

**BSc Agriculture with Industrial Training**  
**For students entering Part 1 in 2008/9**

**UCAS code: D401**

Awarding Institution:	University of Reading
Teaching Institution:	University of Reading
Relevant QAA subject Benchmarking group(s):	Agriculture, Food and Forestry
Faculty:	Life Sciences Faculty
Programme length:	4 years
Date of specification:	19/Apr/2011
Programme Director:	Prof Michael Gooding
Programme Advisor:	
Board of Studies:	Agriculture, Policy and Development
Accreditation:	Not applicable

**Summary of programme aims**

The programme aims to provide students with a thorough degree-level education in agriculture with emphasis on:

- scientific and economic principles underpinning agricultural production and land use
- appropriate husbandry adopted by farmers and others to apply agricultural knowledge profitably
- modern business management techniques
- providing relevant industrial training

Students will undertake 12 months work experience with a relevant organisation. This will develop the practical skills and in-depth industrial knowledge that employers demand of graduates.

**Transferable skills**

During the course of their studies at Reading, all students will be expected to enhance their academic and personal transferable skills in line with the University's Strategy for Learning and Teaching. In following this programme, students will have had the opportunity to develop such skills, in particular relating to career management, communication (both written and oral), information handling, numeracy, problem-solving, team-working, and use of information technology and will have been encouraged to further develop and enhance the full set of skills through a variety of opportunities available outside their curriculum.

**Programme content**

The profile that follows states which modules must be taken (the compulsory modules) together with lists of modules from which students must make a selection (the optional modules). Students must choose such optional modules as they wish, in consultation with their tutor and their programme adviser, to select 120 credits in each Part. It is possible, through option selection, to study a foreign language, throughout the whole programme. The number of credits for each module is shown after the title.

**Part 1 (three terms)**

*Compulsory modules*

<i>Code</i>	<i>Module title</i>	<i>Credits</i>	<i>Level</i>
AP1A02	Introduction to Agricultural and Food Systems	10	C
AP1A08	British Agriculture in Practice	10	C
AP1A03	Introduction to Livestock Systems	10	C
AP1A18	Digestion and Nutrition	10	C
AP1A12	Introduction to Crop Production	10	C
AP1A16	Varieties, Seeds and Crop Establishment	10	C
APIEE3	Economics 1	10	C
APISB1	Introduction to Management	10	C
BI1EI1	Soil: Principles and Management	10	C
AP1A10	Countryside and the Environment	10	C

*Optional modules (guided choice of 20 credits)*

*Animal Science and Production Pathway*

BI1BB2	Biochemistry and Metabolism	10	C
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AM1P11	Introductory Microbiology	10	C
<i>Crop Science and Production Pathway</i>			
AP1A17	Crop Appraisal and Agronomy	10	C
BI1EC1	Exploiters and Exploited	10	C
<i>Agri-Business Pathway</i>			
AP1EF1	The UK Food Chain	10	C
AP1EM1	Introduction to Marketing	10	C
<i>Agri-Environment Pathway</i>			
BI1EB2	Humans and the Changing World	10	C
BI1EF2	Ecology: Species and their Interaction	10	C

## Part 2 (three terms)

### Compulsory modules

<i>Code</i>	<i>Module title</i>	<i>Credits</i>	<i>Level</i>
AP2A20	Agricultural Field Study Tour (Agric and ABM)	10	I
AS2A1	Statistics for Life Sciences	10	I
AP2A33	Agricultural Mechanisation	10	I
AP2SB1	Business Management	10	I
AP2SB2	Financial Management	10	I
AP2A36	Animal Production	10	I
AP2A44	Practical Farm Analysis and Cereal Agronomy (Agric and ABM)	10	I
AP2A41	Agronomy of Combinable Break Crops	10	I

### Optional modules (guided choice of 40 credits)

#### *Animal Science and Production Pathway*

AP2A24	Applied Animal Nutrition	10	I
AP2A25	Grassland Management	10	I
AP2A34	Animal Breeding and Reproductive Technology	10	I
AP2A35	Animal Health and Disease	10	I

