

**Programme Code :** S123100AD 07/08 STORE

**Programme Title :** Agricultural Technology with Professional Studies

### **Awarding Institution**

Queen's University Belfast

### **Teaching Institution**

Agri-Food and Land Use, QUB, and College of Agriculture, Food and Rural Enterprise

### **Programme Accredited By**

Not applicable

### **Final Award**

BSc Honours

### **UCAS Code**

BSc/Agri Tech (4SW) [D470]

### **QAA Benchmarking Group**

Agriculture, Forestry, Agricultural Sciences, Food Sciences and Consumer Sciences (Hons)

### **Educational Aims Of Programme**

On completion of the programme the student will be able to:

1. demonstrate a knowledge and understanding of crop and animal production systems for the sustainability of the agricultural industry, including the underpinning scientific, economic and business principles and the applicability of recent developments in these areas.
2. demonstrate a knowledge and understanding of the impact of global, EU and regional policy on the agricultural industry, including statutory, legal and ethical frameworks and public needs and concerns regarding agriculture.
3. demonstrate an ability to understand and assess agri-environment interactions and devise appropriate environmental management strategies
4. demonstrate a knowledge and understanding of managing agriculture as a business at national, EU and global levels.
5. demonstrate competence in subject specific and key skills and problem solving.
6. demonstrate a professional approach to the work environment, study and life-long learning.
7. devise, manage and evaluate project work.

For current general University requirements for this pathway go to <http://qub.ac.uk/ado>

**For current general University entry requirements for this pathway go to <http://www.qub.ac.uk/ado>**

### **Criteria For Admission (Subject Specific Requirements) To Programme**

Entry is through Agri-Food and Land Use, School of Biological Sciences. Admissions to Stage 1 are based on achieving grades of BCC/CCC at A level including one science subject and minimum Grade C in GCSE Maths, English Language and Double award science or equivalent. Candidates are also required to have a minimum of 3 months appropriate practical farming experience.

### **Additional Relevant Information**

The first 2 years of the programme are based at Greenmount Campus of the College of Agriculture, Food and Rural Enterprise, Antrim, the third year on work placement and the final year at Queen's University Belfast.

## For Further Information Refer To

www.cafre.ac.uk; www.qub.ac.uk/aflu

## Programme Structure, Levels, Modules and Credits

### Stage 1

Students will take the compulsory modules.

Status	Code	Title	Pre-Requisites	CATS	STATUS
compulsory	310ALU141	Information Technology and Core Skills	None	20	LIVE
compulsory	105ALU142	Plant Science	GCSE Chemistry or double award science, minimum Grade C or equivalent	10	LIVE
compulsory	205ALU143	Crop Husbandry	None	10	LIVE
compulsory	110ALU144	Animal Science	GCSE Chemistry or Double award science minimum Grade C or equivalent	20	LIVE
compulsory	205ALU145	Animal Husbandry		10	LIVE
compulsory	210ALU146	Mechanisation and Farm Buildings	None	20	LIVE
compulsory	105ALU147	Introduction to Farm Business Management	None	10	LIVE
compulsory	310ALU148	Enterprise Technology		20	LIVE

### Stage 2

Students will take the compulsory modules. Students will start preparation for their work placement in the first semester of Stage 2.

Status	Code	Title	Pre-Requisites	CATS	STATUS
compulsory	310ALU241	Enterprise Management	Enterprise technology (310ALU148)	20	SUSPEND
compulsory	105ALU242	Livestock Production 1		10	LIVE
compulsory	105ALU243	Grassland Management		10	SUSPEND
compulsory	105ALU245	Agriculture and the Environment		10	SUSPEND
compulsory	205ALU244	Crop Production	None	10	SUSPEND
compulsory	205ALU246	Alternative Land Use and Diversification		10	SUSPEND
compulsory	310ALU247	Farm Business Management	None	20	SUSPEND
compulsory	205ALU248	Supply Chain Management and Marketing		10	SUSPEND
compulsory	205ALU250	Livestock Production 2	None	10	SUSPEND
compulsory	205ALU251	Farming and Environmental Management		10	SUSPEND

### Stage 3

Year 3 work placement:

Students will spend a minimum of 46 weeks in a work placement during which they will carry out a project. The project will be agreed between the student, the placement provider and university tutor before the student starts the placement. Students will begin preparations for the placement in the first semester of Stage 2 and the placement will be assessed within the module Professional Studies and project (Ag Tech), 110ALU334, in Stage 3. All students will be required to submit for the Licentiate award from City and Guilds in recognition of their placement.

Students unable to secure a year placement will be transferred to the Agricultural Technology programme.

