject based as well as generic use of technologies. For instance, data analysis and modelling, mapping (GIS), wildlife film-making, communication for conservation, are subject areas reliant on a range of contemporary technologies. In addition modern technologies are incorporated as vehicles of learning (e.g. blogs, web pages, data bases) and as vehicles for learning through assessment (e.g. online portfolio's, online tests, wiki's, press releases etc.)

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 to 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 MSci Environmental Science programme (with foundation year), teaching is a mix of scheduled learning, independent learning and placement learning.

Scheduled learning includes interactive lectures, lectorials, tutorials, seminars, project supervision, demonstration, laboratory, computer and field practical classes and workshops; fieldwork; external visits; film-making and work based learning. Scheduled sessions may vary slightly depending on the module choices made.

Independent learning includes hours engaged with essential reading, case study preparation, scientific research activity, attending professional seminars, assignment preparation and completion, revision etc.

Placement learning: Students have the option to undertake a professional practice placement year.

Description of any Distinctive Features
The Environmental Science (with foundation year) programme has been developed in consultation with a range of stake holders and has the following key features:

Part 4: Student Learning and Student Support

- An interdisciplinary and multi-disciplinary approach to the study of environmental science
- Field work and field experience at local, national and international locations.
- The opportunity to spend a year working with leading environmental organisations, at home and abroad
- Delivery by experts in their field, drawn from across the university
- High emphasis on the development of practical skills, with excellent laboratory facilities and fieldwork equipment to support student learning
- A range of Year 3 options which, along with the research projects in both Years 3 and 4, allow students to tailor their degree to their specific areas of interest
- Built-in enterprise skills and an understanding of the world of work.
- Familiarisation with both local and global partners/employers
- Attractive bespoke modules on Earth System Science, Scientific Frontiers and Enterprise
- Built in key skills such as GIS, IT, Modelling, identification, communication, contemporary environmental science and technology and optional skills in SCUBA and remote sensing.
- Opportunities to develop advanced research skills including cutting-edge techniques for handling and modelling data, environmental science research and technological innovation, and advanced analytical techniques.

Part 5: Assessment

Approved to University Regulations and Procedures

Assessment Strategy

A range of assessment methods are employed to monitor student attainment of the full range of Learning Outcomes. Assessment incorporates the Department's assessment strategy and The QAA Code of Practice on Assessment of Students. The principles, procedures and processes of assessment for each module are described in the module booklet, which is provided to each student and available online at the start of the module. Further, these assessments are summarised in the Assessment Calendar provided via the UWE Portal, which also facilitates the appropriate scheduling of assessment loading. The third Year optional modules (15 credits) have semester based delivery. This allows assessments to be spread across both semesters for even loading. In the final, masters-level year, all three modules are taught concurrently.

Effective learning is achieved by employing a range of assessment approaches across the suite of modules that recognise differential approaches to learning. These include opportunities for placements, field work, and "real-world" assignments. The development of

Part 5: Assessment

a flexible, inclusive and accessible curriculum ensures a high quality learning experience for all students. The programme incorporates a range of innovative and novel assessments, many utilizing new technologies.

Technology Enhanced Learning (TEL) is integral to the subject matter within this programme Many taught topics are technology rich and TEL is also used to supplement learning and to help student learn through assessment. The mapping demonstrates a range of modern technologies across the programme, but also shows repetition, of technologies, thus re-enforcement of skills. This is particularly important between levels as it provides opportunities for students to become proficient with these media in key areas. The need for proficiency and an emphasis on technology aided skills was identified by employers (e.g. GIS, new media, blogs, web pages, data bases, press releases) and this feedback was used to inform the assessment strategy.

The Assessment Strategy has been designed to support and enhance the development of both subject-based and generic key skills and allow students to realise their true potential. The focus is on assessments that link directly to employability as well as assessments for learning. Assessments are designed to achieve the learning outcomes for each module and this is described on the module specification. The range and progression of assessment methods are shown below.

