

## **BSc Habitat and Soil Management**

**UCAS code: D753**

Awarding Institution:  
Teaching Institution:  
Relevant QAA subject benchmarking group:

The University of Reading  
The University of Reading  
Earth Science, Environmental  
Sciences & Environmental Studies  
Programme length: 3 years  
Date of specification: 24/03/2003

Faculty of Science  
For students entering Part 1 in 2004  
Programme Director: Dr C J B Mott  
Programme Adviser: Dr C J B Mott  
Board of Studies: Earth and Soil Science

### **Summary of programme aims**

The programme aims to provide the student with a degree level education in Soil Science with special emphasis on an understanding of the interaction of soil conditions and plant growth.

### **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 develop their skills relating to career management, communication (both written and oral), information handling, numeracy, problem-solving, team working and use of information technology.

As part of this programme students are expected to have gained experience and show competence in the following skills: IT (word-processing, data manipulation, use of simulation modelling techniques), scientific writing, oral presentation, teamworking, problem-solving, use of library resources, time management, career planning and management and simple risk assessment.

### **Programme content**

The profile which follows states which modules must be taken (the compulsory part), together with lists of modules from which the student must make a selection (the 'selected' part). Students must select from these modules as they wish, in consultation with their programme adviser, to make 120 credits in each Part. It is possible through option selection to study a foreign language, if desired, throughout the whole programme. The number of credits for each module is shown after its title.

### **Part 1 (three terms): 2004/5**

		<i>Credits</i>	<i>Level</i>
<i>Compulsory modules (80 credits)</i>			
PS1AA1	<i>Plants in agriculture</i>	10	C
PS1BA1	<i>How plants work</i>	10	C
PS1BA2	<i>Plant development</i>	10	C
SS1A1	<i>Introduction to Soil Science</i>	10	C
SS1B1	<i>Biological processes in soil</i>	10	C
SS1A2	<i>Soils, land and environment</i>	10	C
SS1B2	<i>Soil processes and applications</i>	10	C
SS1A3	<i>Soil field studies</i>	10	C

### Selected Modules

Any combination, to give a total of **40** credits, from the following list:  
Part 1 modules from:

#### School of Agriculture, Policy and Development

		<i>Credits</i>	<i>Level</i>
AP1A01	<i>Introduction to rural environmental science</i>	10	C
AP1A10	<i>Countryside and the environment</i>	10	C
AP1A11	<i>Introduction to the basis of crop production</i>	10	C

#### School of Animal and Microbial Sciences

AM1Z11	<i>Environmental biology</i>	10	C
BI1C10	<i>Cell biology and biochemistry</i>	10	C
BI1C11	<i>Genetics and molecular biology</i>	10	C
BI1M10	<i>Biodiversity</i>	10	C
BI1S10	<i>Chemistry for biologists</i>	10	C

#### School of Plant Sciences

PS1AB2	<i>Physical ecology</i>	10	C
PS1BB2	<i>Morphology of land plants</i>	10	C
PS1HN1	<i>Ecology and the landscape</i>	10	C

and may  
include

A language

20

### Part 2 (three terms): 2005/6

		<i>Credits</i>	<i>Level</i>
<i>Compulsory modules (100 credits)</i>			
PS2BB4	<i>Plant biodiversity</i>	10	I
PS2BC4	<i>Plants and the environment</i>	10	I
PS2BC5	<i>Ecological aspects of environmental assessment</i>	10	I
SS2B5	<i>Soil chemical properties and nutrient availability</i>	10	I
SS2A6	<i>Soil survey and field experimentation</i>	10	I
GO2J5	<i>Skills for earth &amp; environmental scientists</i>	10	I
Together with <b>three</b> from:			
SS2A4	<i>Soil physical properties and their measurement</i>	10	I
SS2B4	<i>Chemistry of soil constituents</i>	10	I
SS2C4	<i>Soil microbiology and biotechnology</i>	10	I
SS2D4	<i>Soils and soil development</i>	10	I
Together with <b>one</b> from:			
SS2A5	<i>Transport processes in soils</i>	10	I
SS2D5	<i>Sustainable land management</i>	10	I

