Royal Agricultural University Cirencester

PROGRAMME SPECIFICATION

MSc in Food Safety & Quality Management

NB
The information contained in this document is intended only as a guide to the programme. It does not constitute a legally binding document or contract between the individual and the Royal Agricultural University.

The information contained herein is correct at the time of going to print, but the University reserves the right to make changes to the structure of the programme, assessment methods, etc. at any time without prior notification. Any changes made however will be made known as soon as possible.

Philip Hudson - Programme Manager

1. Awarding institution	Royal Agricultural University (RAU)
2. Teaching institution	RAU
3. Final award title(s)	MSc in Food Safety & Quality Management
4. Academic level on Framework for Higher Education Qualifications (FHEQ)	Level 7
5. UCAS code(s)	
6. Relevant QAA Subject Benchmark Statement(s) and other reference points, e.g. FD qualification benchmark	QAA Framework for Higher Education Qualifications (FHEQ) (August 2008) QAA Master's degree characteristics (March 2010)
7. Details of accreditation by a professional/statutory body	N/A
8. Mode of study	1 year full-time or 2-5 years part-time
9. Language of study	English
10. Date of production/revision	August 2016

11. Educational aims of the programme

This Master's programme specifically addresses supply chain[1] food safety and quality[2] management but also in the wider context of food security. It has been designed to be equally relevant to UK and overseas graduates as well as those working in the agri-food industries who are seeking to ensure that the food we eat is as safe as it can be and of the quality demanded. The programme is also of relevance to public administrations that have regulatory oversight for food safety and responsibilities to the agri-food industries. The justification for this is summarised as follows:

- Recent incidents of major food safety breakdowns in both developed and developing nations that have impacted on livelihoods, business viability and food supply per. se., (Examples include the reported link between BSE in cattle and new variant CJD in humans, *E. coli* in salad leaves in the USA and meat globally, Sudan red dye in ready meals in the EU and dioxins in animal feed).

[1] Food Supply chains embrace wild capture (e.g. fisheries and game) and primary production through to food service and retail to consumers.

[2] Quality in the context of food embraces both the intrinsic quality of the product and any extrinsic qualities claimed as part of the process of production such as higher animal or human welfare, environment and religious beliefs to name a few.

- As a result of consumer protection legislation (such as the UK Food Safety Act 1990 and similar national legislation elsewhere), those at the consumer end of food supply are increasingly sensitised to their liabilities and have developed sophisticated systems of risk assessment, management and communication. These systems permeate along the whole supply chain and require professional and scientific management. As such, there is a constant demand for such professionals either as new entrants or through industry re-training.
- Consumers and advocacy groups are increasingly demanding to know more about how food is produced, processed and distributed and the industry needs professionals that understand consumer behaviour and can respond appropriately within the business and through external communications to interested parties.
- The observation that similar programmes offered in the UK:
    - Do not fully address the whole supply chain as defined in the EU General Food Law (2005) that includes agriculture and fisheries in the hygienic envelope.
    - Do not explore the link between public regulation, private food industry standards and food security nationally and globally
    - Do not link the science of food safety and quality management to consumer behaviour.
- Recent trends in the appointment of graduates in this sector emphasise the need for an understanding of, and empathy with, the concepts of sustainable food production and consumption linked to the wider drive for sustainable development, resource management, social and environmental responsibility.

This programme is underpinned by the principles of leadership, sustainability, and innovation in the context of food safety and quality management that are at the heart of the RAU's Mission Statement:

'*To be the centre of excellence for developing the leaders of tomorrow in sustainable development relating to the rural economy and [the] food chain, and to provide leadership regionally, nationally and internationally through its education, research and knowledge exchange activities'.*

In that future, decisions on resource allocation and management in the agri-food industries will need to:

- Deliver safe food as a given by ensuring that food safety risks are minimised along supply chains.
- Develop a better understanding of the 'sustainability concept' in order to optimise development within acceptable social, ethical and environmental frameworks which can contribute to views and perspectives of the quality of food supplied.

