



UNIVERSITY OF LINCOLN

Programme Specification

Title:

Agri-food Technology

Final Award: **Master of Science (MSc)**

With Exit Awards at:

Postgraduate Certificate (PG Cert)

Postgraduate Diploma (PG Dip)

Master of Science (MSc)

To be delivered from: 1 Sep 2017

Level	Date
Masters or Postgraduate Certificate (PG Cert)	2018-19
Masters or Postgraduate Diploma (PG Dip)	2018-19
Masters or Master of Science (MSc)	2018-19

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1. Introduction

This document describes one of the University of Lincoln's programmes using the protocols required by the UK National Qualifications Framework as defined in the publication *QAA guidelines for preparing programme specifications*.

This programme operates under the policy and regulatory frameworks of the University of Lincoln.

2. Basic Programme Data

Final Award:	Master of Science (MSc)
Programme Title:	Agri-food Technology
Exit Awards and Titles	Postgraduate Certificate (PG Cert) Postgraduate Diploma (PG Dip) Master of Science (MSc)
Subject(s)	Engineering Agriculture Food Science & Technology
Mode(s) of delivery	Full Time Part Time
Is there a Placement or Exchange?	No
UCAS code	
Awarding Body	University of Lincoln
Campus(es)	Lincoln Campus
School(s)	Lincoln Institute for Agri-Tech
Programme Leader	Ramana Sundara (RSundara)
Relevant Subject Benchmark Statements	
Professional, Statutory or Regulatory Body Accreditation	
Programme Start Date	2018-19

3. Programme Description

3.1 Overview

The M.Sc. in agri-food technology is intentionally wide ranging in order to best prepare students for openings in and across this broad and fast moving environment. The course acknowledges the importance of a holistic, all encompassing, farm-to-fork supply chain focus to the agri-food sector.

Curriculum content will be research-engaged, leading to a period of independent scientific research, in accordance with the University's Student as Producer ethos.

The M.Sc. agri-food technology is intended to equip graduates with the necessary theoretical understanding accompanied by the essential practical and professional transferable skills to enable them to undertake further postgraduate training (i.e. to PhD level) and/or employment within academic research and industrial, commercial, government, and environmental settings .

The course also places considerable emphasis on enhancing intellectual, critical analysis and thinking, problem solving, project and time management, report writing, teamwork, ethics, health and safety, intellectual property, information technology and career management.

The course content might be suitable for graduates from Biosciences, Agriculture, Food Science, Engineering and a wide range of related backgrounds. The key content areas of the programme build on the expertise of existing members of staff with minimal requirement of new staff in terms of expertise. The expertise includes but is not limited to teaching in the following key areas:

1. Theoretical and practical training in Agriculture and Food Manufacturing
2. Policies and markets including corporate social responsibility
3. Specialist training in agri-food robotics
4. Skills training in research and professional development relevant to Technical Management
5. Experience of planning, managing, undertaking (including practical work) and reporting of an agri-food related project work.

Both Lincoln Institute for Agri-food Technology and National Centre for Food Manufacturing have been in consultations with the Institute of Food Science & Technology (IFST) and the Institution for Agricultural Engineers (IAgrE) to seek accreditation for the prospective students.

3.2 Aims and Objectives

The overall aim of this MSc taught programme is to produce postgraduates who will be aligned with the needs of agri-food industries. Both these sectors have relevant industrial applications with a diverse range of career options that that might become accessible to graduates from the M.Sc. in agri-food technology. The core modules are expected to lay the common foundations of agri-food value chains. The research module in agriculture or food will deepen their learning through engagement with a substantial project linked to either to an industry or academia. Typical curriculum content will be research-engaged and, in particular, students will undertake a period of independent scientific research, in accordance with the University's "Student as Producer" ethos. The objectives of the programme will be:

- To offer an industrially relevant postgraduate programme that places the student's learning experience at the centre of every activity;
- To provide a broad knowledge and understanding of agri-food science and technologies that is informed by the research activities of the academic staff and the needs of industry;

- To produce postgraduates who can apply fundamental scientific principles and advanced techniques in order to conceive, realise, create and innovate solutions to industry problems;
- To equip students with an awareness of evolving technologies in the wider social, ethical, sustainable and economic context;
- To give students the opportunity to develop their intellectual curiosity, their powers of creativity and innovation, and to reach their full potential in all aspects of University life;
- To provide opportunities for access and personal and professional development that will inspire a commitment to life-long learning;
- To produce postgraduates who are prepared for a career in their respective expertise.

3.3 Variations to Standard Regulations and Guidance

No variations to current University of Lincoln Regulations are required.

4. Programme Outcomes

Programme-level learning outcomes are identified below.

Refer to *Appendix I – Curriculum Map* for details of how outcomes are deployed across the programme.

4.1 Knowledge and Understanding

On successful completion of this programme a student will have knowledge and understanding of:

- 1 The current challenges faced by agri-food sector: the market, governmental policy frameworks, impact on business in the sector and be able to respond systematically with critical awareness.
- 2 The dynamic nature of inter-relationships between pre and post-harvest practices including those within incomplete and ambiguous situations or contexts.
- 3 The economic, environmental, biological and social factors affecting the food supply chain, and the interplay between these, to ensure resilience of the food system at a local-to-global level.
- 4 The drivers behind food choices and how these impact on the wider food systems and production.
- 5 The concepts relating to the development and application of robotics & information technologies in agriculture and food sectors.
- 6 The sustainable intensification approaches that developments in agri-food technology facilitate.

