

**1. Programme Title(s) and Code(s):**

<i>Programme Title</i>	<i>UCAS Code</i>	<i>GU Code</i>
BSc (Hons) Environmental Science and Sustainability	D447	F752-2334

**2. Academic Session:**

2016-17

**3. SCQF Level (see [Scottish Credit and Qualifications Framework Levels](#)):**

10

**4. Credits:**

480

**5. Entrance Requirements:**

Please refer to the current undergraduate prospectus at: <http://www.gla.ac.uk/prospectuses/undergraduate/>

**6. ATAS Certificate Requirement (see [Academic Technology Approval Scheme](#)):**

ATAS Certificate not required

**7. Attendance Type:**

Both Full Time and Part Time

**8. Programme Aims:**

Environmental issues affect us all, from global concerns such as energy demand, biodiversity loss, and climate change, to more local matters such as flooding, and the quality of rural and urban environments. This degree aims to unravel the complexity in defining the broad concepts of environmental science and sustainability, whilst examining the practical implications of their adoption. Implicit in this programme is a need to understand the processes operating in the natural environment, the interaction of society with natural systems and the resulting environmental problems. Through the use of case studies, field visits and independent project work, students

<sup>1</sup> 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 full advantage is taken of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each course can be found in course handbooks and other programme documentation and online at [www.gla.ac.uk](http://www.gla.ac.uk)

The accuracy of the information in this document is reviewed periodically by the University and may be checked by the Quality Assurance Agency for Higher Education.

will explore the issues and debate some of the approaches used to address environmental problems in the pursuit of stewardship of the environment. The degree offers students the opportunity to engage with a variety of environmental management techniques, making students well equipped to support a burgeoning market for graduates conversant with the skills, knowledge and experience in implementing sustainability objectives.

This degree programme aims to:

- o explore the concepts of environmental science and sustainability and examine the adoption of these concepts at local, community, governmental and international levels;
- o develop understanding of the physical, biogeochemical, and ecological systems operating in the natural environment and investigate their interactions with humans, in particular those actions leading to environmental problems arising at different spatial and temporal scales;
- o give students evaluative tools with which to debate the contrasting approaches taken to achieve sustainability within a range of land-use and resource-use scenarios, whilst also examining the often conflicting stances taken by individuals, organisations and governments;
- o acquaint students with a range of political, legislative and economic instruments used to manage development of the natural environment and provide students with the opportunity to engage with a range of environmental management techniques, including gaining practice through student-led projects;
- o provide a supportive learning environment within which students can develop their confidence, practise written and oral skills, increase their capacity for independent thought, and enhance their own professionalism in working, negotiating and cooperating with others.

## **9. Intended Learning Outcomes of Programme:**

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

### **Knowledge and Understanding**

On completion of this programme students will be able to:

- o apply knowledge of the complexities in defining, planning for, and achieving environmental science and sustainability;
- o display a broad and critical understanding of the variety of political, legislative, economic and environmental management instruments used at local, national and international levels to achieve environmental sustainability;
- o demonstrate a sound understanding of natural earth systems and human interactions with these systems;
- o identify and evaluate the scientific, social and economic bases of local and global environmental problems, the approaches taken to combat them, and in particular the role of individuals in addressing and redressing environmental degradation.

### **Skills and other attributes**

#### *Subject-specific/practical skills*

On completion of this programme, students will be able to:

- o utilise research techniques from the sciences and social sciences, engage in the research design process, conduct research individually and as part of a team, present results in appropriate formats, and evaluate and discuss findings within a problem-solving context;
- o apply sustainability principles to a variety of practical case studies;
- o investigate human-environment interactions through field and lab-based studies and conduct fieldwork whilst appreciating the potential impact on the environment, the ethical implications of undertaking social research in the field, health and safety issues and rights of privacy and access.

#### *Intellectual skills*

On completion of this programme, students will be able to:

- o evaluate and critique the practical implications of adopting environmental sustainability as a model for economic and societal growth and development;
- o adopt an interdisciplinary approach to the discussion of environmental problem-solving;
- o compare the roles of different levels of society (individuals, local/national government, NGOs/interest groups and intergovernmental panels) in the pursuit of sustainable development and analyse the extent to which personal attitudes, culture and national priorities impact on the instruments used to effect change.

### *Transferable/key skills*

On completion of this programme, students will be able to:

- demonstrate personal and professional skills (graduate attributes) through team working, presenting reports, project management and design;
- demonstrate proficiency in data acquisition, analysis, presentation and discussion;
- compile, synthesise and critique information from a variety of sources, including the judicious and critical use of internet sources;
- use theory in practical problem-solving;
- work independently, manage personal time and organise and prioritise work schedules;
- demonstrate aptitude in presenting information orally and in written forms, ensuring that the nature of the presentation is appropriate to the audience;
- demonstrate the ability to use ICT in effective communications.

## **10. Typical Learning and Teaching Approaches:**

A variety of teaching methods are used to deliver the programme aims to ensure that students are given a range of learning environments; this recognises the fact that students learn in different ways.