How does this fit with current thinking on the future of our food systems? As reported in the Foresight Report[3] (2011):

'The global food system will experience an unprecedented confluence of pressures over the next 40 years. On the demand side, global population size will increase from nearly seven billion today to eight billion by 2030, and

probably to over nine billion by 2050; many people are likely to be wealthier, creating demand for a more varied, high-quality diet requiring additional resources to produce. On the production side, competition for land, water and energy will intensify, while the effects of climate change will become increasingly apparent. The need to reduce greenhouse gas emissions and adapt to a changing climate will become imperative. Over this period globalisation will continue, exposing the food system to novel [biological] economic and political pressures'.

1. All of these pressures will challenge both local and global food security on the one hand and exert pressures on resource use for production, processing, distribution and purveying on the other. This programme explores the dual challenges of food security and sustainable food supply strategies from a global to local perspective through the eye glass of food safety and quality management. Achieving global access to safe food and ending hunger should be a basic human right but unfortunately food borne illness is universal. Furthermore, changing methods of food production and the globalisation of the food chain increase the risk that food borne contaminants will cause larger and more serious outbreaks, as well as providing opportunities for emerging pathogens due to modern processing and convenience foods.

2. Balancing future demand and supply sustainably – to ensure that food supplies are affordable. *For example business and supply chain strategies embracing resource use, the needs of different consumer groups and the impacts of operations*.

3. Managing the contribution of the food system to the mitigation of climate change. For example business and whole chain carbon footprints

Many governments are re-focussing their food and agriculture strategies around food safety and sustainable production and consumption and a number focus on sustainable agricultural methods, environmental protection and food security driven by the triple issues of climate change, increasing population and demand for food augmented by increasing purchasing power in developing countries, and diminishing natural resources. All were synthesized in Sir John Beddington's Future of Food and Farming report.

[3] Foresight. The Future of Food and Farming (2011) Final Project Report. The Government Office for Science, London. http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf

The main thrust of this programme embraces the implications of food safety and quality management against the backdrop of an increasingly globalised food industry that has become more reliant on industry/market driven private standards and independent certification to assure businesses and consumers that food is safe, is of the right technical quality and with any associated credence attributes.

Often key elements of government legislation are included in these standards, especially in relation to food hygiene, traceability, risk management and, in the case of agriculture, environment. Some standards go further to include product quality and credence in order to address the concerns and needs of specific consumer groups.

A plethora of national and a few international standards have become the norm for many sectors. There is an increasing recognition by leading international experts and influential food buyers for the need for higher levels of management skills and professionalism both within the manufacturing and production sector and also within service providers to the food industry such as certification bodies (CB's) and the audit staff they engage. For example, it is a pre-requisite for CB's to employ auditors with food industry related qualifications and agri-food sector technical experience. A similar situation exists within large corporations where technical, food safety and quality managers would benefit from the availability of targeted food safety and quality management skills training and education to improve their professionalism in preventing food safety incidents, costly recalls and a loss of consumer confidence.

At the same time public sector regulators (enforcement and accreditation) will benefit from better understanding of the challenges facing those in food manufacturing and farming who deal with food safety and quality certification management issues on a daily basis.

This programme will provide an appropriate pathway for food science, technology and agriculture graduates to become food safety and quality management professionals

Aims and Core Themes

Given this background, the aim of this programme is to provide the necessary training, education and industry experience to support those intending to become 'food industry safety and quality managers.'

The principal aims of the programme are to enable participants to:

1. ***Gain the specialised knowledge, understanding, skills and attitudes necessary to contribute effectively and ethically to strategic decision making, opinion forming and operational management for the development of safe and sustainable agri-food supply systems in both developed and developing regions.***

2. ***Develop advanced technical, managerial and behavioural skills to enable them to undertake and manage activities associated with***

developing, implementing and maintaining food safety and quality management systems for: Wild capture and primary production systems (plant, animal and aquaculture); Food processing and manufacturing; or, Food retailing and food service.

Students will gain a broader understanding of relevant issues through knowledge acquisition, intellectual enquiry, debate, and team/individual research. The programme will also provide a learning environment that encourages them to explore factors influencing sustainability while at the same time reflecting on their own actions and attitudes, and those of others. The following themes will be developed:

- ***The use of the Earth's resources for food production and consumption and the implications for human development.***
- ***The ecological basis for resource utilisation allied to wider environmental and landscape considerations of food supply chains***
- ***The role and function of institutional structures in relation to resource exploitation and the social, cultural and ethical considerations of food supply.***
- ***The development of food safety and quality risk assessment paradigms, models and tools to build capacity within food supply chains, businesses and institutions and in individuals.***

12. Intended Learning Outcomes

Learning outcomes describe what students should know and be able to do if they make full use of the opportunities for learning that the programme provides. By studying at the RAU, students will acquire knowledge and understanding of the context, core concepts and theories of the subject and develop key skills that they will be able to apply to both their academic studies and the wider world of work once they have graduated.