Assessment Map

The programme encompasses a range of **assessment methods** including; practical exams, written exams, open book exams, posters, presentations, practical reports, field logs, portfolios, taxonomic collection, management plan, and a media pitch. These are detailed in the following assessment map:

Assessment Map for MSci Environmental Science (with foundation year)

Note, A = Component A; B = Component B; P/F = Pass or Fail and the number in brackets represent the module weighting		Unseen Written Exam	Open Book Written Exam	Practical Exam	Practical Skills Assessment /	Oral assessment and/or presentation	Investigative Report / case study	Practical or Field Report	Research Project Report	Skills Portfolio / Reflective portfolio	Written Assignment	Problem-solving Exercise
Compulsory Modules Level 0	**USSKCJ-30-0** Biology in Practice	**A (40)**						**B (30)**			**B (30)**	
	USSKCK-30-0 Chemistry in Practice	**A (40)**						**B (30)**				**B (30)**
	USSKCL-30-0 Skills for Science	**A (40)**								**B (60)**		
	USSKCM-30-0 People and Science	**A (30)**			**A (10)**					**B x2 (60)**		
Compulsory Modules Level 1	**USSK5C-30-1** Life on Earth	**A (40)**					**B (18)**	**B (42)**				
	USSJFB-30-1 The Earth	**A (30)**		**A (10)**			**B (24)**	**B (36)**				

Part 5: Assessment

	USSKAB-30-1 Environment & Society	**A (40)**					**B (20)**			**B (40)**		
	USSK5B-30-1 Field Skills		**A (40)**					**B (30)**		**B (30)**		
Compulsory Modules Level 2	**USSK5G-30-2** Environmental & Field Techniques					**A (40)**		**B (20)**		**B (40)**		
	USSKAF-30-2 Earth System Science	**A (50)**					**B (25)**	**B (25)**				
	USSK5F-30-2 Ecology & Ecosystem Protection	**A (50)**					**B (30)**			**B (20)**		
	USSKAH-30-2 People & Env. Change	**A (40)**					**B (25)**	**B (25)**				
Compulsory Modules Level 3	**USSK5K-30-3** Research Project					**A (20)**		**A (20)**	**A (60)**			
	USSKBC-30-3 Dissertation Project					**A (20)**		**A (10)**	**A (70)**			
	USSKBE-30-3 Resource Security & Sustainability	**A (60)**					**B 2x (20)**					
Optional Modules Level 3	**USSKCC-15-3** Energy Technologies	**A (60)**					**B (40)**					
	USSK54-15-3 Forests and Agricultural Systems	**A (60)**					**B (40)**					
	USSK55-15-3 Marine Ecosystems	**A (60)**						**B (40)**				
	USSK58-15-3 Remote Sensing & GIS				**A (60)**		**B (40)**					
	USSK59-15-3 Tropical Expedition			**A P/F**			**B (30)**	**B (70)**				
	USSKCF-15-3 Scientific Frontiers & Enterprise					**A (40)**				**B (60)**		
	USSKCD-15-3 Environmental Forensics	**A (60)**					**B (40)**					
	USSK57-15-3 Professional Practice in Applied Sciences ***(study & assessments for this module are carried out whilst on placement)***				**A P/F**	**A P/F**	**B P/F**			**B P/F**		
	USSKCE-15-3				**A**		**B**					

Part 5: Assessment

	Science Communication				**(60)**		**(40)**					
Compulsory Modules Level 4	**USSKM6-60-M** Research in Practice					**A (30)**			**A (20,50)**			
	USSKM5-30-M Research with Impact					**A (40)**	**B (24)**			**B (36)**		
	USSKM8-30-M Sustainable Futures						**B (25)**	**A (50)**	**B (25)**			

*Assessment should be shown in terms of either **Written Exams**, **Practical exams**, **Coursework**, or **Exercises** as indicated by the colour coding above.

Part 6: Programme Structure
This structure diagram demonstrates the student journey from Entry through to Graduation for a typical **full time student.**

ENTRY

	Compulsory Modules	Optional Modules	Interim Awards
Year 0	**USSKCJ-30-0** Biology in Practice	None	None
	USSKCK-30-0 Chemistry in Practice		
	USSKCL-30-0 Skills for Science		
	USSKCM-30-0 People and Science		

	Compulsory Modules	Optional Modules	Interim Awards
Year 1	USSK5C-30-1 Life on Earth	None	Certificate of Higher Education: Environmental Science Other requirements: 120 credits of which not less than 100 are at Level 1 or above.
	USSJFB-30-1 The Earth		
	USSKAB-30-1 Environment and Society		
	USSK5B-30-1 Field Skills		

	Compulsory Modules	Optional Modules	Interim Awards
Year 2	USSKAF-30-2 Earth System Science	None	Diploma of Higher Education: Environmental Science Other requirements: 240 credits at which not less than 100 are at
	USSK5G-30-2 Environmental and Field Techniques		
	USSK5F-30-2 Ecology and Ecosystem Protection		

		USSKAH-30-2 People and Environmental Change		Level 2 or above and 120 are at Level 1 or above.

