

**BSc Agriculture with Industrial Training
For students entering Part 1 in 2010/1**

UCAS code: D401

Awarding Institution:	University of Reading
Teaching Institution:	University of Reading
Relevant QAA subject Benchmarking group(s):	Agriculture, Food and Forestry, Faculty of Life Sciences
Faculty:	Life Sciences Faculty
Programme length:	4 years
Date of specification:	15/May/2013
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 profitability
- Modern business management techniques

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 following this programme, students will have had the opportunity to develop such skills, in particular relating to career management, time management, communication (both written and oral), information handling, numeracy, problem-solving, team working, use of Information Technology (word processing, using standard and specialist software), use of information sources (internet, library) and business awareness 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). The compulsory modules ensure that all students have a grounding in practical farming methods, production and science of crops and animals, agri-business, and agri-environmental science. The optional modules provide a choice of subjects or pathways such that the student can tailor the programme to match their interests and career aspirations. It is not essential for students to only choose optional modules from within one pathway. Compulsory plus optional modules must be selected to total 120 credits in each Part.

Part 1 (three terms)

Compulsory modules

<i>Code</i>	<i>Module title</i>	<i>Credits</i>	<i>Level</i>
AP1SB1	Introduction to Management	10	4
AP1EE3	Economics 1	10	4
AP1A12	Introduction to Crop Production	10	4
AP1A08	British Agriculture in Practice	10	4
AP1A10	Countryside and the Environment	10	4
AP1A16	Varieties, Seeds and Crop Establishment	10	4
AP1A18	Digestion and Nutrition	10	4
AP1A02	Introduction to Agricultural and Food Systems	10	4
AP1A03	Introduction to Livestock Production Systems	10	4
AP1SCMS	Career Management Skills	0	4
SS1A1	Introduction to Soil Science	10	4

Optional modules (guided choice of 20 credits)

Animal Science and Production Pathway:

BI1BB2	Biochemistry and Metabolism	10	4
BI1P11	Introductory Microbiology	10	4

Crop Science and Production Pathway:

AP1A17	Crop Appraisal and Agronomy	10	4
BI1EC1	Exploiters and Exploited	10	4

Agri-Business Pathway:

AP1EF1	The UK Food Chain	10	4
AP1EM1	Introduction to Marketing	10	4

Agri-Environment Pathway:

BI1EB2	Humans and the Changing World	10	4
BI1EF2	Ecology: Species and their Interactions	10	4

Part 2 (three terms)

Compulsory modules

<i>Code</i>	<i>Module title</i>	<i>Credits</i>	<i>Level</i>
AP2A36	Animal Production	10	5
AP2A20	Agricultural Field Study Tour	10	5
AP2SB2	Financial Management	10	5
AS2A1	Statistics for Life Sciences	10	5
AP2A55	Farm Business Management	10	5
AP2A53	Practical Farm Analysis	10	5
AP2A54	Cereal Agronomy	10	5
AP2A41	Agronomy of Combinable Break Crops	10	5

Optional modules (guided choice of 40 credits)

Animal Science and Production Pathway:

AP2A24	Applied Animal Nutrition	10	5
AP2A56	Grass Land Management and Ecology	10	5
AP2A35	Animal Health and Disease	10	5
AP2A50	Animal Growth, Lactation and Reproduction	10	5

Crop Science and Production Pathway:

AP2A38	Organic Farming	10	5
AP2A56	Grassland Management and Ecology	10	5
BI2EC4	Ecology and Management of Plant Diseases	10	5
BI2EX5	Introduction to Entomology	10	5

Agri-Business Pathway:

AP2A39	Environment and the Farm Business	10	5
AP2EB4	Management of Not-for-Profit Organisations	10	5
AP2EM1	Marketing Management	10	5
AP2SB1	Business Management	10	5

Agri-Environment Pathway:

AP2A26	Forestry and Woodland	10	5
AP2A59	Nature Conservation	10	5
AP2A38	Organic Farming	10	5
AP2A56	Grassland Management and Ecology	10	5
ES2F4	Soil Ecology and Function	10	5

Students can choose across pathways if they wish and, with the agreement of the Programme Director and subject to timetabling constraints, select suitable modules from across the University.