4.2 Subject Specific Intellectual Skills

On successful completion of this programme a student will be able to:

- 7 Review, synthesise and critically evaluate pre and post-harvest research literature showing insight and understanding of alternative points of view.
- 8 Make informed judgements about key challenges in agri-food sector via the use of primary literature to develop and design evolved and new strategies.
- 9 Understand, select and apply practical techniques used in agriculture and food research and practice.
- 10 Select appropriate and effective methodologies from learned experience and primary literature in order to be able to address current challenges in agri-food sector.
- 11 Understand the principles of food security and apply these to current local and global issues.

4.3 Subject Specific Practical Skills

On successful completion of this programme a student will be able to:

- 12 Work safely, autonomously and effectively in the farmland/pilot plant /analytical laboratory.

- 13 Undertake a suite of food/soil/water/pesticide analysis methods as appropriate.
- 14 Prepare scientific reports that present the research findings established during practical sessions.
- 15 Understand the principles of crop production and food preservation; and apply these principles in conducting the experimental studies.
- 16 Design experimental strategies to investigate hypotheses related to the development of modern techniques in relation to needs of agri-food sector.
- 17 Demonstrate originality in the design and planning of a research project in agriculture or food related topics that makes advances in the specific field.
- 18 Conduct a novel programme of research to produce primary data.

4.4 Transferable Skills and Attributes

On successful completion of this programme a student will be able to:

- 19 Adapt communication methods to convey complex material to academic and professional audiences to appropriate standards.
- 20 Use ICT resources and strategies to facilitate aims and achieve desired outcomes.
- 21 Independently assess their own strengths, limitations and performance (and those of others) which have an impact on the achievement of the aims and desired outcomes.
- 22 Demonstrate independent learning ability and initiative required for ongoing professional development.
- 23 In response to unpredictable situations, use self-direction to create, implement and monitor a plan to achieve own objectives.
- 24 Select, justify, use and adapt appropriate approaches, including those at the forefront of research, and identify possibilities for originality or creativity.
- 25 Work with others to achieve aims and desired outcomes for individual and/or group benefit.
- 26 Select and apply mathematical and statistical principles and models.

For details of each module contributing to the programme, please consult the module specification document.

5. Learning, Teaching and Assessment Strategies

5.1. Learning and Teaching Strategy

The syllabus aims to provide a critical understanding of the basic and more advanced applications of pre & post-harvest technologies from both theoretical and practical perspectives. The syllabus capitalises upon the research activities and interests of the academic staff in the College of Science (Brayford Pool) and National Centre for Food Manufacturing (NCFM, Holbeach) who have a range of expertise in agri-food related areas. Using these skills, the syllabus is designed to develop the analytical techniques and problem-solving skills relevant to postgraduate-level employment in agri-food sectors but also to provide access to transferable skills relevant to a great variety of professional careers.

The overarching strategy for learning and teaching at the University of Lincoln is that of Student as Producer. Students are encouraged to see themselves as producers of knowledge and collaborators in their learning experience. The teaching ethos covers the eight principles of student as producer; Discovery, Technology in Teaching, Space and spatiality, Assessment and Feedback, Research and Evaluation, Student Voice, Support for research, and Creating the future. These principles are embedded into the teaching curriculum.

The section below indicates how the programme embraces the philosophy of “Student as Producer”.

Discovery: Student as Producer

Problem, enquiry and research-based learning

Throughout the course students will be encouraged to address scenarios relevant to agri-food utilising research skills developed through the programme. Problem solving and strategy development as individuals and in groups will contribute to assessment in a number of modules, producing a combination of outputs including poster presentations, oral presentations, written work and viva voce. Module staff will provide guidance and support on these varied response styles and additional support is available in the library and maths/statistics support centre. One component of the whole course that meshes across modules is the Independent Research Project, which might be introduced at an early stage of the year. This is important especially in agriculture related projects to plan & design their experiments on seasonal crops. This is expected to allow the students to interact with an individual academic supervisor or team of supervisors who aim to guide them through the development of their own project. Also, parts of other modules are expected to guide preparation for the final project, through training in analysis of either primary or secondary data and in the practical techniques applicable to a range of microbiological applications.

Technology in Teaching: Digital Scholarship

Staff will use the Virtual Learning Environment (blackboard) to provide access to lecture notes, discussion boards, weblinks, video clips, reading lists and indicative electronic resources which will enhance the students' experience. Whilst it is difficult to provide some electronic resources, such as apps, uniformly across all technological platforms, (e.g. iOS vs Android) where possible this will be used to supplement other materials, whilst not relying on any of these technology specific resources for any component of assessment. All staff will utilise blackboard for electronic submission of work.

Space and spatiality: Learning Landscapes in HE

Laboratory space is critical to the teaching of land and laboratory based science disciplines such as agriculture and Food Technology. The Riseholme Park & NCFM has several large well-equipped multi-functional teaching laboratories for practical sessions and specialist analytical facilities at Joseph Banks Laboratories. A dedicated soil, water and pesticide analysis facilities are located at the Riseholme Park along with the agri-robotics for practical work on the programme. A state-of-art pilot plant along with food quality and sensory analysis facilities are located at the NCFM building in Holbeach.

Student Voice: Diversity, Difference and Dissensus

The students will have a number of mechanisms by which they can make their views heard, firstly by direct contact with the programme leaders or head of school. Direct feedback to module delivery staff and course co-ordinators might be facilitated by questionnaires and feedback surveys at relevant stages of the programme throughout the year. The diversity of the student population within the cohort will be limited due to intake numbers but where possible diversity will be encouraged in respect to gender and ethnicity. Students will be encouraged to interact not only with the course and their immediate contacts but also with the rest of the school and university as a whole to give them a broader perspective on other points of view and a greater say in their education. This will include representation on student committees. Outreach to the community will also be supported with assistance and guidance towards these goals provided if sought by the students.