A. Knowledge and Understanding - outcomes are achieved mainly through lectures, workshops, seminars, tutorials and reading. Students are given directed learning tasks, and are encouraged to increase the depth of their knowledge and understanding through private study and completion of coursework.

Students will be able to:

A1 Demonstrate a conceptual knowledge and understanding of the principles and framework of food safety and quality management.

A2 Critically evaluate the application of principles of food production and supply in relation to resource use at the local, regional and national levels, consumer requirements and expectations and in relation to food safety.

A3 Critically evaluate the strengths and limitations of the methods and techniques used in assessing, managing and communicating food safety and quality risks along food supply chains in the face of increasing population, changing diets and food insecurity.

A4 Understand the attitudes and motivations of those stakeholders involved in policy formulation and management of food supply and resource management and describe how these attitudes may impact on food safety and quality as well as on sustainable development strategies.

B. Intellectual Skills – outcomes are mainly achieved through independent enquiry through formative assignments and through the research element of the M.Sc.

Students will be able to:

B1 Develop an independent enquiry, based on established research techniques, that critically evaluates and interprets advanced research and scholarship linked to food safety and quality management, and demonstrates conceptual understanding and originality that contributes to knowledge in the discipline.

B2 Interpret data and abstract meaning

B3 Critically analyse literature

B4 Identify and solve problems, dealing with complex issues systematically and creatively

B5 Demonstrate independence of thought, acting autonomously in planning and implementing tasks

B6 Develop skills of critical self-reflection, and make sound judgements and conclusions

B7 Demonstrate the skills necessary to plan, conduct and report original research

C. Practical / Professional Skills – outcomes are mainly achieved through case studies and through engagement with real industry challenges.

Students will be able to:

C1 Use internationally accepted tools for food safety (and quality) management, e.g. Hazard Analysis and Critical Control Point (HACCP), auditing of systems and the qualitative and quantitative risk-based approaches to managing food safety

C2 Critically evaluate the effectiveness of existing and evolving food safety and quality management systems and make recommendations for improvements.

C3 Design a plan to critically investigate a problem/issue/constraint and the generation of solutions to formulate and implement change to improve performance.

C4 Demonstrate the appropriate technical and professional skills necessary to determine economic, social and environmental aspects of food supply chains in order to advise change at the policy level, at the individual business level, and along discrete supply chains.

C5 Understand and interpret the importance of international, regional and national standards in regulatory processes and the role of public institutions (especially consumer protection and accreditation functions) in delivering safe, quality foods to consumers.

Assessment methods used to test the above outcomes will include written examinations and coursework such as case study analysis, report writing, essay writing, critical literature review, oral and poster presentations, assessed group and individual seminars, and the submission of two research papers written to the submission requirements of a specified scientific journal.

D. Transferable Skills - are incorporated within the case studies and team projects and related to relevant assessments as appropriate.

Students will be able to demonstrate:

D1 Communication skills - Communicate with a range of stakeholders in a variety of mediums (e.g. verbal, visual presentations, written documents, etc.).

D2 Interpersonal skills - Manage projects and assignments through the application of project management models, skills and techniques.

D3 Decision making skills - Demonstrate strategic decision making skills, especially in relation to reconciling the complex and (sometimes) unpredictable interactions between the economic, environmental and social dimensions of sustainable and safe food supply.

D4 Independent learning - required for continuing professional development

D5 Develop skills in IT to a high level

13. Programme structure and requirements

The structure of the programme conforms to the general RAU modular structure for postgraduate programmes with 60 credits constituting a taught Postgraduate Certificate; 120 credits constituting a Postgraduate Diploma; and the successful completion of the research phase (60 credits) leading to the award of Master of Science. The taught programme is divided into eight modules with 15 credits per module.

Postgraduate Certificate

A Postgraduate Certificate can be awarded for the successful completion of four modules (60 credits) offered on this programme.