### Stage 3

Students will take the 3.5 compulsory modules(70 CATS) and 2.5 other modules (50 CATS), or equivalent, from the list below.

Status	Code	Title	Pre-Requisites	CATS	STATUS
compulsory	110ALU334	Professional Studies and Project (Ag Tech)	None	20	SUSPEND
optional	110ALU336	Environmental Management and Policy		20	SUSPEND
optional	105ALU324	Policies for Environmental Sustainability		10	LIVE
optional	105ALU325	Environmental Assessment		10	LIVE
compulsory	105ALU331	Animal Health and Welfare		10	SUSPEND
optional	105ALU335	Current Issues in Food Safety and Nutrition	None	10	LIVE
optional	110PAI380	Introduction to EU Law	See PAIS pathway diagrams for more information about pre-requisites	20	SUSPEND
compulsory	210ALU332	Advances in Crop and Animal Science and Technology		20	SUSPEND
compulsory	210ALU333	Business Innovation and Entrepreneurship		20	SUSPEND
optional	210PAI320	Governance and Economy in the European Union	See PAIS pathway diagrams for more information about pre-requisites	20	LIVE
optional	210EVP310	Legal Studies in Planning		20	LIVE

## Awards, Credits and Progression of Learning Outcomes

### Examinations

The programme is governed by University regulations (General regulations, Book 1 of the Calendar). Candidates for Honours normally enrol for six modules at each Stage. Progress between stages is subject to University regulations. Students must pass at least 5 out of the six modules in each stage, including any compulsory modules. Students carrying a module from the previous stage, must pass that module before progressing from their current year.

### Stage 1

'Stage 1

In order to proceed to Stage 2 students must have passed without compensation all prerequisites and normally have no more than one outstanding (i.e. failed or incomplete) module taken at Stage 1. Compensation (General Regulations 6.26) is available between all modules at Stage 1 with the exception of the Enterprise Technology module, 310ALU148, which must be passed outright.

### Stage 2

In order to proceed to Stage 3 students must have passed or been granted credit for all modules at Stage 2 and must normally have passed all prerequisites and have no more than one outstanding (i.e failed or incomplete) module taken at Stage 2. At the end of Stage 2 students may be permitted by the Head of School, advised by the Pathway Board, or required by School Students' Progress Committee, to take an Ordinary BSc degree. For the Ordinary degree only, failed marks above 35% in level 3 modules may count as a pass at level 2.

### Degree classification

To be awarded an Honours degree, students must normally pass at least 16 out of the 18 modules attempted in Stages 1, 2 and 3 including all modules in Stage 1.

Classification of Honours is based on the average mark from the six modules taken at Stage 3, contributing 75% of the final mark and the average mark from the six modules taken at Stage 2, contributing 25% of the final mark.

### Learning Outcomes: Knowledge and Understanding

1. Describe and understand the principles of plant and soil science, crop husbandry practice, mechanisation and building requirements for efficient, market-led, sustainable, environmentally sensitive crop production systems, (ALU142, ALU143, ALU146 ,ALU243, ALU246, ALU244, ALU332, ALU248,ALU245, ALU334)
2. Understand and apply the fundamental concepts of animal science, ethical animal husbandry, mechanisation and building requirements for efficient, market-led , quality-driven, environmentally sensitive, sustainable animal production systems. (ALU 146, ALU148, ALU144, ALU145, ALU241, ALU243, ALU248, ALU250, ALU331, ALU332, ALU334)
3. Demonstrate a knowledge and understanding of the principles of business success, including physical and financial performance of sustainable agricultural systems, supply chain management, marketing, innovation and entrepreneurship.(ALU143, ALU145, ALU146, ALU147, ALU148, ALU241, ALU242, ALU243, ALU244, ALU247, ALU 250,

ALU331,ALU332, ALU248, ALU334, ALU335)

4. Describe, understand and assess the interaction of agriculture with the environment, including landscape, water, air, soil and biodiversity, and be able to determine appropriate environmentally sensitive practices. (ALU245, ALU336, ALU324,ALU325, ALU250, ALU251)

5. Demonstrate an understanding of the position of the agricultural industry within national, EU and global perspectives. (ALU246, ALU251, ALU331, ALU336, ALU324, ALU325, PAI320, PAI380, EVP310, ALU332, ALU335)

### **Teaching and Assessment Methods: Knowledge and Understanding**

1. is supported through lectures, seminars, practicals, visits, directed and independent reading and tutorials and assessed through unseen examinations, reports, essays, skills demonstrated, class tests, presentations and projects.
2. is supported through lectures, practicals, computer assisted learning, directed and independent reading, visits, tutorials and practical classes and assessed through unseen examinations, essays, reports ,oral presentations, case studies, practical reports, projects and class tests
3. is supported through lectures, computer assisted learning, visits, seminars, tutorials directed and independent reading and assessed through unseen and seen examinations ,reports, case studies, essays and assignments
4. is supported through lectures, seminars, tutorials, computer assisted learning, , visits, directed and independent reading and assessed through unseen examinations, reports, case studies, essays and assignments.
- 5& 6 are supported through lectures, seminars, tutorials, visits, directed and independent reading and assessed through unseen examinations, essays, reports, presentation and class test.

