

## **BSc Rural Environmental Sciences**

**UCAS Code D430**

<b>Awarding Institution:</b>	The University of Reading
<b>Teaching Institution:</b>	The University of Reading Faculty of Life sciences
<b>Relevant QAA benchmarking group</b>	Not available
<b>Relevance and applicability:</b>	Part I entry in October 2002
<b>Programme length:</b>	3 years
<b>Date of current specification:</b>	April 2004
<b>Programme Director and Admissions Tutor:</b>	Dr J R Park
<b>Board of Studies:</b>	Rural Environmental Sciences

### **Summary of programme aims**

The broad aim of the course is develop an understanding of the scientific principles which underlie the primary rural industries and their interactions with the environment. Students will be able to apply this knowledge to aid sustainable environmental and resource development in the countryside.

The testable learning outcomes will be the students ability to:

- Explain complex ecological, biological, economic and political influences within rural environments
- Use a variety of environmental science techniques, particularly in relation to the countryside monitoring, evaluation and management
- Conduct relevant experimental techniques in relation to scientific investigation and constructively analyse data and interpret information.
- Demonstrate a range of personal and transferable skills in keeping with the expectations of a 'Reading graduate'

### **Note**

The profile contained herein states the modules which students must take (compulsory modules), together with a list of modules from which students can choose (optional modules). It is incumbent on the student to choose optional modules that do not clash on the timetable. Students will be given full access to tutorial guidance in terms of the optional modules they choose to enable the 120 credits to be accumulated in each "part" of the degree.

### **Transferable skills**

The University's Strategy for Teaching and Learning has identified a number of generic transferable skills which all students are expected to have developed by the end of their degree programme. In following this programme, students will have had the opportunity to enhance their skills relating to career management, communication (both written and oral), information handling, numeracy, problem-solving, team working and use of information technology.

This degree course aims to supply the student with a number of specific transferable skills which will be delivered within the modules listed:

- Communicate effectively, using a variety of means, with a wide range of individuals.
- Use problem-solving skills in a range of professional and practical situations.
- Manage change effectively responding to changing demands
- Take charge of Personal Development Planning
- Manage time, prioritise workloads, recognise and manage personal emotions and stress
- IT skills, including the use of the Internet resource.

## Programme content

The aim will be to timetable the compulsory modules in such a way as to avoid "clashes". However, the optional modules will be timetabled according to departmental preferences. Thus it will be up to the individual student to ensure the subjects he or she chooses do not involve clashes in the timetable.

### Part I (60 compulsory credits and 60 optional credits)

#### Compulsory Modules (60 credits)

		Credits	Level	Term
AP1A01	Introductory Rural Environmental Science	10	C	1
SS1A2	Soil, Land and Environment	10	C	2
PS1HN1	Ecology and the Landscape	10	C	1
PS1AB2	Physical Ecology	10	C	2
BI1M10	Biodiversity	10	C	1
SS1A3	Soil Science Field Studies	10	C	3

#### Optional Modules (60 credits to be chosen from)

*PS1HJB	Intro. to Landscape Management	20	C	1,2,3
*PS1HQ2	Applied Plant Physiology	10	C	2
*B11C10	Cell Biology and Biochemistry	10	C	1
*SS1C1	Soil Use and Management	10	C	1
BI1Z10	Ecology	10	C	2
*SS1B1	Biological process in the soil	10	C	1
*BI1C11	Gen. and molecular biology	10	2	2
AM1Z11	Environmental Biology	10	C	1
BI1S10	Chemistry for Biologists	10	C	1
PS1BA2	How plants work	10	C	1
AP1A11	Biology and Production of Crop Plants	10	C	2
AM1S10	Introduction to Biology	10	C	1
AP1A02	Intro to Agricultural Systems	10	C	1
PS1AA1	Plants in Agriculture	10	C	1
SS1B2	Soil processes and applications	10	C	2
GO1C2	Earth history and evolution	10	C	2
GO1A1	Earth Structure and Processes	10	C	1
LA1PF2	Language programme	20	C/I	1 & 2
ID1DEV	International Development: Global & Local Issues	10	I	2

\* These modules are highly recommended for RES students

### Part 2 (6 compulsory credits and 6 optional credits)

#### Compulsory (60 credits)

		Credits	Level	Term
AS2A1	Statistics for Life Sciences	10	I	4
AP2A23	Practical Rural Environmental Science	10	I	4
AP2A21	RES Field Course 1	10	I	3
AP2A40	Aquatic Environments	10	I	6
SS2D5	Sustainable Land Management	10	I	5
PS2BC5	Ecological Aspects of Environmental Assessment	10	I	5

