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# Subject Benchmark Statement

## Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences

October 2019

# Contents

# How can I use this document?

This is the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences. It defines the academic standards that can be expected of a graduate, in terms of what they might know, do and understand at the end of their studies, and describes the nature of the subject.

The UK Quality Code for Higher Education (Quality Code) sets out the Expectations and Core practices that all providers of UK higher education are required to meet. Providers in Scotland, Wales and Northern Ireland must also meet the Common practices in the Quality Code.

The Quality Assurance Agency for Higher Education (QAA) has also published a set of Advice and Guidance, divided into 12 themes, and a number of other resources that support the mandatory part of the Quality Code. Subject Benchmark Statements sit alongside these resources to help providers develop courses and refine curricula but are not part of the regulated requirements for higher education providers in the UK.

This Statement is intended to support you if you are:

- involved in the design, delivery and review of courses of study in agriculture, horticulture, forestry, food, nutrition or consumer sciences, or related subjects
- a prospective student thinking about studying this subject, or a current student of the subject, to find out what may be involved
- an employer, to find out about the knowledge and skills generally expected of a graduate in this subject.

Subject Benchmark Statements provide general guidance for articulating the learning outcomes associated with the course but are not intended to represent a national curriculum in a subject or to prescribe set approaches to teaching, learning or assessment. Instead, they allow for flexibility and innovation in course design within a framework agreed by the subject community.

It may be helpful to refer to relevant Advice and Guidance when using this statement.

Explanations of unfamiliar terms used in this Subject Benchmark Statement can be found in QAA's Glossary.

# About the Statement

This Subject Benchmark Statement is for bachelor's degrees with honours[1] in Agriculture, Horticulture, Forestry, Food, Nutrition or Consumer Sciences.

It has been produced by a group of subject specialists drawn from, and acting on behalf of, the subject community. The process is facilitated by QAA, as is the full consultation with the wider academic community and stakeholder groups each Statement goes through.

In order to ensure the continuing currency of Subject Benchmark Statements, QAA initiates regular reviews of their content, five years after first publication, and every seven years subsequently, or in response to significant changes in the discipline.

# Relationship to legislation

Higher education providers are responsible for meeting the requirements of legislation and any other regulatory requirements placed upon them, for example by funding bodies. This Statement does not interpret legislation, nor does it incorporate statutory or regulatory requirements. The responsibility for academic standards remains with the higher education provider who awards the degree.

Higher education providers may need to consider other reference points in addition to this Statement in designing, delivering and reviewing courses. These may include requirements set out by professional, statutory and regulatory bodies (PSRBs), and industry or employer expectations.

Sources of information about other requirements and examples of guidance and good practice are signposted within the Subject Benchmark Statement where appropriate. Individual higher education providers will decide how they use this information.

# Summary of changes from the previous Subject Benchmark Statement (2016)

This version of the Statement forms its fourth edition, following initial publication in 2002 and subsequent reviews and revisions in 2009 and 2016.

This latest version of the Statement is the consequence of the revision to the UK Quality Code for Higher Education which was published in 2018. It has been revised to update references to the Quality Code and other minor changes within the sector. Changes have been made by QAA and confirmed by the Chair of the most recent review group.

There have been no revisions to the subject-specific content of the statement.

[1] Bachelor's degrees are at level 6 in *The Framework for Higher Education Qualifications in England, Wales and Northern Ireland* and level 10 in *The Framework for Qualifications of Higher Education Institutions in Scotland*, as published in The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies

# 1 Introduction

1.1 The purpose of this Statement is to make explicit the nature and the standard of bachelor’s degrees in the subject areas of the land-based industries and professions, related applied and social sciences, rural studies, and consumer sciences and studies. The Statement clarifies the boundaries of each subject area and the specific threshold, typical and excellent standards for the award of a bachelor's degree with honours.