### **Learning Outcomes: Subject-specific Skills**

The programme provides opportunities for learners to achieve the following outcomes:

1. operate and manage enterprises within a farm environment in a safe manner, taking account of Health and Safety, environmental and welfare considerations (ALU148, ALU241, ALU146, ALU141, ALU334, ALU332, ALU245)
2. determine the profitability and sustainability of agricultural businesses and develop appropriate management strategies for these (ALU242, ALU241, ALU 250, ALU251, ALU255, ALU146, ALU147, ALU247, ALU248, ALU245, ALU246, ALU333, ALU334)
3. identify the unique nutritional requirements, diseases and pests of crop and animal species used in agriculture (ALU144, ALU145, ALU242, ALU143, , ALU244, ALU243, ALU250, ALU334, ALU332, ALU250, ALU251)
4. demonstrate competence in a range of practical and technical agricultural skills, using safe and ethical working practices. (ALU142, ALU143, ALU143, ALU243, ALU244, ALU332, ALU144, ALU242, ALU331, ALU141, ALU148, ALU241, ALU247, ALU334)

### **Teaching and Assessment Methods: Subject-specific Skills**

1. is supported through tutorials, practicals, work rota, work rota supervision, directed and independent reading, visits and assessed through skills demonstrated, observations, presentations, enterprise duties and enterprise management
2. & 3. are supported through lectures, seminars, tutorials, practicals, visits, case studies, computer assisted learning, directed and independent reading and assessed through seen and unseen exams, essays and reports, projects, case studies, class test, assignments and presentations.
4. is supported through practicals, tutorial, seminars, directed and independent reading and assessed through demonstrated skills, practical write ups, reports, seen and unseen examinations and certification.

### **Learning Outcomes: Cognitive Skills**

The programme provides opportunities for learners to achieve the following outcomes:

1. collect, collate, analyse and interpret data and information. E.g. in relation to physical and financial performance for a range of sustainable crop and livestock production enterprises. (ALU243, ALU142, ALU244, ALU145, ALU242, ALU332, ALU144, ALU331, ALU147,ALU247, ALU 250, ALU251, ALU148, ALU241, ALU146, ALU336, ALU324, ALU325, ALU335, ALU333, ALU334)
2. produce solutions to familiar and novel problems through the application of knowledge and understanding. (ALU144, ALU147, ALU241, ALU246, ALU242, ALU248, ALU247, ALU251ALU331, ALU330, ALU336,ALU324, ALU325, ALU332, ALU333)
3. assess the impact of agricultural practices on the environment. (ALU146, ALU241, ALU243, ALU251, ALU336, ALU245, ALU324, ALU325, EVP310)
4. assess the implications of recent developments in agricultural science and technology on profitability and management of the agricultural industry. (ALU141, ALU146, ALU246, ALU241, ALU250, ALU332, ALU331, ALU333)
5. critically evaluate the implications of EU policy and Global Issues on agriculture. (ALU241,ALU246, ALU247,PAI320, PAI380, ALU245, ALU248)
6. plan, design and execute an investigation or survey from the problem-recognition stage through to the evaluation of results and findings, including the means to test a hypothesis or proposition. (ALU241, ALU146, ALU246, ALU248, ALU330, ALU333, ALU335, ALU336, ALU324, ALU325, ALU334)
7. critically evaluate and interpret data derived from observations and measurements, in terms of their significance and the theory underlying them. (ALU141, ALU142, ALU145, ALU242, ALU146, ALU243, ALU244, ALU332, ALU148, ALU241, ALU247, ALU334, ALU331, ALU336, ALU324, ALU325, ALU332)
8. recognise the moral and ethical issues related to agricultural production methods. (ALU145, ALU148, ALU242, ALU244, ALU245, ALU241, ALU248, ALU331, ALU 325, ALU335, ALU332).