*Optional Modules (60 credits from the following)*

AP2A26	Forestry and Woodlands	10	I	4
PS2BA5	Plants and Man	10	I	5
AP2EE3	Environmental Economics	10	I	4
AP2A37	Countryside Management	10	I	5
SS2B5	Soil conditions and plant growth	10	I	5
SS2C5	Soils and Environmental Pollution	10	I	5
AP2A25	Grassland Management	10	I	4
AP2A38	Organic Farming	10	I	4
AM2C31	Molecular Biology & Bioinformatics	10	I	4
SS2A4	Soil Physical Properties and Measurement	10	I	4
SS2C4	Soil Microbiology	10	I	4
PS2AA5	Plant genetics	10	I	5
BI2B31	Macroevolution	10	I	5
AM2Z34	Invertebrate Zoology	10	I	5
PS2HL4	Landscape Design	10	I	4
PS2BB4	Evolution of plant biodiversity	10	I	4
AM2Z31	Microevolution	10	I	5
PS2BG3	The British Flora	10	I	3
IWLP	Language programme	20	C/I/H	4 & 5

**Part 3 (three terms, 120 credits) 2004/5**

*Compulsory modules (70 credits)*

		<i>Credits</i>	<i>Level</i>	<i>Term</i>
AP3A40	Rural Systems Modelling	10	H	7
AP3A41	Dissertation module	40	H	6, 7 & 8
AP3A44	Rural Environmental Sustainability	10	H	8
AP3A70	RES Field Course 2	10	H	6

*Optional Modules (50 credits from the following)*

AP3A45	Agricultural Systems in the Tropics	10	H	7
AP3A48	Crop Growth and Development	10	H	7
AP3A50	Crop Experimentation	10	H	8
AP3A58	Crop and Water	10	H	8
AP3A63	Break Crop Agronomy	10	H	8
AP3A68	Wildlife in the farming environment	10	H	8
AP3A74	Business Entrepreneurship	10	H	8
AP3A76	Principles & Practice in Biological Control	10	H	7
AP3EP3	Rural Policy & Countryside Planning	10	H	
7				
PS3AB7	Crops and Climate	10	H	7
PS3BC8	Conservation and Biodiversity	10	H	8
PS3BD7	Physiological Ecology	10	H	
7				
PS3BG8	Biogeography	10	H	8
PS3BE8	Biodiversity Informatics	10	H	8
PS3HJ7	Landscape Management Systems	10	H	7
PS3HJ8	Landscape Management Techniques	10	H	8
PS3HN7	Landscape Ecology and Land Reclamation	10	H	7
SS3B7	Soil, Vegetation and Atmosphere	10	H	7

**Progression requirements**

To proceed to Part II it will be necessary to achieve an overall average of at least 40% in Part I

To proceed to Part III it will be necessary to achieve an overall average of at least 40% in Part II

Final assessment will be based on 30% Part II, 40% Part III and 30% for the dissertation and viva.

**Summary of teaching and assessment**

Teaching is compartmentalised into modules. Although there is a strong element of traditional lecturing in the course students are expected to undertake project work from term 1 onwards. This involves field classes and laboratory work. In addition to fieldwork students visit various relevant sites and organisations. Project work is often associated with such visits. Students are expected to attend a weeklong study tour in the summer vacation. Assessment of coursework is undertaken via a number of methods including short answer exams, essays, presentations and debates. Formal examinations also take place in weeks 4 to 8 of the summer term.

**Admission requirements**

Entrants to this programme are normally required to have obtained:

Grade C or better in English in GCSE; and achieved

UCAS Tariff: 240

International Baccalaureat: 29 pts

Irish Leaving Certificate: BBCC

Two AS grades are accepted in place of one A-Level

HND Candidates who achieve good results can be exempted from the first year of the degree course allowing them to obtain an honours degree in two years. A special arrangement with BTec applications with good results in appropriate science courses will be considered as will mature applicants with unconventional qualifications.

Admissions Tutor: Dr Julian Park

**Support for students and their learning**

University support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers and the University Library, which across its three sites holds over a million volumes, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses the Student Access to Independent Learning (S@IL) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme. Student guidance and welfare support is provided by Personal Tutors, the Careers Advisory Service, the University's Special Needs Advisor, Study Advisors, Hall Wardens and the Students' Union.

**Career prospects**

The Rural Environmental Sciences degree course is particularly appropriate for employment in environmental research institute, environmental conservation, in scientific research services of the commercial sector and as specialist technical advisors both in the UK and overseas. Some graduates go on to post-graduate studies before entering these careers.