#### *Crop Science and Production Pathway*

BI2EG5	Horticultural Crop Production	10	I
BI2EA4	Weed Biology and Control	10	I
BI2EP5	Crop Pests and Integrated Crop Protection	10	I
BI2EC4	Ecology and Management of Plant Diseases	10	I

#### *Agri-Business Pathway*

AP2A31	Farm Business Administration	10	I
AP2A39	Environment and the Farm Business	10	I
AP2EB3	Management of the Non-Profit Organisation	10	I
AP2EM1	Marketing Management	10	I

#### *Agri-Environment Pathway*

AP2A26	Forestry and Woodland	10	I
AP2A37	Practical Nature Conservation	10	I
AP2A38	Organic Farming	10	I
SS2D5	Sustainable Land Management	10	I

## Year abroad/Year away/Additional year (three terms)

### Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credits</i>	<i>Level</i>
AP2ST1	Industrial Training	120	I

Students are expected to undertake a period of industrial training between Parts 2 and 3. The placement should be no shorter than 42 weeks and will be assessed.

### Part 3 (three terms)

#### Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credits</i>	<i>Level</i>
AP3A47	Cereal Management and Marketing	10	H
AP3A81	Dissertation	40	H

#### Optional modules (guided choice of 70 credits)

##### *Animal Science and Production Pathway*

AP3A67	Animal Welfare	10	H
AP3A75	Equine Management	10	H
AP3A96	Meat Production	10	H
AP3A93	Dairy Production	10	H
AP3A83	Practical Animal Nutrition	10	H

##### *Crop Science and Production Pathway*

AP3A45	Agricultural Systems in the Tropics	10	H
AP3A76	Principles and Practice in Biological Control	10	H
AP3A77	Agronomy of Combinable Break Crops	10	H
AP3A89	Water, Crops and Irrigation	10	H
AP3A90	Climate Change and Food Systems	10	H
AP3A94	Nematodes as Pests and Beneficials	10	H

##### *Agri-Environment Pathway*

AP3A68	Wildlife in the Farming Environment	10	H
AP3A87	Environmental Management	10	H
AP3A90	Climate Change and Food Systems	10	H
AP3EP3	Rural Policy and Countryside Planning	10	H
BI3EA7	Environmental & Ecological Weed Management	10	H

##### *Agri-Business Pathway*

AP3A54	Business Management (Case Studies)	20	H
AP3A64	Human Resource Management	10	H
AP3A82	Business Planning and Control	20	H
AP3EB1	Business Strategy	10	H
AP3EB3	Supply Chain Management	10	H
AP3EM1	Marketing Strategy	10	H
AP3EM3	Advertising and Branding	10	H
AP3EP4	Consumer Policy	10	H

Other options may be available in Part 3 across the University, subject to timetable constraints.

### Progression requirements

To gain a threshold performance at Part 1, a student shall normally be required to achieve an overall average of 40% over 120 credits taken in Part 1, and a mark of at least 30% in individual modules amounting to not less than 100 credits. In order to progress from Part 1 to Part 2 of this programme, a student shall normally be required to achieve a threshold performance at Part 1, and achieve an average mark for Part 1 compulsory modules of not less than 40%.

Students who achieve a threshold performance at Part 1, but who do not proceed to achieve a higher award, are eligible to receive the award of Certificate of Higher Education. The Part 1 Examination does not contribute to degree classification.

To gain a threshold performance at Part 2, a student shall normally be required to achieve an overall average of 40% over 120 credits taken in Part 2 (of which not less than 100 credits should normally be at Intermediate level or above), and a mark of at least 30% in individual modules amounting to not less than 100 credits. In order to progress from Part 2 to Part 3 of this programme, a student shall normally be required to achieve a threshold performance at Part 2, and achieve an average mark for Part 2 compulsory modules of not less than 40%.

Students who achieve a threshold performance at Part 2, but who do not proceed to achieve a higher award, are eligible to receive the award of Diploma of Higher Education.