Support for research-based teaching and learning through expert engagement with information resources

All students have a library induction at the start of the programme. The subject librarian (Julie Smith) has access to several of the blackboard sites including the award sites to facilitate communication with students. Library workshops and updates are posted on these sites and students are encouraged by staff to engage with workshops in the library. Some lecturing staff might also provide subject specific information resources.

Creating the future: employability, enterprise, postgraduate, beyond employability

The M.Sc. agri-food technology is primarily aimed at students who wish to advance their skills, knowledge and expertise to undertake technical and production management roles in the globally important agri-food sectors. Whilst the course focuses on supporting students to become graduates with superior analytical skills and technical ability for utilisation in this sector, provision has also been made to incorporate transferable skills that would be applicable to any further career. Students are expected to undertake a research project either in industry or academia. This project work incorporate a number of sessions devoted to gain and apply transferable skills in real-life setting in order to maximise students' employability across a breadth of agri-food professions.

Assessment and feedback:

Both assessment and assessment feedback are aimed to underpin student learning and has been an integral part of teaching and learning strategies of all modules. It has been seen as one of the driving forces behind student learning. The assessments that are chosen to offer students and the ways in which module coordinators provide feedback have a significant impact on the way lecturers and students communicate core values of learning. These are crucial communication tools for module coordinators and students, and are good indicators of how well the learner is doing in HE.

Research and Evaluation:

Research-engaged teaching is not new, but is grounded in the intellectual history and tradition of the modern university. Through research engaged teaching and learning initiative is an attempt to restate the purpose of higher education by seeking to reconnect the core activities of universities, research and teaching, in a way that consolidates and substantiates the values of academic life. The independent research project is especially designed to achieve this objective.

5.2. Assessment Strategy

Assessment throughout the programme typically be via a series of coursework exercises which might vary considerably in the style of exercise in order to develop and test a broad range of skills disseminated through the curriculum. These exercises will include laboratory exercises and reports, problem based learning exercises, literature reviews, poster and oral presentations, the production of short videos, project reports and proposal preparation. Elements of some of these assessments might be both individual and group based whilst others might be solely based on individual work. Some modules will also assess the core essential knowledge and understanding through examinations which will challenge the students to demonstrate analytical skills and an ability to evaluate evidence provided.

Assessment through coursework is designed in order to fully explore the acquired knowledge and skills imparted through the programme rather than through individual modules. By utilising mostly coursework, there is an increased advantage for the student to convey their understanding of the programme as a whole and to display evidence of synthesis of knowledge and originality. Assessments typically be marked on a continuous scale with guideline marking criteria provided to the students for each piece of coursework set. Where possible, these marking criteria might be maintained across modules such that similar coursework activities follow the same marking criteria.

Assessments will have formative elements as well as summative elements and feedback will be provided in a timely manner in order that the students can respond to constructive feedback. Assessment criteria, deadlines and any other exercise specific details will be made clear to the student body at the beginning of each module or in the case of the Research Project, a dedicated session prior to commencement of the project.

Assessment tasks provide:

1. A means of judging the performance of the student in achieving the learning outcomes of each module.
2. Feedback to the student on performance.

The assessment of each module is monitored by the course team to ensure the following:

1. Appropriate and consistent performance criteria supported by Master's programme marking schemes.
2. Reasonable time required for the assessment task.

3. Reliable and valid assessment marking through internal moderation.

6. Programme Structure

The total number of credit points required for the achievement of Postgraduate Certificate (PG Cert) is 60.

The total number of credit points required for the achievement of Postgraduate Diploma (PG Dip) is 120.

The total number of credit points required for the achievement of Master of Science (MSc) is 180.

Masters

Title	Credit Rating	Core / Optional
Introduction to Agri-food Systems 2018-19	15	Core
Advanced Crop Science 2018-19	15	Core
Commercial and Operational Management 2018-19	15	Core
Supply Chain and Agile Management 2018-19	15	Core
Agri-Robotics 2018-19	15	Core
Food Safety & Technical Management 2018-19	15	Core
Advanced Food Manufacturing 2018-19	15	Core
New Product & Process Development 2018-19	15	Core
Independent Agri-food Research Project 2018-19	60	Core

Appendix I - Curriculum Map

This table indicates which modules assume responsibility for delivering and ordering particular programme learning outcomes.

Key: Delivered and Assessed Delivered Assessed

Masters

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Advanced Crop Science 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Advanced Food Manufacturing 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Agri-Robotics 2018-19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial and Operational Management 2018-19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Safety & Technical Management 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Independent Agri-food Research Project 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Introduction to Agri-food Systems 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
New Product & Process Development 2018-19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Supply Chain and Agile Management 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22	PO23	PO24
Advanced Crop Science 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Advanced Food Manufacturing 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Agri-Robotics 2018-19	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial and Operational Management 2018-19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Food Safety & Technical Management 2018-19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Independent Agri-food Research Project 2018-19		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Introduction to Agri-food Systems 2018-19	✓	✓	✓				✓	✓		✓	✓	✓
New Product & Process Development 2018-19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Supply Chain and Agile Management 2018-19		✓					✓	✓	✓	✓	✓	✓

	PO25	PO26
Advanced Crop Science 2018-19	✓	✓
Advanced Food Manufacturing 2018-19	✓	✓
Agri-Robotics 2018-19	✓	✓
Commercial and Operational Management 2018-19	✓	
Food Safety & Technical Management 2018-19	✓	✓
Independent Agri-food Research Project 2018-19	✓	✓
Introduction to Agri-food Systems 2018-19	✓	✓
New Product & Process Development 2018-19	✓	✓
Supply Chain and Agile Management 2018-19	✓	

Appendix II - Assessment Map

This table indicates the spread of assessment activity across the programme. Percentages indicate assessment weighting.