### **Teaching and Assessment Methods: Cognitive Skills**

1. is supported through lectures, visits, case studies, practical, directed and independent reading and assessed through seen and unseen examinations, presentations, reports, practical write ups
2. is supported through lectures, tutorials, practicals, computer assisted learning, case studies, visits, directed and independent reading and assessed through seen and unseen examinations, presentations, reports, essays, assignments, case study, practical write up, project
3. is supported through lectures, practicals, visits, case studies, seminars, tutorials, directed and independent reading and assessed through unseen examinations, essays, and reports
4. is supported through lectures, practicals, visits, seminars, tutorials, directed and independent reading and assessed through seen and unseen examinations, essays, visit reports presentation and project
5. is supported through lectures, visits, seminars, tutorials, directed and independent reading and assessed through seen and unseen examinations, essays ,reports and presentation.
6. is supported through tutorials, directed and independent reading and assessed through project report, poster presentations

and practical and technical reports.

7. is supported through lectures, tutorials, visits, practicals, directed and independent reading and assessed through seen and unseen examinations, essays, reports, project, presentations, practical write up

8. is supported through lectures, tutorials, seminars, visits, directed and independent reading and assessed through seen and unseen examinations, essays, reports and presentations.

### **Learning Outcomes: Transferable Skills**

The programme provides opportunities for students to develop the following transferable skills,

1. Interpersonal skills; the ability to interact professionally with peers, staff, the public and industry representatives, including appropriate written and oral skills.
2. Team and group working in informal and formal situations. (ALU142, ALU143, ALU144, ALU146, ALU148, ALU241, ALU243, ALU248, ALU330, ALU331, ALU336, ALU324, ALU325, ALU332, ALU333, EVP310)
3. Evaluation of qualitative and quantitative information, extending to situations where there is limited information. (ALL MODULES)
4. Numeracy, including such aspects as estimations, correct use of units and modes of data presentation, application of general, biological and economic statistics. (ALU141, ALU142, ALU143, ALU144, ALU145, ALU146, ALU148, ALU241, ALU242, ALU243, ALU244, ALU247, ALU245, ALU246, ALU248, ALU250, ALU251, ALU334, ALU331, ALU324, ALU325, ALU335, ALU332, PAI380, EVP310)
5. Acquisition, transformation, interpretation and critical evaluation of data. ( ALU142, ALU143, ALU144, ALU145, ALU146, ALU148, ALU241, ALU242, ALU243, ALU247, ALU245, ALU248, ALU250, ALU251, ALU334, ALU331, ALU336, ALU324, ALU325, ALU335, PAI320, ALU332, ALU333, PAI380, EVP310)
6. Information retrieval in relation to primary and secondary information sources, including through online computer Searches and critical appraisal of these sources. (ALL MODULES)
7. Information technology skills, including word processing, spreadsheet use, database use, archiving data and information, and internet communication. (ALL MODULES)
8. Time-management and organisation, as evidenced by the ability to plan and implement efficient and effective modes of working. (ALL MODULES).
9. Study skills for lifelong learning, including independent study and group study (ALL MODULES)
10. Project management skills. (ALU148, ALU241, ALU334, ALU325, ALU335, ALU332, ALU333, EVP310)
11. Career Management Skills. (ALU148, ALU241, ALU334, ALU325)

### **Teaching and Assessment Methods: Transferable Skills**

Consistent with the benchmark statement, the acquisition and development of transferable skills are integral to the delivery of the 3 years of the BSc Agricultural Technology degree programme.

1. is supported through presentations, essays, reports, practical write-ups, mock interviews, workshops and tutorials and assessed by word-processed 'course work', case studies and presentations supported with visual aids to their peers and enterprise management advisory board comprised of teaching staff and industry representatives; mock job interviews
2. is supported through group tasks, case studies, visits and enterprise work and assessed through course work, case studies, workbooks, presentations
3. is supported through practicals, case studies, directed and independent study and ICT training and assessed by course work, case studies and workbooks, presentations, examinations.
4. is supported through practicals, case studies, directed and independent study, lectures, workshops, seminars and tutorials and assessed by course work, case studies, practical reports, workbooks, projects
5. is supported through workshops, lectures and tutorials and assessed by course work, case studies, workbooks, practical reports, projects.
6. is supported through ICT training, workshops, tutorials, directed and independent study and assessed by written elements of coursework.
7. is supported through skills training, working to deadlines, workshops, lectures, work placement and projects and assessed by coursework presentation.
8. is supported through skills training, directed and independent study and group work and only assessed by personal effectiveness in the enterprise modules.
9. is supported through skills training, directed and independent study and group work and not directly assessed, although implicit in achievement within programme.
10. is supported through seminars, tutorials and skills training and assessed through the dissertation.
11. is supported through skills sessions, workshops, work placement, project and interaction with industry etc. and assessed by reflective writing.