1.2 The subjects covered by this Statement are grouped on the basis that all are concerned with the production of food and non-food products from land resources, consumer products and services, and ecosystem and other services for public benefit. Although the focus changes, each subject encompasses various aspects of production chains involving animals, crops and retail of consumer goods and services. They all involve consumer interactions with producers, service providers and other stakeholders. Sustainable and secure production, consumption and development are important areas of study in these subjects as scarcity of resources impacts on health and well-being of diverse animal and human populations on a global scale, highlighting the need to modify consumer attitudes and behaviour.

1.3 The review group endorses the view that Subject Benchmark Statements do not constitute definitive regulatory criteria for individual courses or awards. They provide valid frames of reference within which honours degrees in a subject are offered. They need to be used with particular care in interdisciplinary or multidisciplinary contexts, where simple or general application may be inappropriate.

1.4 The courses covered in this Statement are not taught by all higher education providers. Individual higher education providers may focus on, and have national and international recognition for, specialisms in teaching and research in these subject areas as well as constituent and cognate subjects.

1.5 In 'mapping the territory', the original benchmarking group aimed to identify the common substantive core of the main course areas. Courses in these subjects provide academically rigorous study of material of relevance that are applicable in the world of work and to society. Many courses of study provide a period of work placement. A common feature of the courses covered in this Statement is that they are applied academic subjects, often involving study across more than one subject, and often integrating aspects of chemical, physical, biological, environmental, economic and social sciences. The diversity of courses and the extent of interdisciplinary work allow students entering higher education to choose a course with an emphasis suited to their needs and aspirations. They develop the student's ability to understand, use and contribute to the further development of the subject. Many courses are concerned with aspects of human use of the biosphere and with people in their role as managers and/or consumers of goods or services.

# 2 Nature and scope

2.1 The degree courses covered by this Statement can be described under the following indicative headings:

## Courses broadly concerned with land-based industries

2.2 Agriculture and horticulture are the science, occupations, businesses and industries involved with the sustainable generation of food and other products through the management and manipulation of the terrestrial biosphere. Other courses may be broadly concerned with the husbandry, welfare and management requirements of companion animals and animals kept for their athletic abilities or the recreational and sporting interests of their owners. The subjects apply fundamental physical, biological, economic and sociological principles to sustainable production and land use and consider the global socioeconomic and environmental impacts of such management systems.

## Courses broadly concerned with applied sciences

2.3 Agricultural sciences are the fundamental sciences of plants, animals, fungi, microorganisms, soils and global processes, which underpin human usage of the biosphere, including the sustainable production or management of animals and plants for food and other products, and the sustainable management of productive resources for economic, social and environmental value.

2.4 Food science, food technology and nutrition is the understanding and application of a range of sciences to satisfy the needs of society for a sustainable, safe, nutritious and secure food supply chain of adequate quality in relation to the health and well-being of people and ecosystems and understanding key nutritional issues and needs within human or animal populations.

## Courses broadly concerned with the rural environments and sciences

2.5 Rural environmental sciences address the application of fundamental biological, economic and sociological principles to the sustainable management of the environment and countryside in the interests of society as a whole.

2.6 Forestry is the application of physical, biological, economic and sociological principles to the sustainable management of trees, woodlands and forests for the benefit of society.

## Courses broadly concerned with consumer sciences/studies

2.7 Consumer sciences/studies are defined as interdisciplinary subjects that seek to understand the relationships between the consumer and the economic, legal, social, technical, ethical and environmental forces that influence the development, provision and consumption of goods and services.

## Defining principles

2.8 The subject group for this Statement is large and diverse. Rather than attempt to ensure that all possible aspects are covered, all interests represented, and all nuances of the subjects detailed, the Statement seeks to provide a practical guide to the essential features of the range of degree courses. All the degree courses are application-orientated,

broadly-based and require some study across a spectrum of subjects from physics and chemistry through biology to the social sciences, policy, economics, legal and ethical approaches, management and consumer behaviour.

2.9 The courses covered by this Statement display distinctive features relating to the generation of 'products' (often originating from the terrestrial biosphere) and their subsequent processing, marketing, consumption and disposal. Studies of production processes, transformation processes, business environments, consumer behaviour and social values are apparent. The initial resources may be biological, environmental or social and be capable of being assigned an economic value. A product chain may be apparent, set in a business and economic framework for producers and consumers. The 'products' have to be safe for consumers, and so policy, legal, ethical, and health and safety issues are also apparent. Environmental impacts and sustainability also feature.