Masters

	01	02	03	04	05	06	07	08	09	10	11	12
Advanced Crop Science 2018-19												25
Advanced Food Manufacturing 2018-19												
Agri-Robotics 2018-19												
Commercial and Operational Management 2018-19												
Food Safety & Technical Management 2018-19												
Independent Agri-food Research Project 2018-19												
Introduction to Agri-food Systems 2018-19					25						25	
New Product & Process Development 2018-19												
Supply Chain and Agile Management 2018-19											50	
	13	14	15	16	17	18	19	20	21	22	23	24
Advanced Crop Science 2018-19												
Advanced Food Manufacturing 2018-19							50					50
Agri-Robotics 2018-19												
Commercial and Operational Management 2018-19												
Food Safety & Technical Management 2018-19												
Independent Agri-food Research Project 2018-19												

Introduction to Agri-food Systems 2018-19													
New Product & Process Development 2018-19												40	
Supply Chain and Agile Management 2018-19													
	25	26	27	28	29	30	31	32	33	34	35	36	
Advanced Crop Science 2018-19													
Advanced Food Manufacturing 2018-19													
Agri-Robotics 2018-19				100									
Commercial and Operational Management 2018-19				50									
Food Safety & Technical Management 2018-19			50										
Independent Agri-food Research Project 2018-19													
Introduction to Agri-food Systems 2018-19													
New Product & Process Development 2018-19			60										
Supply Chain and Agile Management 2018-19													
	37	38	39	40	41	42	43	44	45	46	47	48	
Advanced Crop Science 2018-19													
Advanced Food Manufacturing 2018-19													
Agri-Robotics 2018-19													
Commercial and Operational Management 2018-19													
Food Safety & Technical Management 2018-19													
Independent Agri-food Research Project 2018-19													
Introduction to Agri-food Systems 2018-19													

Appendix III - Benchmark Analysis

This table maps programme learning outcomes to relevant QAA subject benchmark statements or PSRB guidelines.

Knowledge and Understanding

	AHFFCS01	AHFFCS02	AHFFCS03	AHFFCS04	AHFFCS05	AHFFCS06	AHFFCS07	AHFFCS08	AHFFCS09
PO1	✓			✓	✓		✓	✓	✓
PO2	✓		✓	✓	✓		✓	✓	✓
PO3	✓			✓	✓		✓		✓
PO4	✓			✓	✓			✓	✓
PO5		✓	✓	✓	✓			✓	
PO6	✓	✓	✓		✓	✓		✓	✓

	AHFFCS10	AHFFCS11	AHFFCS12	AHFFCS13	AHFFCS14	AHFFCS15	AHFFCS16	AHFFCS17	AHFFCS18
PO1	✓	✓	✓	✓	✓	✓	✓		✓
PO2	✓	✓	✓	✓	✓	✓	✓		✓
PO3	✓	✓	✓	✓	✓	✓	✓	✓	✓
PO4	✓		✓		✓	✓			
PO5	✓			✓			✓		
PO6	✓	✓	✓	✓	✓		✓		✓

	AHFFCS19	AHFFCS20	AHFFCS21	AHFFCS22	AHFFCS23	AHFFCS24	AHFFCS25	AHFFCS26	AHFFCS27
PO1						✓	✓	✓	
PO2						✓	✓		
PO3	✓					✓	✓	✓	
PO4	✓					✓	✓	✓	✓
PO5									
PO6		✓				✓			

	AHFFCS28	AHFFCS29	AHFFCS30	AHFFCS31	AHFFCS32	AHFFCS33	AHFFCS34	AHFFCS35	AHFFCS36
PO1	✓			✓	✓			✓	

PO2	✓	✓						✓	✓
PO3									
PO4	✓			✓					
PO5					✓			✓	
PO6	✓			✓	✓			✓	

	AHFFCS37	AHFFCS38	AHFFCS39	AHFFCS40	AHFFCS41	AHFFCS42	AHFFCS43	AHFFCS44	AHFFCS45
PO1	✓		✓		✓		✓		✓
PO2	✓	✓			✓	✓			✓
PO3		✓			✓	✓	✓		
PO4		✓			✓	✓			
PO5			✓		✓				
PO6			✓		✓			✓	

	AHFFCS46	AHFFCS47	AHFFCS48	AHFFCS49	AHFFCS50	AHFFCS51	AHFFCS52	AHFFCS53	AHFFCS54
PO1						✓	✓	✓	
PO2					✓				
PO3					✓	✓			
PO4					✓	✓		✓	
PO5									
PO6									

	AHFFCS55	AHFFCS56	AHFFCS57	AHFFCS58	AHFFCS59	AHFFCS60	AHFFCS61	AHFFCS62	AHFFCS63
PO1							✓	✓	
PO2									
PO3							✓		
PO4									
PO5			✓						
PO6						✓	✓	✓	

	AHFFCS64	AHFFCS65	AHFFCS66	AHFFCS67	AHFFCS68	AHFFCS69	AHFFCS70	AHFFCS71	AHFFCS72
PO1			✓						
PO2			✓						

PO3						✓			
PO4			✓	✓	✓				
PO5									
PO6			✓			✓			

	AHFFCS73	AHFFCS74	AHFFCS75	AHFFCS76	AHFFCS77	AHFFCS78
PO1						✓
PO2						
PO3						✓
PO4						✓
PO5						
PO6						

Subject Specific Intellectual Skills

	AHFFCS01	AHFFCS02	AHFFCS03	AHFFCS04	AHFFCS05	AHFFCS06	AHFFCS07	AHFFCS08	AHFFCS09
PO7	✓	✓			✓			✓	
PO8	✓				✓			✓	
PO9		✓							
PO10	✓				✓				
PO11	✓		✓						