**Opportunities for study abroad or for placements**

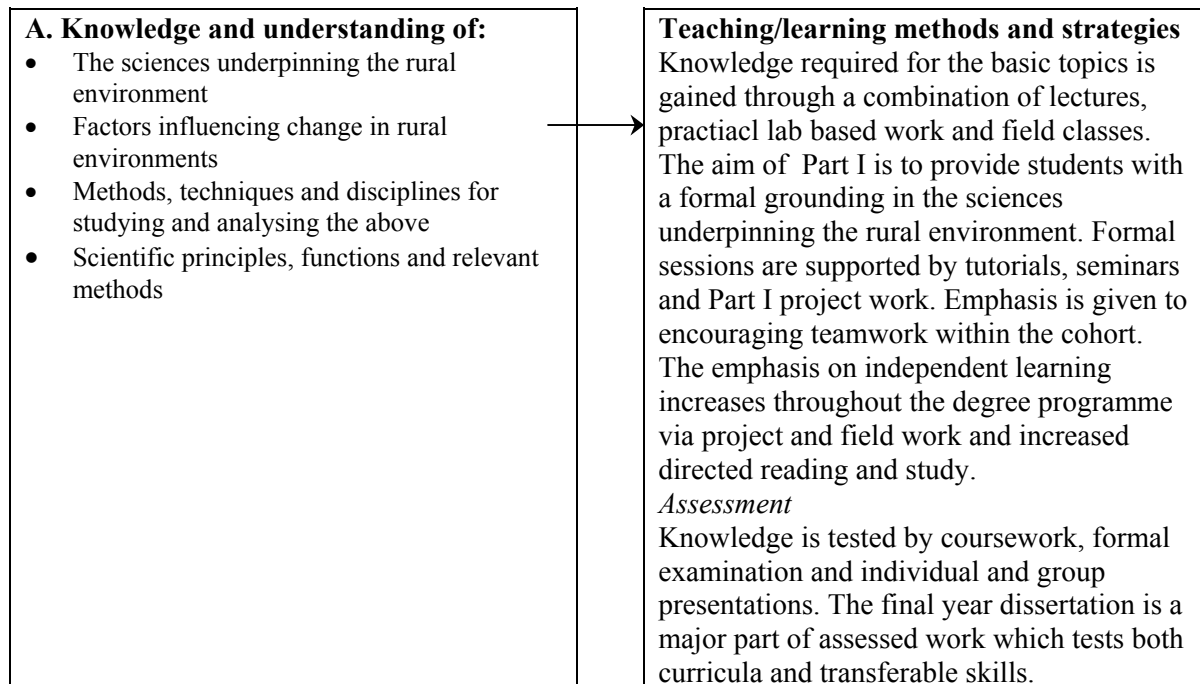
Students can spend a term in Part 2 at one of several European universities with whom the university has exchange arrangements. Students on the course can also take a year out (between Parts 2 and 3) obtaining work experience in the UK or elsewhere.

### **Educational aims of the programme**

The programme aims to provide a thorough degree-level education in Rural Environmental Science, with emphasis on the scientific and analytical aspects alongside key skills in IT and personal communication.

### **Programme Outcomes**

#### ***Knowledge and Understanding***



### *Skills and other attributes*

<p><b>B. Intellectual skills</b> – able to:</p> <ul style="list-style-type: none"><li>• Apply the skills needed for academic study and enquiry</li><li>• Obtain and synthesise information from relevant sources to develop an understanding of theory and practice</li><li>• Critically evaluate theories, concepts and methods with respect to scientific investigation in the rural environment</li><li>• Utilise skills for experimentation, monitoring and analysis in the rural environment</li><li>• Develop informed, logical and justified opinions on issues related to the rural environment, processes and interactions</li></ul>	<p><b>Teaching/learning methods and strategies</b></p> <p>Emphasis on independent learning is encouraged from Part I of the programme and students are given tutorial support academic searching, writing and presentation. This degree programme is integrative in nature which encourages students to think and synthesise across traditional academic boundaries. Much of the programme is designed so that theoretical knowledge is consolidated in a practical setting which allows students to enhance their intellectual skills. Much of the material presented in lectures is drawn upon in monitoring and experimental exercises which require students to think in a logical and scientifically rigorous manner</p> <p><i>Assessment</i></p> <p>Students are expected to keep field work diaries which are assessed at the end of each term. Several modules are assessed via debating sessions.</p>
<p><b>C. Practical skills</b> – able to:</p> <ul style="list-style-type: none"><li>• Design field experiments</li><li>• Conduct analysis using good lab practice</li><li>• Measure and monitor in the rural environment</li><li>• Analyse data in a statistically rigorous manner</li><li>• Construct reports using latest computer technology</li></ul>	<p><b>Teaching/learning methods and strategies</b></p> <p>Throughout the degree programme students are expected to carry out experimentation and monitoring in the rural environment. The university owns a variety of rural environs and students also visit a range of different sites locally. In addition the degree programme contains two week long field trips to non-local environs where students are expected to investigate a variety of issues.</p> <p><i>Assessment</i></p> <p>Students keep field work diaries and submit regular assignments related to their practical work. Some modules involve the "commissioning" of reports which are then assessed by professional in the field (i.e. the local planning officer).</p>

**D. Transferable skills** – able to:

- Investigate issues in a wide range of field and lab. situations
- Communicate ideas, arguments and information using appropriate means
- Work in teams to perform a variety of tasks
- Identify goals and planning and manage time to achieve these
- Use and apply up to date IT

**Teaching/learning methods and strategies**

Transferable skills are ‘signposted’ and generally incorporated within modules and related to relevant assessments as appropriate. Examples of strategies include: seminars; individual and group project and investigative work; presentations; problem based learning scenarios.

*Assessment*

Assessment of transferrable skills is generally an integral part of the degree curriculum and is thus tested within modules from Part I through to Part III.

*Please note:* This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably expect 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 each module can be found in module and programme handbooks.