

BSc Agriculture
For students entering Part 1 in 2015/6

UCAS code: D400

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| Awarding Institution: | University of Reading |
| Teaching Institution: | University of Reading |
| Relevant QAA subject Benchmarking group(s): | Agriculture, Horticulture, Forestry, Food and Consumer Sciences |
| Faculty: | Life Sciences Faculty |
| Programme length: | 3 years |
| Date of specification: | 23/May/2016 |
| Programme Director: | Dr Gillian Rose |
| 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, economic and environmental principles underpinning agricultural production and land use
- Appropriate husbandry adopted by farmers and others to apply agricultural knowledge profitably
- Modern business management techniques

It aims to produce agriculturalists with the scope to tackle problems along the length of the food chain, dealing with difficult environmental, animal welfare, political, social and economic issues.

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 selected optional modules must total 120 credits in each Part.

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.

Part 1 (three terms)

Compulsory modules

| <i>Mod Code</i> | <i>Module Title</i> | <i>Credits</i> | <i>Level</i> |
|-----------------|---|----------------|--------------|
| AP1A02 | Introduction to Agricultural and Food Systems | 10 | 4 |
| AP1A03 | Introduction to Livestock Production Systems | 10 | 4 |
| AP1A08 | British Agriculture in Practice (AGRIC and ABM) | 10 | 4 |
| AP1SB1 | Introduction to Management | 10 | 4 |
| AP1A12 | Introduction to Crop Production | 10 | 4 |
| AP1EE3 | Economics 1 | 10 | 4 |
| AP1A18 | Digestion and Nutrition | 10 | 4 |
| AP1SCP | Career Planning (APD students only) | 0 | 4 |
| GV1E1 | Soils in the Environment | 10 | 4 |
| AP1AE20 | Humans and the Environment | 10 | 4 |

Optional Modules (guided choice of 30 credits)

Animal Science and Production Pathway:

| | | | |
|--------|----------------------------|----|---|
| AP1A15 | Animal Science in Practice | 10 | 4 |
| BI1S1 | Introductory Microbiology | 10 | 4 |

Crop Science and Production Pathway:

| | | | |
|--------|--|----|---|
| AP1A22 | Principles of Horticulture | 10 | 4 |
| BI1EG1 | Plant Diversity, Structure and Utilisation | 10 | 4 |

Agri-Business Pathway:

| | | | |
|---------|---------------------------|----|---|
| AP1EF1 | The UK Food Chain | 10 | 4 |
| AP1EM1* | Introduction to Marketing | 10 | 4 |

*Pre-requisite for AP2EM1

Agri-Environment Pathway:

| | | | |
|--------|--------------------------|----|---|
| GV1BGE | Biogeography and Ecology | 10 | 4 |
| GG1C | Climatology | 10 | 4 |
| GG1EI | Environmental Issues | 10 | 4 |

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.

Volunteering Opportunities (non-credit bearing)

SV1STU Student Tutoring

RD1RED1 Reading Experience and Development (RED) Award

Student Tutoring - for further information and an application form visit:

<http://www.reading.ac.uk/studentrecruitment/StudentTutoring/sr-studenttutoringinschools.aspx>

Reading Experience and Development (RED) Award - for further information visit

<http://www.reading.ac.uk/internal/readingexperienceanddevelopmentaward/reda-home.aspx>

Part 2 (three terms)

Compulsory modules

| Mod Code | Module Title | Credits | Level |
|----------|---|---------|-------|
| AP2A20 | Agricultural Field Study Tour (Agric & ABM) | 10 | 5 |
| AP2A61 | Experimentation and Data Analysis | 10 | 5 |
| AP2SB2 | Financial Management | 10 | 5 |
| AP2A36 | Animal Production | 10 | 5 |
| AP2A64 | Farm Business Management | 20 | 5 |
| AP2A66 | Crop Agronomy | 20 | 5 |
| AP2SCP | Career Planning (APD students only) | 0 | 5 |

Optional modules (guided choice of 40 credits)

Animal Science and Production Pathway:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|---|----------------|--------------|
| AP2A35 | Animal Health and Disease | 10 | 5 |
| AP2A50 | Animal Growth, Lactation and Reproduction | 10 | 5 |
| AP2A67 | Animal Nutrition | 20 | 5 |

Crop Science and Production Pathway:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|----------------------------------|----------------|--------------|
| GV2F4 | Soil Ecology and Function | 10 | 5 |
| AP2A56 | Grassland Management and Ecology | 10 | 5 |
| AP2A59 | Nature Conservation | 10 | 5 |
| AP2A60 | Horticultural Crop Production | 10 | 5 |

Agri-Business Pathway:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|------------------------------|----------------|--------------|
| MM270 | Practice of Entrepreneurship | 20 | 5 |
| AP2EM2 | Food Retailing | 10 | 5 |
| AP2EM1* | Marketing Management | 10 | 5 |
| AP2SB1 | Business Management | 10 | 5 |

*AP1EM1 is pre-requisite

Agri-Environment Pathway:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|---|----------------|--------------|
| AP2A26 | Forestry and Woodland | 10 | 5 |
| AP2A59 | Nature Conservation | 10 | 5 |
| AP2AE45 | Methods in Ecology & Environmental Management | 20 | 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.