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**Programme Code : S123100AE 07/08 STORE**

**Programme Title : Agricultural Technology**

### **Awarding Institution**

Queen's University Belfast

### **Teaching Institution**

Agri-Food and Land Use, QUB, and College of Agriculture, Food and Rural Enterprise

### **Programme Accredited By**

No applicable

### **Final Award**

BSc

### **UCAS Code**

BSc/Agri Tech (4SW) [D470]

### **QAA Benchmarking Group**

Agriculture, Forestry, Agricultural Sciences, Food Sciences and Consumer Sciences (Hons)

### **Educational Aims Of Programme**

On completion of the programme the student will be able to:

1. demonstrate a knowledge and understanding of crop and animal production systems for the sustainability of the agricultural industry, including the underpinning scientific, economic and business principles and the applicability of recent developments in these areas.
2. demonstrate a knowledge and understanding of the impact of global, EU and regional policy on the agricultural industry, including statutory, legal and ethical frameworks and public needs and concerns regarding agriculture.
3. demonstrate an ability to understand and assess agri-environment interactions and devise appropriate environmental management strategies
4. demonstrate a knowledge and understanding of managing agriculture as a business at national, EU and global levels.
5. demonstrate competence in subject specific and key skills, problem solving and a professional approach to the work environment, study and life long learning.
6. devise, manage and evaluate project work.

**For current general University entry requirements for this pathway go to <http://www.qub.ac.uk/ado>**

### **Criteria For Admission (Subject Specific Requirements) To Programme**

Entry is through Agri-Food and Land Use, School of Biological Sciences. Admissions to Stage 1 are based on achieving grades of BCC/CCC for 2007 entry at A'level including one science subject and minimum Grade C in GCSE Maths, English Language and Double award science or equivalent. Candidates are also required to have a minimum of 3 months appropriate practical farming experience.

### **Additional Relevant Information**

The first 2 years of the programme are based at Greenmount Campus of the College of Agriculture, Food and Rural Enterprise, Antrim and the final year at Queen's University Belfast.

### **For Further Information Refer To**

[www.cafre.ac.uk](http://www.cafre.ac.uk); [www.qub.ac.uk/aflu](http://www.qub.ac.uk/aflu)

## Programme Structure, Levels, Modules and Credits

### Stage 1

Students will take the compulsory modules.

Status	Code	Title	Pre-Requisites	CATS	STATUS
compulsory	310ALU141	Information Technology and Core Skills	None	20	LIVE
compulsory	105ALU142	Plant Science	GCSE Chemistry or double award science, minimum Grade C or equivalent	10	LIVE
compulsory	205ALU143	Crop Husbandry	None	10	LIVE
compulsory	110ALU144	Animal Science	GCSE Chemistry or Double award science minimum Grade C or equivalent	20	LIVE
compulsory	205ALU145	Animal Husbandry		10	LIVE
compulsory	210ALU146	Mechanisation and Farm Buildings	None	20	LIVE
compulsory	105ALU147	Introduction to Farm Business Management	None	10	LIVE
compulsory	310ALU148	Enterprise Technology		20	LIVE

### Stage 2

Students will take the compulsory modules. Students will start preparation for their placement in the first semester of Stage 2 and commence their work placement, assessed in module 310ALU249, at Easter during the second semester and work through the summer vacation. 310ALU249 is assessed in early September of the academic year in which it is taken, at the same time as resits take place.

Status	Code	Title	Pre-Requisites	CATS	STATUS
compulsory	310ALU241	Enterprise Management	Enterprise technology (310ALU148)	20	SUSPEND
compulsory	105ALU242	Livestock Production 1		10	LIVE
compulsory	105ALU243	Grassland Management		10	SUSPEND
compulsory	105ALU245	Agriculture and the Environment		10	SUSPEND
compulsory	205ALU244	Crop Production	None	10	SUSPEND
compulsory	205ALU246	Alternative Land Use and Diversification		10	SUSPEND
compulsory	310ALU247	Farm Business Management	None	20	SUSPEND
compulsory	205ALU248	Supply Chain Management and Marketing		10	SUSPEND
compulsory	310ALU249	Work Placement (Ag Tech)	None	20	SUSPEND

### Stage 3

Students will take the 3.5 compulsory modules (70 CATS) and 2.5 other modules (50 CATS), or equivalent, from the list below.

