BSc Agriculture   **UCAS code: D400**
For students entering Part 1 in 2014/5

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:	16/Jun/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

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
AP1A16	Varieties, Seeds and Crop Establishment	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 20 credits)
Animal Science and Production Pathway:

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

Crop Science and Production Pathway:

| AP1A17 | Crop Appraisal and Agronomy | 10 | 4 |
| AP1A22 | Principles of Horticulture | 10 | 4 |

Agri-Business Pathway:

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

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:

AP2A65	Applied Animal Nutrition	20	5
AP2A35	Animal Health and Disease	10	5
AP2A50	Animal Growth, Lactation and Reproduction	10	5

Crop Science and Production Pathway:

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:

MM270*	Practice of Entrepreneurship	20	5
AP2EM2	Food Retailing	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
AP2A57	Methods in Ecology and Environmental Management	20	5

*This module may have limited module enrolment numbers. Please also note that as these modules run over autumn and spring, you should check your spring timetable carefully, when selecting the module in October, to ensure that you do not have a spring term clash.

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

Mod Code	Module Title	Credits	Level
AP3A47	Cereal Management and Marketing	10	6
AP3A81	Dissertation	40	6

Optional modules (guided choice of 70 credits)

Animal Science and Production Pathway:

Code	Title	Credits	Level
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:

Code	Title	Credits	Level
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

Code	Title	Credits	Level

AP3AE75	Wildlife and Farming	10	6
AP3AE70	Environmental Management in Practice	10	6
AP3A90	Climate Change and Food Systems	10	6
RE3RPP	Rural Policy and Countryside Planning	20	6
AP3A99	Plants, Green Space and Urban Sustainability	10	6

Agri-Business Pathway:

Code	Title	Credits	Level
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 AP3A100 are not permitted to take AP3A85, as this module forms part of AP3A98.
AP3EB1 Business Strategy has **pre-requisite (AP2SB1 Business Management)

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.

Assessment and classification

The University's honours classification scheme is:

Mark	Interpretation
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: 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-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, 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 School of Agriculture, Policy and Development 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
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 in Part 3 of a 4 year programme subject to discussion with the Programme Director, in the first instance. A place is not guaranteed by this.
The School encourages students, provided they have passed Part 2, to consider this option.

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:	Teaching/learning methods and strategies
1. The fundamental concepts and techniques of maintaining and enhancing soil fertility	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.
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	In all parts these are supported by tutorials and practical classes through which students can obtain feedback on assessed and non- assessed work.
4. Biodiversity and the sustainability of agriculture worldwide	
5. The fundamentals of economics and business management, including human resource management	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.
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	*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.

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

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.

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.