Students can opt to undertake a year long period of Industrial Training between Parts 2 and 3 in consultation with the Programme Director

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:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|-------------------------------|----------------|--------------|
| 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 |

Crop Science and Production Pathway:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|-------------------------------------|----------------|--------------|
| AP3A45 | Agricultural Systems in the Tropics | 10 | 6 |
| AP3A89 | Water, Crops and Irrigation | 10 | 6 |
| AP3A90 | Climate Change and Food Systems | 10 | 6 |
| AP3A102 | Integrated Pest Management | 20 | 6 |
| AP3A103 | Horticultural Crop Technology | 10 | 6 |

Agri-Environment Pathway

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|--|----------------|--------------|
| AP3AE75 | Wildlife and Farming | 10 | 6 |
| AP3AE70 | Environmental Management in Practice | 10 | 6 |
| AP3A90 | Climate Change and Food Systems | 10 | 6 |
| AP3A99 | Plants, Green Space and Urban Sustainability | 10 | 6 |
| RE3RPP | Rural Policy and Countryside Planning | 20 | 6 |

Agri-Business Pathway:

| <i>Code</i> | <i>Title</i> | <i>Credits</i> | <i>Level</i> |
|-------------|------------------------------------|----------------|--------------|
| 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 |

*Students selecting AP3A98 are not permitted to take AP3A100, as this module forms part of AP3A98.

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:

- (i) a weighted average of 40% over 120 credits taken at Part 2; and
- (ii) marks of at least 40% in individual modules amounting to not less than 80 credits; and
- (iii) marks of at least 30% in individual modules amounting to not less than 120 credits.

In order to progress from Part 2 to Part 3, student must 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.

Summary of Teaching and Assessment

The University's honours classification scheme is:

| <i>Mark</i> | <i>Interpretation</i> |
|-------------|------------------------|
| 70% - 100% | First class |
| 60% - 69% | Upper Second class |
| 50% - 59% | Lower Second class |
| 40% - 49% | Third class |
| 35% - 39% | Below Honours Standard |
| 0% - 34% | Fail |

For the University-wide framework for classification, which includes details of the classification method, please see: www.reading.ac.uk/internal/exams/Policies/exa-class.aspx

The weighting of the Parts/Years in the calculation of the degree classification is

Three-year programmes

Part 2 one-third

Part 3 two-thirds

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.

Admission requirements

Entrants to this programme are normally required to have obtained:

Grade C or better in Mathematics at GCSE level or equivalent.

A minimum UCAS Tariff of BBB/ABC

Two sciences at A level are preferred, but one science with relevant practical experience may be acceptable; or

International Baccalaureate 30 points overall; or
BTEC Nationals, DDM (Distinction, Distinction, Merit); or
a good pass in an Access Course; we may ask for specific grades in subject units and for particular subjects to be studied.

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.

Full details of entrance requirement can be found at <http://www.reading.ac.uk/Study/study-ug-academic-reqs.aspx>

Admissions Tutor: Dr Gillian Rose

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.

All students should ensure that they access the online Programme Handbook at the beginning of the degree which includes a detailed outline of the programme, its constituent modules and assessment guidelines. Day-to-day queries regarding academic matters (e.g. timetabling) should be addressed in the first instance to the School Undergraduate Student Office or, where necessary, the Programme Director.

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 learning

Career learning is facilitated by a Career Planning module that encourages students to take an early proactive approach to career choice and enhancing employability. It is also embedded in a range of other modules within the degree. The Career Planning module aims to improve self-awareness in the context of career decision making, knowledge of the career opportunities available to you and the skills required to make effective applications. All students prepare a Career Planning Portfolio which includes an action plan to gain relevant work experience and to manage the process towards applying for a specific career. During Part 1 the emphasis is on supporting you to apply for work experience placements while in Part 2 the focus shifts towards applications for graduate level positions. Before the conclusion of your degree it is intended that you will have a vision of your preferred career path, your 'career brand' and how to communicate this in the job application process - from CVs through to interviews and assessments centres.

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

As part of the degree programme students have the opportunity to study abroad at an institution with which the University has a valid agreement, as part of a four year programme. The School of Agriculture, Policy and Development encourages students, provided they have passed Part 2, to consider this.

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.

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 focused 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 opportunities

All of our degree programmes give you the opportunity to undertake a placement year. An Industrial Placement is an excellent opportunity to gain 12 months work experience in your chosen industry. During the first 2 years of your degree programme you'll develop a thorough knowledge of your chosen subject which can then be applied in an industry-specific setting in your 3rd year placement, before returning to University for your fourth and final year. Many employers have placement opportunities that are available to you, but we also encourage you to find a company/industry that you're interested in and then approach them about offering you a placement. Whether you're thinking about doing a placement or you've already decided, there is lots of help and support available to you. We have a dedicated Career Planning module in Part 1 and the Student Placement, Experience and Careers Centre organises many events such as CV checking, mock interviews and assessment centres. We also have a dedicated Placement Officer in the School who will support you throughout all aspects of your placement search and application process and provide continued support whilst on your placement year. As you are currently enrolled on the 3 year degree you will need to change your status to the 4 year programme if you decide that a placement year is for you. Your programme director will be able to help you with this.

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. The 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
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

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 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

- agricultural science
8. A selection of more specialised optional topics
9. A language (optional)

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
4. Understand the evolving state of knowledge in a rapidly changing area
5. Transfer appropriate knowledge and topics from one topic within the subject to another
6. Plan, conduct and write reports on independent projects.

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

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

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.

Teaching/learning methods and strategies

Farming business and accounting is taught in Part 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.

Assessment

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

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.