Postgraduate Diploma

A Postgraduate Diploma can be awarded for the successful completion of six core modules listed below plus two further elective modules as specified (120 credits):

Core modules

- Food Chain
- Fundamentals of Food Science
- Systems for Food Safety Management
- The Politics and Policies of food assurance
- Sustainability and the Food industry
- New Product Development (NPD) in the Agri-Food Industry

Elective modules

- Poverty and Food Security
- Fisheries and Aquaculture Management
- Global Red Meat Chains
- Global White Meat Chains
- Global Dairy Chains
- Tourism and Development
- Sustainable Management of Soil and Water
- Integrated Organic Systems
- Any one other level 7 or 6 module subject to agreement by the Programme Manager and the relevant Module Leader, timetabling and availability to complete the Postgraduate Diploma.

Master of Science

A Master of Science can be awarded for the successful completion of 8 taught modules as specified above together with the Individual Research module (180 credits).

Individual Research

Students will be required to develop an enquiry linked to their specialist pathway. The key skills necessary to undertake this enquiry will be developed through exercises and activities linked to research methods workshops in which both social and applied statistical research would be covered. The individual research project is presented in the form of two scientific journal papers, a review paper followed by a research paper. These are linked by a research synopsis with the three parts making up the equivalent of a Master's dissertation.

Full Time Study

October entry

The taught programme starts in October of each year and is completed by early June.

The independent research study will be formally introduced during the taught programme in January and should be submitted in October of the year following entry onto the taught element.

January entry

The taught programme starts in January of each year. Students follow two terms of teaching, then complete their independent research study before returning in October to complete their final taught modules.

The independent research study will be formally introduced during the taught programme in January and should be submitted in October prior to completion of the final taught elements.

Month of entry	Year 1												Year 2		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Oct	T	T	T	T/D	T/D	T/D	T/D	T/D	T/D	D	D	D	#		
Jan				T/D	T/D	T/D	T/D	T/D	T/D	D	D	D	#/T	T	T

T = taught modules; D = independent research; # = submission of research project

A timetable indicating the day and location of all taught modules will be provided at the beginning of each session. Students are expected to attend these sessions unless they have made alternative arrangements with the Programme Manager and Module Leader.

Students will be expected to maintain close contact with their supervisors during the preparation and writing up of their research papers.

The maximum time period for completing the programme on a full-time basis is four years.

Part Time Study

The programme may be completed by part time study, normally over two years, up to a maximum of five years. Generally four of the core modules are completed over the first academic year, followed by the remaining modules and the independent research programme in the second year.

Student workload

All full-time academic programmes at the RAU are constructed using a selection of modules, each of which requires engagement with a variety of learning activities. Successful completion of module assessments will result in the award of credits, and students are required to achieve a total of 120 credits for each year of a full-time programme.

The credit system is used to ensure a balanced workload across each programme, with each credit point representing a notional learning time of 10 hours of student work. Thus a 15-credit module will require a notional input of 150 hours of work, and a complete academic year of 120 credits will require 1200 hours of work, or approximately 40 hours per week.

Within this total time, students can expect to participate in formal timetabled activities such as lectures, seminars, tutorials, practical's and visits for approximately one third of the total time; usually around 2 hours per week for a 15 credit module studied over 25 weeks of the year. Thus the majority of module activities, such as reading around the subject, preparing for tutorials and seminars, preparing for, and completing, module assessments and revision for, and sitting, examinations, will take place outside of these scheduled activities, but are an essential part of a student's learning journey.

Students attempting to short-cut their learning activities may find themselves experiencing difficulties as each module progresses, and as the level of assumed understanding increases. Thus it is vitally important that new students establish an effective routine for their studies as soon as possible. Accordingly maintaining a balanced workload from the start of the programme will help to avoid intense periods of activity, and ensure knowledge and understanding gradually develop throughout the year in readiness for any end-of-module examinations.

14. Student support services

The Programme Management Group includes the Programme Manager, staff responsible for individual modules, as well as the Dean of the School of Agriculture, Food and Environment (SAFE), and student representation. Contact details for the PMG are available on the FSQ course page on Gateway. Each student is allocated a personal tutor upon registration, to whom any academic and/or personal (if relevant) matters may be addressed.