Status	Code	Title	Pre-Requisites	CATS	STATUS
compulsory	110ALU330	Project Work (Ag Tech)	None	20	SUSPEND
optional	105ALU324	Policies for Environmental Sustainability		10	LIVE
optional	105ALU325	Environmental Assessment		10	LIVE

compulsory	105ALU331	Animal Health and Welfare		10	SUSPEND
optional	105ALU335	Current Issues in Food Safety and Nutrition	None	10	LIVE
optional	110PAI380	Introduction to EU Law	See PAIS pathway diagrams for more information about pre-requisites	20	SUSPEND
compulsory	210ALU332	Advances in Crop and Animal Science and Technology		20	SUSPEND
compulsory	210ALU333	Business Innovation and Entrepreneurship		20	SUSPEND
optional	210PAI320	Governance and Economy in the European Union	See PAIS pathway diagrams for more information about pre-requisites	20	LIVE
optional	210EVP310	Legal Studies in Planning		20	LIVE
optional	110ALU336	Environmental Management and Policy		20	SUSPEND

## Awards, Credits and Progression of Learning Outcomes

### Examinations

The programme is governed by University regulations (General regulations, Book 1 of the Calendar). Candidates for Honours normally enrol for six modules at each Stage. Progress between stages is subject to University regulations. Students must pass at least 5 out of the six modules in each stage, including any compulsory modules. Students carrying a module from the previous stage, must pass that module before progressing from their current year.

### Stage 1

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In order to proceed to Stage 2 students must have passed without compensation all prerequisites and normally have no more than one outstanding (i.e. failed or incomplete) module taken at Stage 1. Compensation (General Regulations 6.26) is available between all modules at Stage 1 with the exception of the Enterprise Technology module, 310ALU148, which must be passed outright.

### Stage 2

In order to proceed to Stage 3 students must have passed or been granted credit for all modules at Stage 2 and must normally have passed all prerequisites and have no more than one outstanding (i.e. failed or incomplete) module taken at Stage 2. At the end of Stage 2 students may be permitted by the Head of School, advised by the Pathway Board, or required by School Students' Progress Committee, to take an Ordinary BSc degree. For the Ordinary degree only, failed marks above 35% in level 3 modules may count as a pass at level 2.

### Degree Classification

To be awarded an Honours degree, students must normally pass at least 16 out of the 18 modules attempted in Stages 1, 2 and 3 including all modules in Stage 1.

Classification of Honours is based on the average mark from the six modules taken at Stage 3, contributing 75% of the final mark and the average mark from the six modules taken at Stage 2, contributing 25% of the final mark.

### Learning Outcomes: Knowledge and Understanding

The programme provides opportunities for learners to achieve the following outcomes:

1. Describe and understand the principles of plant and soil science, crop husbandry practice, mechanisation and building requirements for efficient, market-led, sustainable, environmentally sensitive crop production systems, (ALU142, ALU143, ALU146, ALU243, ALU246, ALU244, ALU332, ALU248, ALU245, ALU330)
2. Understand and apply the fundamental concepts of animal science, ethical animal husbandry, mechanisation and building requirements for efficient, market-led, quality-driven, environmentally sensitive, sustainable animal production systems. (ALU 146, ALU148, ALU144, ALU145, ALU241, ALU243, ALU248, ALU331, ALU332,, ALU330)
3. Demonstrate a knowledge and understanding of the principles of business success, including physical and financial performance of sustainable agricultural systems, supply chain management, marketing, innovation and entrepreneurship. (ALU143, ALU145, ALU146, ALU147, ALU148, ALU241, ALU242, ALU243, ALU244, ALU247, ALU331, ALU332, ALU248, ALU330, ALU335)
4. Describe, understand and assess the interaction of agriculture with the environment, including landscape, water, air, soil and biodiversity, and be able to determine appropriate environmentally sensitive practices. (ALU245, ALU336, ALU324, ALU325)
5. Demonstrate and understanding of the position of the agricultural industry within national, EU and global perspectives. (ALU246, ALU331, ALU336, ALU324, ALU325, PAI320, PAI380, EVP310, ALU332, ALU335)

### Teaching and Assessment Methods: Knowledge and Understanding

1. is supported through lectures, seminars, practicals, visits, directed and independent reading and tutorials and assessed through unseen examinations, reports, essays, skills demonstrated, class tests, presentations and projects.
2. is supported through lectures, practicals, computer assisted learning, directed and independent reading, visits, tutorials and practical classes and assessed through unseen examinations, essays, reports, oral presentations, case studies, practical

reports, projects and class tests

3. is supported through lectures, computer assisted learning, visits, seminars, tutorials directed and independent reading and assessed through unseen and seen examinations, reports, case studies, essays and assignments

4. is supported through lectures, seminars, tutorials, computer assisted learning, , visits, directed and independent reading and assessed through unseen examinations, reports, case studies, essays and assignments.