Year Out:
Students may elect to spend a year out working for an organisation, in an appropriate placement to gain relevant work experience. Credit is achieved through the USSK57-15-3 Professional Practice in Applied Sciences module.

	Compulsory Modules	Optional Modules	Interim Awards
Year 3	USSK5K-30-3 Research Project *OR* USSKBC-30-3 Dissertation Project	USSKCF-15-3 Scientific Frontiers and Enterprise	BSc Environmental Science 300 credits of which at least 60 must be at level 3, a further 100 at Level 2 or above and a further 140 at Level 1 or above BSc (Hons) Environmental Science 360 credits of which not less than 100 are Level 3 or above, and 100 are at Level 2 or above, and 140 are Level 1 or above
	USSKBE-30-3 Resource Security and Sustainability	USSK54-15-3 Forests and Agricultural Systems	
		USSK55-15-3 Marine Ecosystems	
		USSK58-15-3 Remote Sensing & GIS	
		USSK59-15-3 Tropical Expedition	
		USSKCC-15-3 Energy Technologies	
		USSK57-15-3 Professional Practice in Applied Sciences	
		USSKCD-15-3 Environmental Forensics	
		USSKCE-15-3 Science Communication	

Ye	Compulsory Modules	Optional Modules	Interim Awards

		USSKM5-30-M Research with Impact	None	**Highest Award** MSci Environmental Science 480 credits of which not less than 100 are Level 4, and not less than 100 are Level 3 or above, and 100 are at Level 2 or above, and 140 are Level 1 or above
		USSKM8-30-M Sustainable Futures		
		USSKM6-60-M Research in Practice		

GRADUATION

Part 7: Entry Requirements

The Foundation Year is designed to accept a wide range of people with different educational backgrounds. Each applicant will be considered on an individual basis.

Minimum entry requirements are as follows:

GCSE Grade C or above in English Language, Mathematics and Double Science, or equivalent.

Science AS or A2. Points from A-Level General Studies and AS-Level subjects (not taken onto full A-Level) can be included towards overall tariff. You must have a minimum of one A-Level.

The UCAS points tariff will be reviewed on a regular basis and published for new applicants. Tariff points as appropriate for the year of entry - up to date requirements are available through the courses database.

Non-standard applicants without appropriate A-levels, or an equivalent qualification, will be considered on a case-by-case basis.

Part 8: Reference Points and Benchmarks

The Framework for Higher Education Qualifications

The learning outcomes have been developed with reference to the qualification descriptors used in the QAA Framework for Higher Education Qualifications. In particular, the learning outcomes for the modules in the final (Masters) year are considered consistent with the QAA's descriptor for a higher education qualification at level 7: Master's degree. Graduates of the programme achieving an MSci classification will have developed a systematic understanding and critical awareness of current problems and new insights in key aspects of a complex body of knowledge related to the environmental sciences, much of which is at, or informed by, the forefront of the academic discipline. In addition, graduates will have developed a comprehensive understanding of how established techniques of research and enquiry are used to create and interpret knowledge in their discipline.

Subject Benchmark Statements

Part 8: Reference Points and Benchmarks

This programme maps to the benchmark statements for Earth Sciences, Environmental Sciences and Environmental Studies. The benchmarking statement identifies four key features which should characterise degree programmes in the Environmental/Earth Sciences:

'A holistic, multi-disciplinary and inter-disciplinary approach'. This is evident in this programme from the breadth of the subject matter, the range of subject specialisms of the tutors involved (in both the analytical and social sciences) and the existence of integrating, 'issues' or case-study based modules and student work.

'The integration of fieldwork, experimental and theoretical investigations'. In Years 1 and 2 of this programme, students spend typically around 50% of their time involved in practical work of all types (field or laboratory based work, library or internet investigations) and all year 3 projects involved a high degree of investigation, be they practical or more theoretical (desk-based) in nature.