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	5

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 students 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	6
AP3A81	Dissertation	40	6

Optional modules (guided choice of 70 credits)

Animal Science and Production Pathway:

AP3A67	Animal Welfare	10	6
AP3A83	Practical Animal Nutrition	10	6
AP3A93	Dairy Production	10	6
AP3A96	Meat Production	10	6
AP3A98*	Equine Science and Management	20	6

* Part of the teaching for the module takes place at BCA in week 42 in the Summer Term of Part 2 only

Crop Science and Production Pathway:

AP3A45	Agricultural Systems in the Tropics	10	6
AP3A76	Principles and Practice in Biological Control	10	6
AP3A77*	Agronomy of Combinable Break Crops	10	6
AP3A89	Water, Crops and Irrigation	10	6
AP3A90	Climate Change and Food Systems	10	6
AP3A94	Nematodes as Pests and Beneficials	10	6

*Cannot take if already taken as AP2A41

Agri-Environment Pathway

AP3A68	Wildlife in the Farming Environment	10	6
AP3A87	Environmental Management	10	6
AP3A90	Climate Change and Food Systems	10	6
AP3EP3	Rural Policy and Countryside Planning	10	6
AP3A99	Plants, Green Space and Urban Sustainability	10	6

Agri-Business Pathway:

AP3A54	Business Management (Case Studies)	20	6
AP3A64	Human Resource Management	10	6
AP3A82	Business Planning and Control	20	6
AP3EB1	Business Strategy	10	6
AP3EB3	Supply Chain Management	10	6
AP3EM1	Marketing Strategy	10	6
AP3EM3	Advertising and Branding	10	6
AP3EP4	Consumer Policy	10	6

Students can choose across pathways if they wish and, **with the agreement of the Programme Director** and subject to timetabling constraints, select suitable modules from across the University.

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 a credit weighted average mark of not less than 40% over the compulsory modules and a mark of not less than 30% in each compulsory module.

If you gain a threshold performance at Part 1 and do not proceed to achieve a higher award, you are eligible to receive the award of Certificate of Higher Education. The Part 1 Examination does not contribute to the classification of your degree.

The Part 2 Examination is used to assess a student's suitability to proceed to Part 3 of their programme. It also determines eligibility for the Diploma of Higher Education. In addition, the marks achieved in the Part 2 Examination contribute to the classification of your degree.

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 level 5 and 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, a student shall normally be required to achieve a threshold performance at Part 2.

If you gain a threshold performance at Part 2 and do not proceed to achieve a higher award, you 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. You are 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; and does not contribute to your final degree mark, although recognition of the completion of an industrial placement will appear on your degree transcript. If you are unable to find a suitable placement, or if you progress from Part 2 to the placement year but fail to successfully complete the placement year module, you 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 a ratio of 1:2. Full details of classification conventions (that is, the rules for determining your final degree award) can be found in your 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 300 points including at least 2 full A Levels.
- Two sciences at A-Level, including Biology, are preferred, but one science with relevant practical experience may be acceptable.
- 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.
 - National Diploma students are normally required to have obtained Distinction:Merit:Merit.

Admissions Tutor: Professor 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 Careers, Placement and Experience Centre (CPEC), In-session 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, academic issues (eg problems with module selection) and exam related queries. 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

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.

Opportunities for study abroad or for placements

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 work. In later parts of

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.

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.

The placement year will develop practical skills specific to the host organisation/industry.

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 agriculture
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

As science is the fundamental basis of agriculture, logic is a fundamental part of its processes. Agricultural problems need solutions. The quality of a solution is substantially determined by the structure of that response: analysis, synthesis, problem solving and knowledge transfer from one topic to another. These attributes are intrinsic to high-level performance in the programme.

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 Part 1 & 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

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

4. Work as part of a team
5. Use library and other information resources
6. Manage time
7. Plan their career

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.