Progression from Part 2 to the Placement Year is dependent on successfully completing the application process set by the placement providers. The student is ultimately responsible for finding a suitable placement, although the School will help to identify potential employers. The placement year module is assessed by coursework, including a presentation, reflective report and employer report. The Placement Year does not contribute to final degree classification, although recognition of the completion of the placement will appear on the degree transcript. Students who are unable to find a suitable placement, or who fail to successfully complete the placement year module, will be permitted to transfer to Part 3 of the BSc Agriculture.

The classification of the degree will normally be based on the marks for Part 2 and Part 3 modules, weighted in the ratio of 1:2. Full details of classification conventions (that is, the rules for determining the final degree award) can be found in the relevant Programme Handbook.

### **Summary of Teaching and Assessment**

Teaching is organised in modules that typically involve both lectures and practical classes. Modules are assessed by a mixture of coursework (which may include tests) and formal examination. The Part 3 Dissertation is assessed only as coursework. The Placement year assessment is designed to encourage critical reflection of the experience.

### **Admission requirements**

Entrants to this programme are normally required to have obtained:

UCAS Tariff: Minimum 240 points including at least 2 full A Levels.

Ideally Chemistry and Biology at full A Level but a mixture of arts and one of these particular sciences is acceptable.

Irish Highers: BBCCC

International Baccalaureate: 29 points

HND Candidates who achieve good results in HND Agriculture 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 Sparsholt College allows selected students to complete an honours degree in 3 terms after studying at Sparsholt.

OND Applications with good results in appropriate OND science courses and in OND Agriculture will be considered as will mature applicants with unconventional qualifications.

**Admissions Tutor:** Dr M J Gooding

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

University support for students and their learning falls into two categories. Learning support is provided by a wide array of services across the University, including: the University Library, the Student Employment, Experience and Careers Centre (SEEC), In-sessional English Support Programme, the Study Advice and Mathematics Support Centre teams, IT Services and 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, School Senior Tutors, the Students' Union, the Medical Practice and advisers in the Student Services Centre. The Student Services Centre is housed in the Carrington Building and offers advice on accommodation, careers, disability, finance, and wellbeing. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist adviser; Student Services also offer drop-in sessions and runs workshops and seminars on a range of topics. For more information see [www.reading.ac.uk/student](http://www.reading.ac.uk/student)

Within the Department of Agriculture additional support is given through practical classes in IT.

There is a Programme Director to offer advice on choice of modules within the programme.

Practical experience

Due to the nature of the programme it is expected that students will have gained some practical experience of agriculture prior to commencement of the course. Further advice and information can be sought from the Programme Director. It is recommended that students get appropriate experience in each of the long vacations.

### **Career prospects**

The programme provides a sound base for graduates to pursue careers both in agriculture as well as in fields of expertise not directly related to agriculture. Graduates have followed careers in farming, technical, advisory and consultancy work in both the UK and abroad, accountancy, land agency, teaching or research. They have also done completely different things too. The placement year enables students to experience an aspect of a potential career. Many placement students are offered a position on the host company's Graduate Recruitment Scheme.

### **Opportunities for study abroad or for placements**

#### **Industrial Training**

Organisations are increasingly looking to employ graduates with a broad practical knowledge of their industry, and this course offers an ideal opportunity to gain or build on existing experience. All students have the opportunity to undertake a year-long period of industrial training between Part 2 and Part 3.

#### **Benefits of Industrial Placements**

Students and academic supervisors that have been involved with industrial placements have listed several benefits to choosing this option:

- The knowledge and skills developed in Parts 1 and 2 can be applied to 'real-life' situations
- Students often return to their placement organisation to conduct their final year project
- Placement organisations may 'head-hunt' students and offer post-university employment
- Students gain transferable skills that make them highly sought-after employees, and hence have higher rates of post-university employment compared to those who do not choose this option
- Students return to university more focussed and motivated
- Although some students opt for volunteer work, most receive a salary during their placement, which helps relieve the financial burden of university

#### **Placement details**

In the first instance, students are responsible for organising and arranging their own placements, although advice is available as required. Through course visits and external lecturers, students have the opportunity to network and build a database of potential employers. Students who opt for the industrial placement must be highly motivated, however, as successful selection by an employer will be dependant on an excellent academic record. To ensure the maximum benefit is gained from the experience, the placement organisation should provide details of a training programme for each student. Placement students are allocated an academic supervisor who must authorise the placement and visit the student during the year, as well as an industrial supervisor who will act as a mentor and oversee the training programme. In addition, as the placement is an integral part of the degree programme, students are assessed by their placement supervisor and are required to produce a written report and a presentation on their return to the university.