'Quantitative and qualitative approaches to acquiring and interpreting' data. These approaches are integrated both in the practical work of the student as highlighted above, and through the lecture and assessment components of the programme, which encourage the students to develop skills in the objective analysis of all type of information and data, in order to recognise, understand and challenge current theories and paradigms. Examples include: the analysis of legal case material; the conducting of public opinion surveys; conducting literature searches and summarising bodies of evidence and opinion.

'The exploration for, and exploitation of, physical and biological resources in the context of sustainability'. The diversity and extent of physical and biological resources are introduced in year 1 through the compulsory modules, which also begin the exploration of issues relating to unwise or overexploitation of these resources. These themes are further explored in year 2 in all modules, which consider the social, economic, legal and political aspects of resource exploitation, as well as its physical consequences (loss of biodiversity, land degradation, pollution). In year 3 more emphasis is placed on precisely defining the impacts of over-exploitation and on investigating appropriate techniques for remediation.

The benchmarking statement also specifies the subject knowledge it expects to be covered to some degree of depth in an Environmental Science degree programme:

'The Earth as a system' which is dealt with explicitly in compulsory modules in year 1 and 2 but more implicitly throughout the suite of modules taken.

'Human systems and their interactions with global systems' which are explored in detail via the interdisciplinary and 'issues' based modules and a knowledge of which is underpinned by the compulsory modules in years 1 and 2. Human impacts on environmental systems forms an important theme in most year 3 modules, as well as underpinning most of the research topics investigated as part of the year 3 Research Project.

'Inter-disciplinary/multi-disciplinary context' which is implicit in the structure of the programme, as well as being dealt with explicitly in a range of modules at all four levels.

'Activities, patterns, processes, impacts and responses' including environmental impact assessment, management and sustainable development. These themes are integrated throughout the programme, with knowledge and understanding of activities, patterns and processes typically being obtained in year 1, whilst impacts and responses are investigated in greater breadth and depth in years 2, 3 and 4.

Part 8: Reference Points and Benchmarks

'Temporal and spatial scales' which are dealt with in all modules. It is a specific aim of the programme for students to gain an understanding of the interactions between local issues and actions, and regional and global consequences

SEEC credit level descriptors (2010)

SEEC credit level descriptors have been used to establish the level of the programme and its modules, and to inform the learning outcomes and assessment criteria at level 4 (Cert. HE), level 5 (Dip. HE), level 6 (BSc), and level 7 (MSci).

These credit levels descriptors inform the following areas:

- The development of subject specific knowledge and understanding, generic cognitive and intellectual skills, key/transferrable skills, and subject specific practical skills;
- Teaching, learning and assessment strategies that deliver, ensure and assess the attainment of these levels;
- The programme level learning outcomes that are reinforced by the modular learning outcomes, teaching, learning and assessment strategies described in individual module specifications.

Consideration of feedback from stakeholders: schools & colleges, current students, graduates and employers.

To ensure the programme is fit for purpose and to gain an in-depth knowledge of the needs of employers, key personnel from a range of environmental organisations (local, national and international) have been consulted. These discussions highlighted the key skills required to produce an employable graduate ready to work in this field. Common themes emerging from these consultations were the need for proficiency in Geographical Information Systems (GIS), data analysis, scientific writing, use of data bases, field-based skills and communication skills.

In addition, the current BSc Environmental Science programme has been subject to regular (annual) and periodic (every six years) reviews which have considered the content, learning outcomes, and assessment strategy of the Environmental Science programme, to ensure that it remains current and fit for purpose. These reviews have been informed by external advice from industry (periodic reviews), as well as feedback from our placement providers and alumni.

In addition, a recent UWE survey of over 80 employers in the South-West identified transferable skills as top of their list of requirements from any graduate job applicant. These skills included all forms of communication (report writing, oral communication, Powerpoint presentation, data handling, summarising information, lay and scientific, and appropriate communication with peers and seniors) plus all elements of project management (such as planning, working to deadlines, managing multiple tasks, prioritising, working under pressure).

Furthermore, existing students on the BSc (Hons) Environmental Science programme were consulted about the MSci programme. Whilst not all wishing to continue to a Masters level, the students appreciated the flexibility and degree of choice that the MSci structure offers, and recognized that it provides a useful underpinning for those wishing to go into further research on graduating.

Part 8: Reference Points and Benchmarks
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.