- Primary material is delivered through lectures, tutorials, and seminars in which students are presented with contemporary theories and contrasting analyses within the sustainability debate. Concepts are discussed in relation to case studies in order to facilitate an objective analysis of the practicalities of sustainability objectives. Extensive use is made of current environment-based policy documents and reports, thereby ensuring that students are apprised of current thinking and application.
- A key method employed is field-based teaching and learning. Courses at all levels have some element of field experience with exercises ranging from simple observation to data collection. Through these, students acquire and apply research skills to solve particular problems or address particular scenarios.
- Students must, at all stages in their studies, be conversant with associated literature emanating from governmental/agency sources and in academic journals/texts. Extensive reading lists are provided for each course. Students are also given specific library instruction in search skills thereby ensuring students make effective use of on-line resources. Independent reading is considered an integral part of the learning process and is the most effective way by which students can access a broad range of views, perspectives and debates.
- Group work is used as a mechanism not only to encourage the development of personal organisational skills, but also to allow students to demonstrate their initiative in dealing with problem-solving, to increase their professionalism in dealing with others, and to improve the effectiveness of their communication skills. Group working also provides practical experience of the inherent difficulties in delivering sustainability objectives caused by personal/national agendas and priorities.
- A large number of external speakers contribute to the seminar sessions at all levels, thus exposing students to the practicalities of implementing theories within a context of economic, political and practical constraint.
- The majority of courses on the programme utilise the virtual learning environment Moodle for e-learning.

## **11. Typical Assessment Methods:**

A range of assessment methods is used to test their achievement of the intended learning outcomes.

- The depth of understanding of primary material is assessed formatively and summatively, largely through essays, project work, and examinations. Emphasis is given to the importance of critical analysis of material, concepts and theories. Students are therefore assessed on their ability to present convincing and well-supported arguments in their written assignments. There is an expectation in all written work that students demonstrate that they have undertaken independent reading and have used their initiative in sourcing materials.
- The use of small-scale projects is considered to be an important tool in testing that students can apply their knowledge to a given problem. These projects demand that students take responsibility for their own learning thereby promoting a deeper understanding of the subject.
- Project-based assessment is also key to ensuring that students demonstrate the ability to access

environmental data, either from existing sources or by self-collection. Many of the projects require students to undertake their own research, with different projects requiring the use of different research methods. Students therefore are assessed on their ability to apply the appropriate method to any given research scenario. Students must also be aware of the limitations of different research methods and to be able critically to evaluate results within wider problem-solving contexts.

- Students are required to undertake oral presentations throughout their studies which requires that they not only know the material they are presenting, but understand it to such an extent that they can convey often complex issues to others. Oral presentations give students the opportunity to practise their skills and develop confidence, but also tutor them in the art of presenting material to a wide and varied audience.
- A number of projects are undertaken by students working in groups and these are used to develop their personal and interpersonal skills. These are assessed summatively in terms of the effective delivery of the project aims and formatively through self-evaluation of the group work process.

## 12. Programme Structure and Features:

The programme contains designated and qualifying elements. A typical programme structure is outlined below.

Level 1 (totalling 120 credits) <i><b>On successful completion, possible exit with a Certificate of Higher Education</b></i>			
1 <sup>st</sup> Academic Session	Designated Courses:		
	Introduction to Global Environmental Issues (DUMF1008)	20 credits	Semester 1
	Earth System Science (DUMF1043)	20 credits	Semester 2
	Introduction to Environmental Science (DUMF1007)	20 credits	Semester 2
	<i>plus</i> ANY three level 1 designated courses.	60 credits	
Level 2 (totalling 120 credits) <i><b>On successful completion, possible exit with a Diploma of Higher Education</b></i>			
2 <sup>nd</sup> Academic Session	Designated Courses:		
	Research Methods for Environmental Scientists (DUMF2024)	20 credits	Semester 1
	Sustainability of Farming Systems (DUMF2017)	20 credits	Semester 2
	Energy: options for sustainability (DUMF2019)	20 credits	Semester 2
	<i>plus</i> ANY three designated courses with a maximum of 2 at Level 1.	60 credits	
Level 3 (totalling 120 credits) <i><b>On successful completion, possible exit with a BSc Environmental Stewardship</b></i>			
3 <sup>rd</sup> Academic Session	Designated Courses:		
	Human Impact on the Environment (DUMF3030)	20 credits	Semester 1
	Applied Ecology and Conservation (DUMF3001)	20 credits	Semester 1
	Rural Tourism and Stewardship (DUMF3033)	20 credits	Semester 1
	Dissertation (DUMF3007)* or Placement (DUMF3068)/Placement	60 credits	Semester 2