### Option Modules

Any combination, to give a total of **20** credits, chosen from the following list:

(a) Part 2 module(s) in the Soil Science list not taken as a compulsory module

(b) Other Part 2 modules chosen from the following:

		<i>Credits</i>	<i>Level</i>
AP2A26	<i>Forestry and woodlands</i>	10	I
AP2A37	<i>Countryside management</i>	10	I

AP2A38	<i>Organic farming</i>	10	I
PS2AB4	<i>Weed biology and control</i>	10	I
PS2BA5	<i>Plants and man</i>	10	I
PS2BE4	<i>Plant anatomy</i>	10	I
PS2BE5	<i>Plant biochemistry</i>	10	I

(c) A language 20

### Part 3 (three terms): 2006/7

		<i>Credits</i>	<i>Level</i>
<i>Compulsory modules (100 credits)</i>			
PS3BF8	<i>Botany field course</i>	20	H
PS3BG8	<i>Biogeography</i>	10	H
SS3A8	<i>Soil fertility management</i>	10	H
SS3PH	<i>Habitat and soil management project</i>	40	H
<b>One</b> from:			
SS3B7	<i>Soils, vegetation and the atmosphere</i>	10	H
SS3C7	<i>Soil and land evaluation</i>	10	H
and <b>one</b> from			
SS3C8	<i>Soils and the global environment</i>	10	H
SS3D8	<i>Soil classification and multivariate methods</i>	10	H

#### *Option modules*

Any combination, to give a total of **20** credits, chosen from the following list:

(a) Part 3 module(s) in the Soil Science list not taken as a compulsory module

(b) Other Part 3 modules chosen from the following:			
AP3A58	<i>Crop water relations and irrigation</i>	10	H
AP3A59	<i>Forestry and agroforestry</i>	10	H
PS3AE7	<i>Weed management</i>	10	H
PS3AG8	<i>Weed ecology</i>	10	H
PS3BC7	<i>Conservation and biodiversity</i>	10	H
PS3HJ8	<i>Landscape management techniques</i>	10	H

(c) A language 20

### Progression requirements

To proceed to Part 2 it is necessary to have obtained an overall average of at least 40% and at least 40% in the **eight** compulsory modules. There is a pass threshold of 30% in **every** module. Marks of less than 30% in a total of 20 credits, other than those in Soil Science (SS), will be condoned provided that the candidate has pursued the course for the module with reasonable diligence and has not been absent from the examination without reasonable cause.

To proceed to Part 3 it is necessary to have obtained an overall average of at least 40% and at least 40% in **eight** of the ten compulsory modules. There is a pass threshold of 30% in **every** module. Marks of less than 30% in a total of 10 credits, other than those in Soil Science (SS), will be condoned provided that the candidate has pursued the course

for the module with reasonable diligence and has not been absent from the examination without reasonable cause.

Part 2 contributes one third of the overall assessment and Part 3 the remaining two thirds.

### **Summary of teaching and assessment**

Teaching is organised in modules that typically involve both lectures and practicals. Modules are assessed by a mixture of coursework (which may include tests) and formal examination. The Part 3 Project, however, is assessed only as coursework.

### **Admission requirements**

Entrants to this programme are normally required to have obtained:  
UCAS Tariff: 260 points overall, including any two science subjects at A2 level.

Admissions Tutor: Dr Hazel McGoff (h.j.mcgoff@rdg.ac.uk)

### **Support for students and their learning**

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 4000 current periodicals, has a range of electronic sources of information and houses a Student Learning Centre with some 200 workstations. There are language laboratory facilities available for students taking modules (available as an option within the BSc Soil Science programme) 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 Adviser, Hall Wardens and the Students' Union.

Within the providing department additional support is given through extensive personal contact during practical and field classes.

### **Career prospects**

Students have found employment in a wide range of environmentally related areas, especially in the consultancy industry, local government and research organisations.

### **Opportunities for study away from Reading**

It is possible within this programme for a student, provided he/she has passed Part 2, to accept a relevant placement in the UK or overseas for one year before beginning Part 3.