Support facilities include (see Student Handbook for further details):

i. Induction programme for orientation.
ii. Student Handbook, Programme Specification and Module Handbooks.
iii. Library and study skill packages.
iv. Student e-mail and inter/intranet facilities.
v. Programme Manager and Personal Tutor.
vi. Personal access to lecturing staff.
vii. Access to disability support services.
viii. Student Liaison Officer
ix. International Support officer and English language tutors.
x. Student counselling services.
xi. Careers Service.

15. Criteria for admissions

Academic Qualifications

Applicants should normally hold a first or upper second class Honours degree in a relevant subject and have evidence of English reading, speaking and writing to a minimum of IELT 6.5 in each category. Suitable applied disciplines include agriculture, food and environmental science or business management while pure disciplines such as geography; sociology and economics are equally suitable.

Mature applicants with relevant experience such as working in the agriculture, fisheries and the food industry or for government departments or agencies, or with a high level of aptitude and motivation are welcomed.

16. Teaching, learning and assessment

This programme is inclusive of disabled people (e.g. hearing impaired, vision impaired, speech impaired, dyslexic and mobility impaired) with particular regard to teaching, learning and assessment, in accordance with Part 10: Inclusive Practice of the University's Teaching Quality Handbook and the Equality Act 2010. Students are encouraged to disclose any impairment to the Disability Officer so that the appropriate support can be provided. Students have the right to request that the nature of their impairment be treated as confidential.

Teaching Methods and Styles

Understanding, and being able to contribute to, the complex issues of managing food safety (and quality) in the context of sustainable development and resource management requires the harmonisation of the acquisition of knowledge, skills and attitudes. In order to manage this harmonisation, three modes of learning will permeate throughout the programme:

- ***Knowledge input*** *- [i.e. formal lectures and guided reading], this process involves the acquisition of data, factual information and concepts. Knowledge input also takes place in a less structured manner through discussions and seminars.*
- ***Discovery*** *- a process where the learner acts and notes the consequences of that action. It is essential that the action/feedback cycle is managed during this process, for example, through the management of case studies and seminar discussions as well as through the project management exercises.*
- ***Reflection*** *- involves the restructuring of knowledge input and discovery, making sense of them, conceptualising and generating theories, rules or hypotheses about what has happened, for example during case studies, discussions or students' individual research. This enables students to restructure their views of the world in the light of new experiences and information.*

This programme is delivered through a combination of lectures, small group tutorial workshops, visits and directed study. In addition, case studies, practical workshops, field studies, group projects and role play exercises enable theory to be put into practice and enables students to develop both independent and team skills.

As a result of greater student participation, there will be opportunities for students to actively acquire knowledge, develop skills and most importantly form a view or attitude towards the subject in question and food safety and quality *per se.* This will allow students to develop the necessary professional understanding, skills and attitudes required to address issues of food safety and sustainable development within the agri-food sector.

The forms of disseminating knowledge employed on the programme include

lectures (including those from guest speakers), seminars (group, individual-led, student-led), tutorials, literature-based research, computer assisted learning and practical instruction. The emphasis on further development of independent learning skills is a key cognitive attribute of Master's level study and so directed and private study constitute a major element of scholarship, and culminate in the research leading to review and research papers.

Research Project
After completion of an initial research workshop, a research proposal will be submitted for approval and allocation of supervisor(s). The research project is submitted in the format of two scientific journal papers; a review paper and a research paper. These are linked by a research synopsis

The review paper (approx. 6,000 words) is a comprehensive review of the literature on the chosen topic which concludes with a research question or hypothesis, or arrives at a model to be tested for the research project. This paper should be submitted by the end of the spring term. During the review process, further workshops are offered on a range of research methods.
On completion of the review, a research project is designed to test the hypothesis or to apply the model. The research element of the project is carried out over the following months and should be written up in the format of a research paper (approx. 6,000 words) and submitted by the end of the following March accompanied by a synopsis linking the two papers. Late submissions are subject to the normal penalties unless mitigating circumstances are claimed. It is recognised, however, that the research phase is difficult to accurately predict and may also compete with work commitments. In the event of an anticipated delay in submission, an application for mitigating circumstances must be made to the Dean of SAFE or his nominee.

Lectures
Lecturers are not intended to be seen as the fonts of all knowledge. The purpose of lectures is to interest students in a particular subject matter in order that they can research it further. At postgraduate level lectures often lend themselves to informality and debate, due to small group size. Where this is impractical there may be question times offered at various intervals.