5 & 6 are supported through lectures, seminars, tutorials, visits, directed and independent reading and assessed through unseen examinations, essays, reports, presentation and class test.

### **Learning Outcomes: Subject-specific Skills**

The programme provides opportunities for learners to achieve the following outcomes:

1. operate and manage enterprises within a farm environment in a safe manner, taking account of Health and Safety, environmental and welfare considerations (ALU148, ALU241, ALU146, ALU141, ALU249,ALU330, ALU332, ALU245)
2. determine the profitability and sustainability of agricultural businesses and develop appropriate management strategies for these (ALU242, ALU241, ALU255, ALU146, ALU147, ALU247, ALU248, ALU245, ALU246, ALU333, ALU330 )
3. identify the unique nutritional requirements, diseases and pests of crop and animal species used in agriculture (ALU144, ALU145, ALU242, ALU143, ALU244, ALU243, ALU330,ALU332)
4. demonstrate competence in a range of practical and technical agricultural skills, using safe and ethical working practices. (ALU142, ALU143, ALU143, ALU243, ALU244, ALU332, ALU144, ALU242, ALU331, ALU141, ALU148, ALU241, ALU247, ALU330)

### **Teaching and Assessment Methods: Subject-specific Skills**

1 is supported through tutorials, practicals, work rota, work rota supervision, directed and independent reading, visits and assessed through skills demonstrated, observations, presentations, enterprise duties and enterprise management

2 & 3 (split) are supported through lectures, seminars, tutorials, practicals, visits, case studies, computer assisted learning, directed and independent reading and assessed through seen and unseen exams, essays and reports, projects, case studies, class test, assignments and presentations.

4 is supported through practicals, tutorial, seminars, directed and independent reading and assessed through demonstrated skills, practical write ups, reports, seen and unseen examinations and certification.

### **Learning Outcomes: Cognitive Skills**

The programme provides opportunities for learners to achieve the following outcomes:

1. collect, collate, analyse and interpret data and information. E.g. in relation to physical and financial performance for a range of sustainable crop and livestock production enterprises. (ALU243, ALU142, ALU244, ALU145, ALU242, ALU332, ALU144, ALU331, ALU147,ALU247, ALU148, ALU241, ALU146, ALU336, ALU324, ALU325, ALU335, ALU333, ALU330)
2. produce solutions to familiar and novel problems through the application of knowledge and understanding. (ALU144, ALU147, ALU241, ALU246, ALU242, ALU248, ALU247, ALU331, ALU330, ALU336,ALU324, ALU325, ALU332, ALU333)
3. assess the impact of agricultural practices on the environment (ALU146, ALU241, ALU243, ALU336, ALU245, ALU324, ALU325, EVP310)
4. assess the implications of recent developments in agricultural science and technology on profitability and management of the agricultural industry. (ALU141, ALU146, ALU246, ALU241, ALU332, ALU331, ALU333)
5. critically evaluate the implications of EU policy and Global Issues on agriculture. (ALU241, ALU246, ALU247, PAI320, PAI380, ALU245, ALU248)
6. plan, design and execute an investigation or survey from the problem-recognition stage through to the evaluation of results and findings, including the means to test an hypothesis or proposition. (ALU241, ALU146, ALU246, ALU248, ALU330, ALU333, ALU335, ALU336, ALU324, ALU325, ALU331)
7. critically evaluate and interpret data derived from observations and measurements, in terms of their significance and the theory underlying them. (ALU141, ALU142, ALU145, ALU242, ALU146, ALU243, ALU244, ALU332, ALU148, ALU241, ALU247, ALU330, ALU331, ALU336, ALU324, ALU325, ALU332)
8. recognise the moral and ethical issues related to agricultural production methods. (ALU145, ALU148, ALU242, ALU244, ALU245, ALU241, ALU248, ALU249, ALU331, ALU 325, ALU335, ALU332).