#### **Study Abroad**

The Department of Agriculture encourages students, provided they have passed Part 2, to consider the possibility of studying abroad for a term or a year.

#### **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**

##### **A. Knowledge and understanding of:**

1. Fundamental concepts and techniques of maintaining and enhancing soil fertility
2. The characteristics of farming systems and their interaction with the countryside and the environment
3. The basis of crop and animal science. The importance of animal welfare

##### **Teaching/learning methods and strategies**

The knowledge required for the basic topics is delineated in formal lectures, supported by practicals and projects, some carried out in groups, others by the students on their own. In all parts these are supported by tutorials and practical classes through which students can obtain feedback on assessed and non- assessed

4. Biodiversity and the sustainability of agriculture worldwide
5. The fundamentals of economics and business management, including human resource management
6. The difficulties of managing profitable agricultural systems that appear to be at conflict with alternative views
7. The place of numeracy and statistics in agricultural science.
8. A selection of more specialised optional topics
9. A language
10. Specific industrial careers via the placement scheme.

work. In later parts of the programme students are expected to work at additional problems on their own and in groups, seeking help when required, using the office hours of staff. Model solutions are provided of mathematical and other problems.

#### *Assessment*

Most knowledge is tested through a combination of coursework and unseen formal examinations. Dissertations and oral presentations also contribute.

### **Skills and other attributes**

#### **B. Intellectual skills - able to:**

1. Think logically
2. Analyse and solve problems
3. Organize tasks into a structured form processes.
4. Understand the evolving state of solutions
5. Transfer appropriate knowledge and response: analysis, synthesis, problem solving to topics from one topic within the subject and knowledge transfer from one topic to another
6. Plan, conduct and write reports on performance in the programme

#### **Teaching/learning methods and strategies**

##### *Assessment*

1 to 3 are assessed indirectly in most parts of the programme, while 5 contributes to the more successful work.  
6 is assessed in the dissertation.  
4 contributes to many modules.

#### **C. Practical skills - able to:**

1. Understand and construct reports using word-processing, databases, spreadsheets, and presentation software
2. Understand and construct farm and business accounts
3. Analyse business accounts
4. Formulate animal rations, cropping plans and rotations
5. Choose appropriate seeds, treatments and fertilizer for a cereal crop
6. Assess environmental, social and economic impacts of agriculture
7. Understand the economic implications of agricultural policy
8. Perform in an industrial setting

#### **Teaching/learning methods and strategies**

Farming business and accounting is taught in Parts 1 and 2 and reinforced in Practicals in Part 3. Introduction to Livestock Production and other livestock modules are taught in lectures in Part 1 and 2.  
Biology and Production of Crop Plants is taught in Part 1.  
Students are taught about environmental, social and economic impacts of agriculture in various modules. Economics is taught in Part 1.  
The placement year will develop practical skills specific to the host organisation/industry.

##### *Assessment*

All 7 are tested either formatively in coursework or summatively in examinations

#### **D. Transferable skills - able to:**

1. Use IT (word-processing, using standard and statistical software)
2. Communicate scientific ideas
3. Give oral presentations
4. Work as part of a team
5. Use library and other information resources
6. Manage time
7. Plan their career

#### **Teaching/learning methods and strategies**

The use of IT is embedded in many modules, as well as specialised modules offered in the programme. Effective communication of scientific ideas, oral presentations and team work are embedded in modules from Part 1 onwards (e.g., British Agriculture in Practice).  
Time management is essential for timely and effective submission of work and completion of the

course.

Career management is part of a Part 2 module and tutorial support is also available.

Library resources are required for many modules, especially the completion of the dissertation, and contribute to the best performances throughout.

*Assessment*

1-4 are assessed through coursework. 5-7 are not directly assessed but their effective use enhances performance in modules.

**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 on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance process or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.**