2.10 Courses covered by this Statement are interdisciplinary, drawing on diverse subjects but each with a clear and integrated set of learning outcomes. The courses include many elements that are subject-specific. Other elements relate to the context of the course and give a broad appreciation of the relevant underpinning in physical, chemical, biological or nutritional principles, economic and business analysis, human behaviour, social and environmental impacts, and the linkages between these. Courses often examine processes and their management, and have a clear focus of usage and application.

2.11 For the applied subjects covered by this Statement, a diversity of employer needs is reflected in the course designs. This, and the interdisciplinary nature of this provision, enhance graduate employability.

2.12 There is a measure of diversity in course provision reflecting the higher education provider's strengths and course aims in relation to specific sectors of the graduate labour market. Graduates generally gain employment in a wide range of industries and organisations ranging from small and medium-sized enterprises, international companies and organisations, government bodies, academic institutions, and non-governmental organisations.

2.13 Some higher education providers recognise this with a range of course titles. Others offer diversity through option choice and specialisation opportunities within courses of study that may include work-based placements. Course definition is a dynamic process and new configurations of component subjects emerge in response to developments in these subjects, changes in the needs and aspirations of society, and in response to opportunities in the graduate labour market.

2.14 Although individual degree courses differ in their focus, this Statement covers broad indicative definitions of the various course groups and of the capabilities of graduates.

## Courses broadly concerned with land-based industries

2.15 Degree courses in agriculture are designed to develop the knowledge, skills and application required by those who may go on to manage agricultural enterprises, agri-food businesses, and those who are involved in academic and commercial research and advisory work. Graduates with agricultural degrees have a thorough understanding of crop and animal production methods and of the underpinning scientific, economic, environmental and business principles.

2.16 In particular, graduates in agriculture are able to:

- identify technological, economic and ethical problems encountered in current production systems

- evaluate new techniques and, where appropriate, apply them to commercial practice
- know how to organise and manage a business
- identify, evaluate and alleviate public concerns over food production and land use practices, and the wider consequences of agricultural activities, including impact on ecosystems and the climate.

2.17 Degree courses in horticulture are designed to develop the knowledge and skills required to integrate the challenges of food security, sustainable production, preservation of biodiversity, climate change and human well-being. Graduates may go on to manage horticultural enterprises and related businesses, operate in international trade and production systems, manage amenity landscapes or be involved in closely related official or commercial research and advisory work.

2.18 In particular, graduates with horticulture degrees:

- have a thorough understanding of plant manipulation and production methods and of the underpinning scientific, economic, ecological and business principles
- are able to identify technological, economic and ethical problems encountered in current production systems, evaluate new techniques and, where appropriate, apply them to commercial practice
- appreciate the social, rural and urban landscape values associated with horticulture and the dilemmas facing their current and future management
- appreciate the underpinning global nature of production and supply chains
- evaluate the wider consequences of horticultural activities, including public concerns over sustainable land use and production practices.

## Courses broadly concerned with applied sciences

2.19 Degree courses in the agricultural sciences are concerned with the scientific basis of agriculture, horticulture and related applied sciences. They include all the sciences underpinning the sustainable production and use of animals, fungi, plants and their products, including food and non-food materials. Graduates of agricultural science courses have developed and integrated their knowledge and skills across areas of applied biology, physics and chemistry appropriate to the course. The degree courses develop students' appreciation of, and ability to apply, detailed scientific knowledge and understanding in key sub-subjects appropriate to the course. These sub-subjects are likely to include soil science; animal and plant nutrition and husbandry; product quality; the biochemistry and physiology of animals and plants; genetics (including genetic engineering); endocrinology; reproductive and developmental biology; and weed, pest and disease control and animal welfare; together with aspects of management, economics, environmental interactions, sustainability and bioethics. Graduates may go on to work in area such as agricultural consultancy and advisory, academic or commercial research or seek employment in the area of agricultural policy.