### **Teaching and Assessment Methods: Cognitive Skills**

1. is supported through lectures, visits, case studies, practical, directed and independent reading and assessed through seen and unseen examinations, presentations ,reports, practical write ups
2. is supported through lectures, tutorials, practicals, computer assisted learning, case studies, visits, directed and independent reading and assessed through seen and unseen examinations, presentations, reports, essays, assignments, case study, practical write up, project
3. is supported through lectures, practicals, visits, case studies, seminars, tutorials, directed and independent reading and assessed through unseen examinations, essays, and reports
4. is supported through lectures, practicals, visits, seminars, tutorials, directed and independent reading and assessed through seen and unseen examinations, essays ,visit reports presentation and project
5. is supported through lectures, visits, seminars, tutorials, directed and independent reading and assessed through seen and unseen examinations, essays ,reports and presentation.
6. is supported through tutorials, directed and independent reading and assessed through project report, poster presentations and practical and technical reports.
7. is supported through lectures, tutorials, visits, practicals, directed and independent reading and assessed through seen and unseen examinations, essays, reports, project, presentations, practical write up
8. is supported through lectures, tutorials, seminars, visits, directed and independent reading and assessed through seen and unseen examinations, essays, reports and presentations.

### **Learning Outcomes: Transferable Skills**

1. Interpersonal skills; the ability to interact professionally with peers, staff, the public and industry representatives, including appropriate written and oral skills.
2. Team and group working in informal and formal situations. (ALU142, ALU143, ALU144, ALU146, ALU148, ALU249, ALU241, ALU243, ALU248, ALU330, ALU331, ALU336, ALU324, ALU325, ALU332, ALU333, EVP310)
3. Evaluation of qualitative and quantitative information, extending to situations where there is limited information. (ALL MODULES)

4. Numeracy, including such aspects as estimations, correct use of units and modes of data presentation, application of general, biological and economic statistics. (ALU 141, ALU142, ALU143, ALU144, ALU145, ALU146, ALU148, ALU249, ALU241, ALU242, ALU243, ALU244, ALU247, ALU245, ALU246, ALU248, ALU330, ALU331, ALU324, ALU325,ALU335, ALU332 PAI380, EVP310)
5. Acquisition, transformation, interpretation and critical evaluation of data. (ALU142, ALU143, ALU144, ALU145, ALU146, ALU148, ALU249, ALU241, ALU242, ALU243, ALU247, ALU245, ALU248, ALU330, ALU331, ALU336, ALU324, ALU325,ALU335, PAI320, ALU332, ALU333, PAI380, EVP310)
6. Information retrieval in relation to primary and secondary information sources, including through online computer Searches and critical appraisal of these sources. (ALL MODULES)
7. Information technology skills, including word processing, spreadsheet use, database use, archiving data and information, and internet communication. (ALL MODULES)
8. Time-management and organisation, as evidenced by the ability to plan and implement efficient and effective modes of working. ( ALU141, ALU143, ALU144, ALU145, ALU146, ALU147, ALU148, ALU249, ALU241, ALU242, ALU243, ALU244, ALU247, ALU245, ALU246, ALU248, ALU330, ALU331, ALU336, ALU324, ALU325, ALU335, PAI320, ALU332, ALU333, PAI380, EVP310)
9. Study skills for lifelong learning, including independent study and group study (ALL MODULES)
10. Project management skills. (ALU148, ALU249, ALU241, ALU330, ALU325, ALU335, ALU332, ALU333, EVP310)
11. Career Management Skills. (ALU148, ALU249, ALU241, ALU330, ALU325)

### **Teaching and Assessment Methods: Transferable Skills**

Consistent with the benchmark statement, the acquisition and development of transferable skills are integral to the delivery of the 3 years of the BSc Agricultural Technology degree programme.

1. is supported through presentations, essays, reports, practical write-ups, mock interviews, workshops and tutorials and assessed by word-processed 'course work', case studies and presentations supported with visual aids to their peers and enterprise management advisory board comprised of teaching staff and industry representatives; mock job interviews
2. is supported through group tasks, case studies, visits and enterprise work and assessed through course work, case studies, workbooks, presentations
3. is supported through practicals, case studies, directed and independent study and ICT training and assessed by course work, case studies and workbooks, presentations, examinations.
4. is supported through practicals, case studies, directed and independent study, lectures, workshops, seminars and tutorials and assessed by course work, case studies, practical reports, workbooks, projects
5. is supported through workshops, lectures and tutorials and assessed by course work, case studies, workbooks, practical reports, projects.
6. is supported through ICT training, workshops, tutorials, directed and independent study and assessed by written elements of coursework.
7. is supported through skills training, working to deadlines, workshops, lectures, work placement and projects and assessed by coursework presentation.
8. is supported through skills training, directed and independent study and group work and only assessed by personal effectiveness in the enterprise modules.
9. is supported through skills training, directed and independent study and group work and not directly assessed, although implicit in achievement within programme.
10. is supported through seminars, tutorials and skills training and assessed through the dissertation.
11. is supported through skills sessions, workshops, work placement, project and interaction with industry etc. and assessed by reflective writing.

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