	AHFFCS10	AHFFCS11	AHFFCS12	AHFFCS13	AHFFCS14	AHFFCS15	AHFFCS16	AHFFCS17	AHFFCS18
PO7	✓	✓		✓		✓	✓		
PO8		✓		✓			✓		
PO9		✓		✓		✓	✓		
PO10		✓		✓		✓	✓		
PO11		✓	✓	✓			✓		

	AHFFCS19	AHFFCS20	AHFFCS21	AHFFCS22	AHFFCS23	AHFFCS24	AHFFCS25	AHFFCS26	AHFFCS27
PO7									

PO8									
PO9									✓
PO10									✓
PO11		✓							

	AHFFCS28	AHFFCS29	AHFFCS30	AHFFCS31	AHFFCS32	AHFFCS33	AHFFCS34	AHFFCS35	AHFFCS36
PO7	✓	✓		✓	✓			✓	
PO8				✓	✓				
PO9		✓	✓		✓				
PO10					✓				
PO11	✓							✓	

	AHFFCS37	AHFFCS38	AHFFCS39	AHFFCS40	AHFFCS41	AHFFCS42	AHFFCS43	AHFFCS44	AHFFCS45
PO7		✓	✓						
PO8			✓			✓			
PO9				✓	✓	✓			
PO10	✓								✓
PO11		✓	✓				✓		

	AHFFCS46	AHFFCS47	AHFFCS48	AHFFCS49	AHFFCS50	AHFFCS51	AHFFCS52	AHFFCS53	AHFFCS54
PO7						✓	✓	✓	
PO8							✓	✓	
PO9									✓
PO10									✓
PO11	✓				✓	✓	✓	✓	

	AHFFCS55	AHFFCS56	AHFFCS57	AHFFCS58	AHFFCS59	AHFFCS60	AHFFCS61	AHFFCS62	AHFFCS63
PO7		✓	✓		✓		✓		✓
PO8		✓	✓		✓	✓	✓		✓
PO9	✓							✓	
PO10	✓		✓					✓	
PO11					✓	✓	✓		✓

	AHFFCS64	AHFFCS65	AHFFCS66	AHFFCS67	AHFFCS68	AHFFCS69	AHFFCS70	AHFFCS71	AHFFCS72
PO7		✓							
PO8									
PO9				✓					
PO10									
PO11		✓							

	AHFFCS73	AHFFCS74	AHFFCS75	AHFFCS76	AHFFCS77	AHFFCS78
PO7						
PO8					✓	
PO9						
PO10						
PO11					✓	

Subject Specific Practical Skills

	AHFFCS01	AHFFCS02	AHFFCS03	AHFFCS04	AHFFCS05	AHFFCS06	AHFFCS07	AHFFCS08	AHFFCS09
PO12		✓	✓	✓	✓		✓		
PO13		✓	✓	✓	✓		✓		
PO14		✓	✓	✓	✓		✓		
PO15		✓	✓	✓	✓		✓		
PO16		✓	✓	✓	✓		✓		
PO17		✓	✓	✓	✓		✓		
PO18		✓	✓	✓	✓		✓		

	AHFFCS10	AHFFCS11	AHFFCS12	AHFFCS13	AHFFCS14	AHFFCS15	AHFFCS16	AHFFCS17	AHFFCS18
PO12				✓	✓				
PO13				✓					
PO14				✓					
PO15				✓					
PO16				✓	✓				

PO17				✓					
PO18				✓	✓				

	AHFFCS19	AHFFCS20	AHFFCS21	AHFFCS22	AHFFCS23	AHFFCS24	AHFFCS25	AHFFCS26	AHFFCS27
PO12	✓								
PO13	✓								
PO14	✓								
PO15	✓								
PO16	✓								
PO17	✓								
PO18	✓								

	AHFFCS28	AHFFCS29	AHFFCS30	AHFFCS31	AHFFCS32	AHFFCS33	AHFFCS34	AHFFCS35	AHFFCS36
PO12	✓			✓	✓		✓		
PO13	✓			✓	✓		✓		
PO14	✓			✓	✓		✓		
PO15	✓			✓	✓		✓		
PO16	✓			✓	✓		✓		
PO17	✓			✓	✓		✓		
PO18	✓			✓	✓		✓		

	AHFFCS37	AHFFCS38	AHFFCS39	AHFFCS40	AHFFCS41	AHFFCS42	AHFFCS43	AHFFCS44	AHFFCS45
PO12				✓	✓				
PO13				✓	✓				
PO14				✓	✓				
PO15				✓	✓				
PO16				✓	✓				
PO17				✓	✓				
PO18				✓	✓				

	AHFFCS46	AHFFCS47	AHFFCS48	AHFFCS49	AHFFCS50	AHFFCS51	AHFFCS52	AHFFCS53	AHFFCS54
PO12									✓
PO13									✓

PO14									✓
PO15									✓
PO16									✓
PO17									✓
PO18									✓

	AHFFCS55	AHFFCS56	AHFFCS57	AHFFCS58	AHFFCS59	AHFFCS60	AHFFCS61	AHFFCS62	AHFFCS63
PO12	✓	✓	✓						
PO13	✓	✓	✓						
PO14	✓	✓	✓						
PO15	✓	✓	✓						
PO16	✓	✓	✓						
PO17	✓	✓	✓						
PO18	✓	✓	✓						

	AHFFCS64	AHFFCS65	AHFFCS66	AHFFCS67	AHFFCS68	AHFFCS69	AHFFCS70	AHFFCS71	AHFFCS72
PO12			✓	✓	✓			✓	
PO13			✓	✓	✓			✓	
PO14			✓	✓	✓			✓	
PO15			✓	✓	✓			✓	
PO16			✓	✓	✓			✓	
PO17			✓	✓	✓			✓	
PO18			✓	✓	✓			✓	