	(International) (DUMF3069)		
Level 4 (totalling 120 credits) <b><i>On successful completion, possible exit with a BSc (Hons) Environmental Stewardship</i></b>			
4 <sup>th</sup> Academic Session	Environmental Field Course (DUMF4043)	20 credits	Summer prior to Honours year
	Environmental Stewardship Project (DUMF4008P)	60 credits	Semester 1 and 2
	Environmental Policy and Management (DUMF4040)	20 credits	Semester 1
	Perspectives on the Environment (DUMF4039)	20 credits	Semester 2
<p>As long as the minimum requirements are fulfilled, the number, level and order in which courses are taken may vary, especially for part-time students. Progression, subject to the fulfilment of any prerequisites, is on the basis of credit accumulation.</p> <p><b>*Dissertation:</b> The Level 3 Dissertation provides students with the opportunity to undertake an extended in-depth research project in a subject area of their choice using appropriate methods. It also gives the opportunity to consolidate bibliographical and critical analytic skills and a further opportunity to improve communication skills.</p> <p>See: <a href="http://www.gla.ac.uk/departments/dumfriescampus/undergraduatestudy/a-zundergraduatecourses/dissertation-level3/#d.en.69048">www.gla.ac.uk/departments/dumfriescampus/undergraduatestudy/a-zundergraduatecourses/dissertation-level3/#d.en.69048</a> for full information on the requirements and assessments for the dissertation. Students will be supervised throughout by the dissertation convener and an environmental staff.</p>			

### 13. Programme Accredited By:

N/A

### 14. Location(s):

Dumfries

### 15. College:

College of Social Sciences

### 16. Lead School/Institute:

Interdisciplinary Studies [REG40300000]

### 17. Is this programme collaborative with another institution:

No

### 18. Awarding Institution(s):

University of Glasgow

### 19. Teaching Institution(s):

University of Glasgow

### 20. Language of Instruction:

English

## 21. Language of Assessment:

English

## 22. Relevant QAA Subject Benchmark Statements (see [Quality Assurance Agency for Higher Education](http://www.qaa.ac.uk/publications/information-and-guidance/publication?PubID=2836#.VUs6Mi5GQsI)) and Other External or Internal Reference Points:

<http://www.qaa.ac.uk/publications/information-and-guidance/publication?PubID=2836#.VUs6Mi5GQsI>

This benchmark covers the areas of Earth Sciences, Environmental Sciences and Environmental Studies. This programme sits firmly within the subject knowledge area of Environmental Studies.

<http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/subject-benchmark-statements/honours-degree-subjects>

This benchmark covers the areas of Agriculture, Horticulture, Forestry, Food and Consumer Sciences.

This programme covers some aspects of the Agriculture and Forestry subject knowledge areas.

## 23. Additional Relevant Information (if applicable):

Support for students is provided by the Postgraduate/Undergraduate Adviser(s) of Studies supported by University resources such as the Student Learning Service ([www.gla.ac.uk/services/sls/](http://www.gla.ac.uk/services/sls/)), Counselling & Psychological Services ([www.gla.ac.uk/services/counselling/](http://www.gla.ac.uk/services/counselling/)), the Disability Service ([www.gla.ac.uk/services/studentdisability/](http://www.gla.ac.uk/services/studentdisability/)) and the Careers Service ([www.gla.ac.uk/services/careers/](http://www.gla.ac.uk/services/careers/)).

### *Student support systems*

Students will automatically be assigned an Adviser of Studies at the Dumfries Campus. They will also have available the support of the Effective Learning Tutor at the campus, and for those with specific educational needs, Enabling Support Advisers.

Students at the Dumfries Campus also have access to the team in Student Services (<http://www.gla.ac.uk/departments/dumfriescampus/currentstudents/studentsservices/>).

Support for students is also provided by University resources such as:

the Student Counselling and Advisory Service (<http://www.gla.ac.uk/services/counselling/>);

the Student Disability Service (<http://www.gla.ac.uk/services/studentdisability/>);

and the Careers Service (<http://www.gla.ac.uk/services/careers/>).

### *IT facilities*

Students are expected to carry out a variety of tasks using computers (e.g. word-processing reports, essays, on-line learning (Moodle), and plagiarism prevention software (Turnitin)) and staff will keep in contact with students via e-mail. Students will have access to the computing labs at the Dumfries Campus – these are equipped with modern PCs running a range of word-processing, database, modelling, and statistical software.

### *Employability*

The programme is designed with employability in mind and students are specifically encouraged to engage with their own skills development and learning throughout. All students are provided with a supported opportunity to undertake a work placement for one semester. The value of this in terms of student employability cannot be overestimated.

### *Laboratory facilities*

Students have full access to a well-equipped laboratory within which they can conduct self-study and complete projects.

### *Field sites*

The Campus is situated on an award-winning parkland estate, with extensive lawns, attractive sandstone buildings and wide biodiversity. This location in Dumfries means that there is easy access to a wide range of important sites which illustrate key areas of study in the curriculum.

### *Feedback from students*

The Dumfries Campus has a Staff Student Liaison Committee in which student representatives may obtain further information about administrative matters, raise concerns and suggest improvements to their courses. Students will also be given the opportunity to provide feedback on a course by course basis.

**24. Date of approval:**

29/09/2016