Lectures are intended to:

- Stimulate interest in the subject matter.
- Give information.
- Offer a range of perspectives on a subject.
- Explain higher level concepts and theories.
- Show students how to deepen their knowledge.
- Provide an opportunity to listen to specialist guest lecturers.

Seminars and Tutorials
Seminars and tutorials are primarily interactive and provide an opportunity for students to inter-relate with each other in an academic context. They are an occasion for the exchange of ideas and information under the guidance of a lecturer/tutor. Individual or group preparation of a topic is usually required and performance may contribute to assessment.

Seminars and tutorials are intended to:

- Offer the chance for students to express their views.
- Allow academic interaction.
- Give students valuable practice in making presentations.
- Facilitate discussions.
- Encourage structured research.
- Share information and experience.
- Consolidate experience of group work.

Practical's
Practical's, field studies, visits and demonstrations allow students to experience concepts and principles in the field or laboratory, and to gain a wider perspective from outside the University. Students should be prepared to participate fully in such activities, including physical engagement.

Directed and private study
Students are expected to undertake private study as the important learning method within the programme. This will normally involve reading texts and learned journals to explore the breadth and depth of the syllabus, and familiarisation with web-based abstracts services. The preparation of tutorial/seminar work, coursework, case study submissions and major projects will involve in-depth knowledge of current theories in the field of international rural development. The use of the full range of resources (hard copy and electronic) provided by the University library is very important for the effective use of private study time. The academic and library staff provide advice and assistance on both finding and using relevant material.

17. Work-based learning

Not applicable.

18. Quality assurance procedures

A Programme Manager who is normally an experienced member of academic staff and may teach modules or part modules or may have specific expertise in the disciplines relevant to the programme will:

(i) Convene the meetings of the Programme Management Group and Programme Committee.
(ii) Coordinate teaching input and agree timetable arrangements.
(iii) Be responsible for producing the Programme Specification and programme revalidation documents as approved by the Academic Quality and Standards Committee (AQSC).
(iv) Present an Annual Programme Manager's Report to AQSC through the respective Dean.
(v) Have delegated authority to respond to immediate problems or difficulties within the management of a programme.
(vi) Liaise with all relevant members of teaching staff, including peripatetic staff.

A Programme Committee, comprising the Programme Manager (Chair), relevant teaching staff and 2 elected student representatives, is expected to meet at least twice a year and has responsibility for monitoring delivery of the programme of study during the academic year.

19. Marking guides and assessment regulations

Marking Guides and Assessment Regulations are published in the Student Handbook, and on the RAU website.

20. Ownership of programme specification

The School of Agriculture, Food and Environment is responsible for the internal management of the programme.

21. Curriculum map

A curriculum map (Appendix 1) shows where each of the programme outcomes is tested within the modular programme. Details of learning outcomes and type of assessment for each module can be found on Module Reference Sheets.

22. Career prospects

This is a new programme but we anticipate that graduates will find employment in the following sectors:

International institutions	UN e.g. World Food Programme IFAD, FAO, IFPRI etc.
Government and Statutory Bodies	Ministries and Departments (e.g. Defra, DfID or equivalent) Food Standards Agency
Business and Industry	Major agricultural & food supply companies Consultancy
Non-Governmental Organisations	Local food associations Aid and Development organisations
Education	Development of education materials
Academia and Research	Lecturer PhD

23. Further information

The Programme Specification is designed to be a concise summary of the main features of the MSc Food Safety & Quality Management. More detailed information about the modules is available in the individual Module Handbooks and the module websites available from the University's VLE (Gateway). The University regulations, which include the assessment regulations, are available from the RAU website. The Student Handbook also includes details of our Equal Opportunities and Disabilities statements and the details of the learning resources available to students.

24. Module reference sheets

To achieve their MSc, students following this programme must successfully complete six core modules, two elective modules and the Individual Research module as detailed in Section 13.

Module Reference Sheets, for all modules (core, elective and Individual Research) studied on the programme, are available on the University website (http://rau.ac.uk/study/postgraduate-study/module-details) or the respective Gateway module page.

Module Handbooks, which outline the topics studied, the assessment details and reading lists, for all modules studied on the programme, are only available via the respective RAU VLE (Gateway) module page http://gateway.rau.ac.uk.