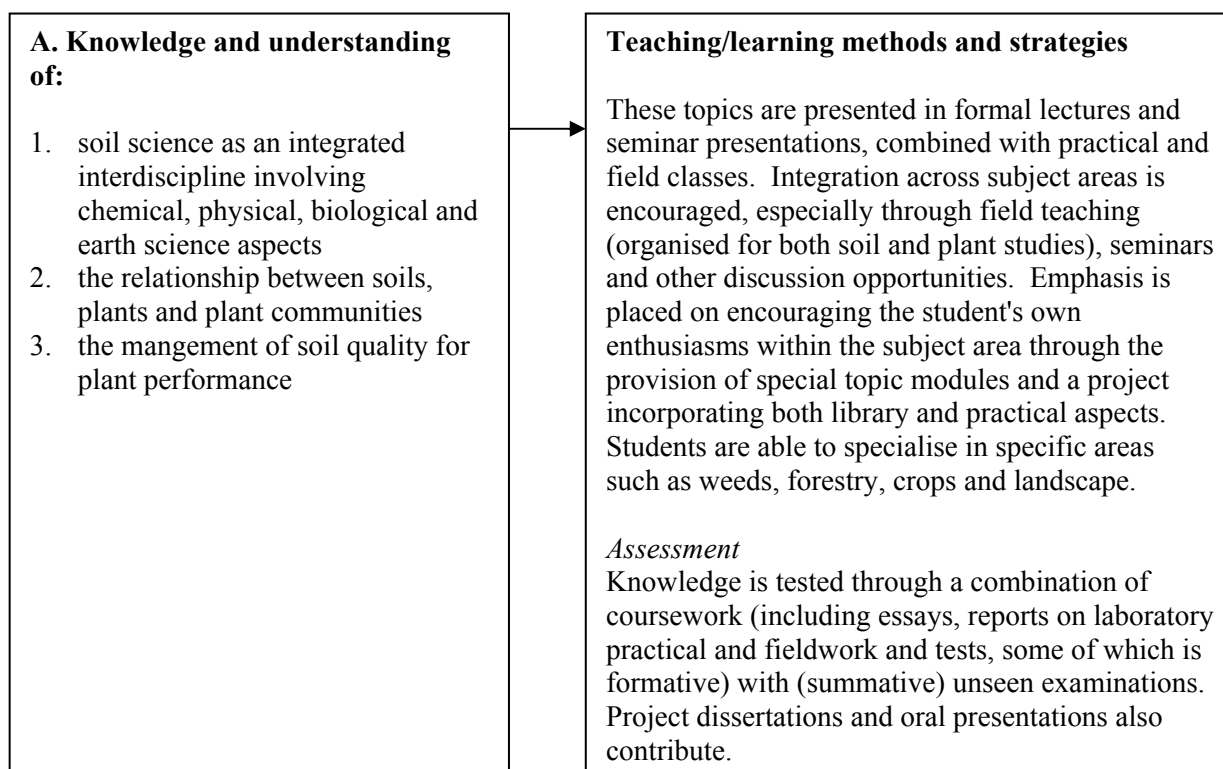
### **Educational aims of the programme**

The programme aims to provide a degree-level education in soil and plant sciences and to establish a thorough scientific basis for the application of the subject to a wide variety of habitats and contemporary applications. It aims to produce soil scientists who have sufficient training and experience of plants, in both cultivated and natural environments, to be able to make a contribution to the sustainable use of soil as a medium for plants and crops at all levels of scale..