	AHFFCS73	AHFFCS74	AHFFCS75	AHFFCS76	AHFFCS77	AHFFCS78
PO12						✓
PO13						✓
PO14						✓
PO15						✓
PO16						✓
PO17						✓
PO18						✓

Transferable Skills and Attributes

	AHFFCS01	AHFFCS02	AHFFCS03	AHFFCS04	AHFFCS05	AHFFCS06	AHFFCS07	AHFFCS08	AHFFCS09
PO19	✓			✓	✓	✓	✓		
PO20		✓	✓		✓				
PO21	✓					✓			
PO22	✓			✓			✓		
PO23	✓	✓							
PO24	✓	✓		✓			✓		
PO25						✓			
PO26		✓	✓		✓				

	AHFFCS10	AHFFCS11	AHFFCS12	AHFFCS13	AHFFCS14	AHFFCS15	AHFFCS16	AHFFCS17	AHFFCS18
PO19	✓	✓			✓	✓	✓		
PO20									
PO21									
PO22									
PO23									
PO24		✓		✓	✓	✓		✓	✓
PO25									
PO26		✓			✓	✓			

	AHFFCS19	AHFFCS20	AHFFCS21	AHFFCS22	AHFFCS23	AHFFCS24	AHFFCS25	AHFFCS26	AHFFCS27
PO19	✓					✓	✓	✓	✓
PO20									
PO21									
PO22									
PO23									
PO24	✓					✓	✓	✓	✓
PO25									
PO26	✓								

	AHFFCS28	AHFFCS29	AHFFCS30	AHFFCS31	AHFFCS32	AHFFCS33	AHFFCS34	AHFFCS35	AHFFCS36
PO19	✓			✓				✓	
PO20	✓		✓		✓				
PO21	✓					✓	✓		
PO22							✓		
PO23	✓								
PO24	✓	✓						✓	✓
PO25				✓		✓			
PO26		✓	✓		✓				

	AHFFCS37	AHFFCS38	AHFFCS39	AHFFCS40	AHFFCS41	AHFFCS42	AHFFCS43	AHFFCS44	AHFFCS45
PO19		✓				✓			✓
PO20									
PO21									
PO22									
PO23									
PO24	✓	✓	✓	✓	✓	✓	✓		✓
PO25									
PO26									

	AHFFCS46	AHFFCS47	AHFFCS48	AHFFCS49	AHFFCS50	AHFFCS51	AHFFCS52	AHFFCS53	AHFFCS54
PO19						✓	✓	✓	
PO20									
PO21									
PO22								✓	
PO23									
PO24					✓			✓	✓
PO25									
PO26									✓

	AHFFCS55	AHFFCS56	AHFFCS57	AHFFCS58	AHFFCS59	AHFFCS60	AHFFCS61	AHFFCS62	AHFFCS63
PO19		✓					✓		✓
PO20	✓		✓						

PO21				✓	✓				
PO22					✓	✓			✓
PO23						✓			
PO24		✓						✓	
PO25		✓		✓	✓				✓
PO26	✓		✓						

	AHFFCS64	AHFFCS65	AHFFCS66	AHFFCS67	AHFFCS68	AHFFCS69	AHFFCS70	AHFFCS71	AHFFCS72
PO19	✓					✓			
PO20									
PO21									
PO22	✓		✓						
PO23									
PO24		✓		✓	✓			✓	
PO25									
PO26					✓				

	AHFFCS73	AHFFCS74	AHFFCS75	AHFFCS76	AHFFCS77	AHFFCS78
PO19						✓
PO20						
PO21						
PO22						
PO23						
PO24				✓	✓	✓
PO25						
PO26						✓

Appendix IV: Benchmark Benchmark Statement(s)

AHFFCS01 - *Intellectual skill, Recall knowledge based on the directly taught programme. Demonstrate some understanding of subject specific theories, paradigms, concepts and principles. Demonstrate ability to define and solve routine problems ...*

AHFFCS02 - *Practical skills. Plan, conduct and present an independent investigation with significant guidance. Relate investigations to some prior work and reference it appropriately. Use appropriate laboratory and field equipment safely ...*

AHFFCS03 - *Numeracy skills. Select an appropriate sampling procedure. Recognise when information is incomplete. Appreciate risk. Process and interpret data. Solve basic numerical problems using appropriate techniques*

AHFFCS04 - *Communication skills. Communicate to a variety of audiences in written, graphical and verbal forms. Make contributions to group discussions. Listen and respond to others*

AHFFCS05 - *ICT skills. Use the internet for communication and information retrieval. Handle computer-based information with guidance, using appropriate techniques and software*

AHFFCS06 - *Interpersonal and teamwork skills. Make some contribution to teamwork and goals. Recognise and respect the views of others. Reflect on team performance*

AHFFCS07 - *Self-management and professional development skills. Recognise the existence of moral and ethical issues associated with the subject. Appreciate the need for professional codes of conduct. Accept some responsibility for their own learning ...*

AHFFCS08 - *Graduates will have some familiarity with the science and management of sustainable production systems which comprise the broad agricultural or horticultural industries within the socio-economic and environmental contexts required by society...*

AHFFCS09 - *Graduates will have some familiarity with the social, economic, legal, scientific and technological principles underlying the business management of farm or horticultural enterprises. They will be able to ...*

AHFFCS10 - *Graduates will be able to select and apply a limited range of concepts, theories and methods drawn from the constituent disciplines of their degree programme to agricultural or horticultural enterprises. They will be able to ...*

AHFFCS11 - *In addition to possessing the knowledge, understanding and expertise described on the following pages, graduates will be familiar with one or more of the following subdivisions of applied science. Applied plant science. Applied animal science ...*

AHFFCS12 - *Graduates will have some familiarity and awareness of ethical issues related to agricultural practice, and. the physical and chemical processes of the biosphere. the biochemical processes of life ...*

AHFFCS13 - *Graduates will. Have achieved a level of specialist knowledge and understanding, allowing them to work adaptably to apply their discipline within the broad agricultural industry or a cognate field of activity ...*

AHFFCS14 - Graduates will have some familiarity with the key scientific disciplines relevant to food. They will be able to. Demonstrate some understanding of the chemistry underpinning molecular interactions occurring in foods and food production ...