APPENDIX 1: Curriculum and Assessment Map

			Module number	4014	4206	4207	4237	4209	4228	4075
Intended learning outcomes for FSQ (Level 7) modules			Module title	Food Chain	Fundamentals of Food Science	Systems for Food Safety Management	The Politics and Policies of food assurance	Sustainability and the Food industry	New Product Development (NPD) in the Agri-Food Industry	Individual Research
Learning & teaching strategy. Lectures (L); Seminars (S); Tutorials (T); Practical's (P)				L & S	L & P	L	L	L	L & P	L & S
Coursework (C) = Using the literature and fully referenced. Exam (E) = Unseen, written examination unless otherwise specified.			Assessment strategy						C	C
A - Knowledge and Understanding	Demonstrate a conceptual knowledge and understanding of the principles and framework of food safety and quality management.		A1			**X**			**X**	
	Critically evaluate the application of principles of food production and supply in relation to resource use at the local, regional and national levels, consumer requirements and expectations and in relation to food safety.		A2	**X**		**X**	**X**	**X**		
	Critically evaluate the strengths and limitations of the methods and techniques used in assessing, managing and communicating food safety and quality risks along food supply chains in the face of increasing population, changing diets and food insecurity.		A3	**X**	**X**	**X**	**X**	**X**		
	Understand the attitudes and motivations of those stakeholders involved in policy formulation and management of food supply and resource management and describe how these attitudes may impact on food safety and quality as well as on sustainable development strategies.		A4	**X**		**X**	**X**	**X**		
B – Intellectual skills	Develop an independent enquiry, based on established research techniques, that critically evaluates and interprets advanced research and scholarship linked to food safety and quality management, and demonstrates conceptual understanding and originality that contributes to knowledge in the discipline.		B1	**X**	**X**				**X**	**X**
	Interpret data and abstract meaning		B2		**X**	**X**	**X**		**X**	**X**
	Critically analyse literature		B3	**X**	**X**	**X**	**X**	**X**		**X**
	Identify and solve problems, dealing with complex issues systematically and creatively		B4	**X**	**X**				**X**	**X**
	Demonstrate independence of thought, acting autonomously in planning and implementing tasks		B5		**X**				**X**	**X**
	Develop skills of critical self-reflection, and make sound judgements and conclusions		B6						**X**	**X**
	Demonstrate the skills necessary to plan, conduct and report original research		B7		**X**				**X**	**X**

Intended learning outcomes for FSQ (Level 7) modules			Module number	4014	4206	4207	4237	4209	4228	4075
			Module title	Food Chain	Fundamentals of Food Science	Systems for Food Safety Management	The Politics and Policies of Food Assurance	Sustainability and the Food industry	New Product Development (NPD) in the Agri-Food Industry	Individual Research
C – Professional Skills	Use internationally accepted tools for food safety (and quality) management, e.g. Hazard Analysis and Critical Control Point (HACCP), auditing of systems and the qualitative and quantitative risk-based approaches to managing food safety		C1		X	X	X	X		
	Critically evaluate the effectiveness of existing and evolving food safety and quality management systems and make recommendations for improvements.		C2	X	X	X	X	X		
	Design a plan to critically investigate a problem/issue/constraint and the generation of solutions to formulate and implement change to improve performance		C3		X	X	X	X	X	X
	Demonstrate the appropriate technical and professional skills necessary to determine economic, social and environmental aspects of food supply chains in order to advise change at the policy level, at the individual business level, and along discrete supply chains		C4	X	X			X	X	
	Understand and interpret the importance of international, regional and national standards in regulatory processes and the role of public institutions (especially consumer protection and accreditation functions) in delivering safe, quality foods to consumers		C5	X	X	X	X	X		
D – Transferable Skills	Communication skills - Communicate with a range of stakeholders in a variety of mediums (e.g. verbal, visual presentations, written documents, etc.).		D1	X	X	X	X	X	X	X
	Interpersonal skills - Manage projects and assignments through the application of project management models, skills and techniques		D2	X					X	X
	Decision making skills - Demonstrate strategic decision making skills, especially in relation to reconciling the complex and (sometimes) unpredictable interactions between the economic, environmental and social dimensions of sustainable and safe food supply		D3	X				X	X	X
	Independent learning - required for continuing professional development		D4						X	X
	Develop skills in IT to a high level		D5		X				X	X