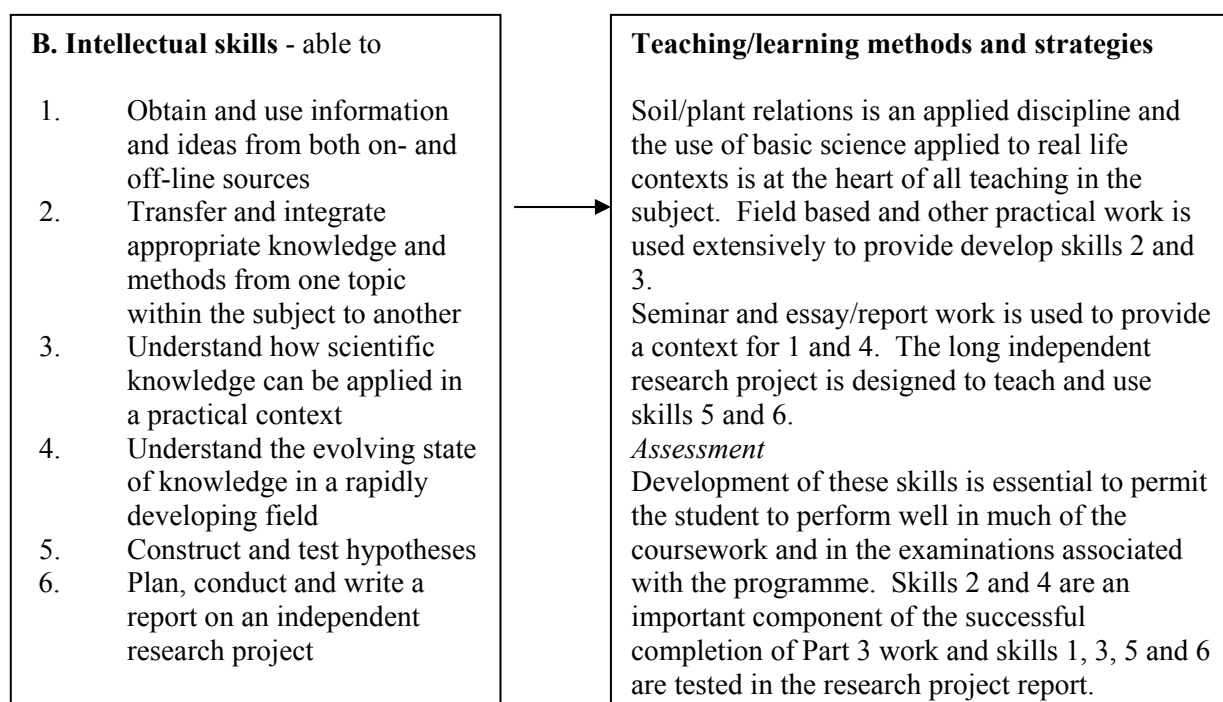
## Programme Outcomes

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*



### *Skills and other attributes*



### C. Practical Skills

Students learn to carry out practical work, in laboratory and field, with an understanding of safety and risk. They gain experience of the following skills:

1. Soil assessment, chemical, physical and biological
2. Identification and assessment of soils and plant communities in the field
3. Manipulation of computer simulation models
4. Data analysis using appropriate statistical techniques

### Teaching/learning methods and strategies

These skills are taught specifically during practical and field classes. Individual tuition is given within a class context to ensure that techniques are understood. Some practical skills, including the use of high level research equipment, may be developed to an advanced level in the Part 3 research project.

#### *Assessment*

The development of practical skills is tested both formatively and summatively through written reports on practical work, presentations and fieldwork, and in the dissertation based on the research project.

### D. Transferable skills - able to

1. use IT (including appropriate software packages)
2. communicate scientific ideas in written and oral form
3. work as part of a team
4. use library and internet resources
5. manage time
6. plan their career

### Teaching/learning methods and strategies

Use of IT and library resources is embedded throughout the programme and is essential to complete much of the coursework. Written communication skills are developed through reports and essays and further in the preparation of the research project dissertation, activities which also require the use of library and internet resources. Oral skills are developed through seminars, some of which are organised on a small team basis. Teamwork is an essential element of field class mini-project work and is specifically tested in some laboratory work. Time management is essential for all laboratory and field activities, and is essential for the effective completion of the programme. There is a specific module on Career Management skills as well as discussion through the personal tutor system and the completion of a personal academic record.

#### *Assessment*

Development of skills under 1, 2 and 4 is essential for a good performance in much of the coursework associated with the programme. Effective use of skills 3 and 5 will also make an important contribution and skill 6 is specifically assessed.

*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 be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information of the learning outcomes, content and teaching, learning and assessment methods of each module can be found in module and programme handbooks