AHFFCS15 - Graduates will be able to assist in the extension of knowledge and understanding of food through a scientific approach. They will be able to ...

AHFFCS16 - Graduates will be able to assist in the application and communication of knowledge of food to meet the needs of society, industry and the consumer for sustainable food quality, safety and security of supply. They will be able to ...

AHFFCS17 - Graduates will have some familiarity with the physical, social, economic and cultural aspects of the rural environment. They will be able to. Describe the physical characteristics of the rural environment and the factors limiting its development ...

AHFFCS18 - Graduates will have some familiarity with the issues of sustainable development, conservation of biodiversity and landscapes, and environmental protection. They will be able to ...

AHFFCS19 - Graduates will be familiar with an integrated and holistic view of rural management and will be able to select and apply a limited range of quantitative and qualitative analytical methods. They will be able to ...

AHFFCS20 - Graduates will have some familiarity with the main scientific and socioeconomic principles underlying forestry. They will be able to. Identify the main physical and biological processes that shape the natural world ...

AHFFCS21 - Graduates will understand the structure and behaviour of forest ecosystems. They will be able to. Describe the distribution and main features of the world's forests. Describe the main physical and biological components of forest environments ...

AHFFCS22 - Graduates will understand the main functions and impacts of forests. They will be able to. Describe some of the multiple benefits that forests provide. Identify the main effects of forestry on society and the environment ...

AHFFCS23 - Graduates will understand the meaning and some of the practices of sustainable forest management. They will be able to. Define sustainability in a forestry context. Identify the main components of forest planning ...

AHFFCS24 - Graduates will have some familiarity with the social, individual and environmental contexts of consumer behaviour. They will be able to. Describe a limited range of social and individual factors in the formation of consumer knowledge ...

AHFFCS25 - Graduates will have some familiarity with the social, individual and environmental contexts of consumer behaviour. They will be able to. Describe a limited range of social and individual factors in the formation of consumer knowledge ...

AHFFCS26 - Graduates will have some familiarity with the social, economic, legal, ethical, scientific and technological principles underlying the production of, and access to, consumer goods and services. They will be able to ...

AHFFCS27 - Graduates will be able to select and apply to consumer issues a limited range of concepts, theories and methods drawn from the constituent disciplines of their degree programme. They will be able to ...

AHFFCS28 - Intellectual skill. Recall knowledge based on the directly taught programme with some evidence of wider enquiry ...

AHFFCS29 - Practical skills. Plan, conduct and present an independent investigation with some reliance on guidance. Relate investigations to prior work and reference it appropriately; recognise when information is incomplete ...

AHFFCS30 - Numeracy skills. Define a suitable and effective sampling procedure. Recognise incomplete sets of information and propose appropriate solutions. Understand risk. Process and interpret data effectively ...

AHFFCS31 - Communication skills. Communicate effectively to audiences in written, graphical and verbal forms. Contribute coherently to group discussions. Listen attentively and respond to others

AHFFCS32 - ICT skills. Use the internet critically for communication and information retrieval. Handle computer-based information using appropriate techniques and software

AHFFCS33 - Interpersonal and teamwork skills. Organise a team effectively. Contribute effectively to teamwork. Identify individual and collective goals. Recognise and respect the views of others. Evaluate performance as an individual and team member

AHFFCS34 - Self-management and professional development skills. Recognise and be able to comment on the moral and ethical issues associated with the subject. Understand and be able to apply professional codes of conduct ...

AHFFCS35 - Graduates will have a well-grounded understanding of the science and management of sustainable production systems which comprise the broad agricultural or horticultural industries within the socioeconomic and environmental contexts required by...

AHFFCS36 - Graduates will have a well-grounded understanding of the social, economic, legal, scientific and technological principles underlying the business management of farm or horticultural enterprises. They will be able to ...

AHFFCS37 - Graduates will be able to select, apply and evaluate a wide range of concepts, theories and methods drawn from the constituent disciplines of their degree programme to agricultural or horticultural enterprises. They will be able to ...

AHFFCS38 - Graduates will have a well-grounded understanding of ethical issues related to the use and exploitation of biological entities, and. The physical and chemical processes of the biosphere. The biochemical processes of life ...

AHFFCS39 - With extended knowledge in some areas. Graduates will. Have achieved a level of specialist knowledge and understanding, allowing them to work as subject specialists within the broad agricultural industry or a cognate field of activity ...

AHFFCS40 - Graduates will have a well-grounded understanding of the key scientific disciplines relevant to food. They will be able to ...

AHFFCS41 - Graduates will have a well-grounded ability to extend knowledge and understanding of food through a scientific approach. They will be able to ...

AHFFCS42 - Graduates will have a well-grounded ability to apply and communicate knowledge of food to meet the needs of society, industry and the consumer for sustainable food quality, safety and security of supply. They will be able to ...

AHFFCS43 - Graduates will have a well-grounded understanding of the physical, social, economic and cultural aspects of the rural environment. They will be able to ...

AHFFCS44 - Graduates will have a well-grounded understanding of the issues of sustainable development, conservation of biodiversity and landscapes, and environmental protection. They will be able to ...

AHFFCS45 - Graduates will understand the concept of an integrated and holistic view of rural management and will be able to select, apply and evaluate a wide range of quantitative and qualitative analytical methods. They will be able to ...

AHFFCS46 - Graduates will have a well-grounded understanding of the scientific and socio-economic principles underlying forestry. They will be able to ...

AHFFCS47 - Graduates will have a well-grounded understanding of the structure and behaviour of forest ecosystems. They will be able to. Describe and explain the distribution and features of the world's forests ...

AHFFCS48 - Graduates will have a well-grounded understanding of the functions and impacts of forests. They will be able to. Explain the multiple benefits that forests provide, and evaluate the relative importance of these benefits in particular situations ...

AHFFCS49 - Graduates will have a well-grounded understanding of the meaning and practice of sustainable forest management. They will be able to. Explain the meaning of sustainability in forestry and evaluate the sustainability of some forestry practices ...

AHFFCS50 - Graduates will have a well-grounded understanding of the social, individual and environmental contexts of consumer behaviour. They will be able to ...

AHFFCS51 - Graduates will have a well-grounded understanding of the social, economic, legal, ethical, scientific and technological principles underlying the production of, and access to, consumer goods and services. They will be able to ...

AHFFCS52 - Graduates will be able to select, apply and evaluate to consumer issues a wide range of concepts, theories and methods drawn from the constituent disciplines of their degree programme. They will be able to ...

AHFFCS53 - Intellectual skill. Recall knowledge based well beyond the directly taught programme. Demonstrate thorough understanding of subject-specific theories, paradigms, concepts and principles

as well as in-depth understanding of more specialised areas ...

AHFFCS54 - *Practical skill. Suggest, plan, conduct and present an independent investigation with limited reliance on guidance. Relate investigations to prior work, be aware of recent research developments and reference it appropriately ...*

AHFFCS55 - *Numeracy skills. Define a suitable and efficient sampling procedure. Recognise incomplete sets of information and suggest solutions. Understand and quantify risk. Choose appropriate techniques to process data and interpret them effectively ...*

AHFFCS56 - *Communication skills. Communicate effectively and engagingly to a variety of audiences in written, graphical and verbal forms. Contribute constructively to group discussions. Listen to, evaluate and respond effectively to the views of others*

AHFFCS57 - *ICT skills. Use the internet critically and imaginatively for communication and information retrieval. Handle computer-based information confidently and competently using appropriate techniques and software*

AHFFCS58 - *Interpersonal and teamwork skills. Organise and motivate a team effectively. Contribute effectively and enthusiastically to teamwork. Identify individual and collective goals and responsibilities. Recognise and respect the views of others ...*

AHFFCS59 - *Self-management and professional development skills. Recognise, explain and evaluate the moral and ethical issues associated with the subject. Understand and be able to apply professional codes of conduct ...*

AHFFCS60 - *Graduates will have a comprehensive understanding of the biology and management of sustainable production systems which comprise the broad agricultural or horticultural industries within the socioeconomic and environmental contexts required by...*

AHFFCS61 - *Graduates will have a well-grounded understanding of the social, economic, legal, scientific and technological principles underlying the business management of farm or horticultural enterprises...*

AHFFCS62 - *Graduates will be able to select, apply and evaluate a wide range of concepts, theories and methods drawn from the constituent disciplines of their degree programme to agricultural or horticultural enterprises...*

AHFFCS63 - *Graduates will be able to demonstrate mastery of transferable skills. Additionally, performance will be distinguished by an excellence in their knowledge of the literature and the creative application of the material. They will be able to ...*

AHFFCS64 - *Graduates will have a deep and comprehensive understanding of ethical issues related to the use and exploitation of biological entities, and. The physical and chemical processes of the biosphere. The biochemical processes of life ...*

AHFFCS65 - *With significantly extended knowledge in some areas. Graduates will ...*

AHFFCS66 - *Graduates will have a comprehensive understanding of the key scientific disciplines*

relevant to food. They will demonstrate an excellent knowledge of current scientific developments relevant to food. This will distinguish the manner in which they ...

AHFFCS67 - *Graduates will have a comprehensive ability to extend knowledge and understanding of food through a scientific approach...*

AHFFCS68 - *Graduates will have a comprehensive ability to apply and communicate knowledge of food to meet the needs of society, industry and the consumer for sustainable food quality, safety and security of supply...*

AHFFCS69 - *Graduates will have a comprehensive and deep understanding of the physical, social, economic and cultural aspects of the rural environment...*

AHFFCS70 - *Graduates will have a comprehensive understanding of the issues of sustainable development, conservation and environmental protection. They will demonstrate both excellent knowledge of theory and techniques and creative application of the material ...*

AHFFCS71 - *Graduates will have a comprehensive understanding of the integrated and holistic nature of rural management and will be able to select, apply and evaluate the full range of quantitative and qualitative analytical methods available...*

AHFFCS72 - *Graduates will have a comprehensive understanding of the scientific and socio-economic principles underlying forestry. They will demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis ...*

AHFFCS73 - *Graduates will have a comprehensive understanding of the structure and behaviour of forest ecosystems. They will demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis ...*

AHFFCS74 - *Graduates will have a comprehensive understanding of the functions and impacts of forests. They will demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis ...*

AHFFCS75 - *Graduates will have a comprehensive understanding of the meaning and practice of sustainable forest management. They will demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis ...*

AHFFCS76 - *Graduates will have a comprehensive understanding of the social, individual and environmental contexts of consumer behaviour. They will demonstrate both excellent knowledge of the literature and creative application of the material ...*

AHFFCS77 - *Graduates will have a deep and comprehensive understanding of the social, economic, legal, scientific, ethical and technological principles underlying the production and supply of, and access to, consumer goods and services...*

AHFFCS78 - *Graduates will be able to select, apply and evaluate to consumer issues a wide range of concepts, theories and methods drawn from the constituent disciplines of their degree programme...*