2.20 Degree courses in the areas of food science, food technology and nutrition are designed to develop the knowledge and skills required by those who are involved in food supply, production processing, storage and sale, the nutritious qualities of food products and their production, ethical issues relating to food production and consumption, and application of nutrition science, together with the associated regulatory and advisory work.

2.21 Graduates with degrees in food science, food technology and nutrition have an understanding of:

- the characteristics and composition of major food materials
- the microbiology, nutritional quality, chemistry, physical properties and eating qualities of food
- the impact of food storage and processing on human and environmental well-being.

2.22 They are able to:

- identify and respond to technological, economic and ethical challenges encountered in food chains
- appraise current research in food-related areas and use this knowledge for the development of new food products or processes
- evaluate innovative technologies and, where appropriate, apply them to commercial practice
- understand appropriate legislation and regulations
- identify and evaluate public interest in food safety and nutrition
- evaluate the wider consequences of food chain activities and minimise any harmful effects on the environment and on people.

2.23 In addition, graduates with degrees in nutrition have knowledge and understanding of:

- the scientific basis of nutrition and nutritional requirements from molecular through to the population level, for human and/or animal systems
- the food chain and its impact on food choice
- food in a social or behavioural context, at all stages of the life course
- how to apply the scientific principles of nutrition for the promotion of health and wellbeing of individuals, groups and populations, recognising benefits and risks and communicate evidence to a variety of audiences
- codes of ethics and practice relevant to their profession
- duty of care towards the environment.

## Courses broadly concerned with rural environments and sciences

2.24 Degree courses in rural environmental sciences are designed to develop the knowledge and skills of those who are involved in a range of environmental land use and management activities. Some degree courses may have a primary concern with the economic structure of the agricultural, horticultural or forestry industries and their associated and ancillary enterprises. Others may address the physical, social and cultural aspects of the rural environment, while some may have a focus on the complex ecology of both managed and unmanaged landscapes. The degree courses are multidisciplinary frameworks within which there are discrete specialisms. Graduates take an integrated and holistic approach within an analytical and evaluative framework. They view the countryside as a complex environmental and cultural resource of great national and global value. Graduates are able to address the issues of sustainability and the competing and often conflicting demands of commercial production, leisure or cultural value, and wildlife conservation in a physically and culturally diverse landscape.

2.25 Degree courses in forestry are designed to develop the knowledge and skills of those who go on to work in forestry and related professions. Graduates have a thorough understanding of the physical, biological, economic and sociological principles and processes that underpin forestry. They are able to apply such principles and processes to the sustainable management of trees, woodland and forests for multiple goods and

ecosystem services (for example, production of wood and non-wood forest products, carbon sequestration, protection of soil and water, and recreation and other cultural services). They understand the commercial, social and environmental contexts in which forestry is practised and the consequences of forestry for the rural economy, society and the environment.

## Courses broadly concerned with consumer sciences/studies

2.26 Courses in consumer sciences/studies have a focus on the consumption of goods and services and on the behaviour of people as consumers. With the increasing importance of sustainable consumption and development, there is an interest in how consumer choices are made and can be modified. This includes critical analysis of the social, economic, legal, technological, ethical and environmental contexts within which consumer choices are made. There is also concern with the development, production and provision of goods and services in terms of quality, acceptability, value, safety and accessibility for consumers as well as the environmental impact of the product lifecycle. All consumer sciences/studies courses have strong vocational elements; many offer work-based learning or placements and some have projects designed to meet the needs of external organisations. The courses are set in the appropriate theoretical frameworks with an emphasis on equipping students with the knowledge and skills required to make informed decisions. A graduate in consumer sciences/studies understands the social, psychological and ethical contexts of consumer behaviour. Graduates understand the economic, legal, scientific, technological and ecological principles underlying the production of, and access to, goods and services. They are able to select and apply concepts, theories and methods drawn from constituent subjects to the analysis of consumer issues and other factors affecting consumer choice.

# 3 Knowledge, understanding and skills

## Introduction

3.1 Given the diversity of course titles (see Appendix 1) and differences in emphasis among individual courses of study, it is not practical to list all the subjects that might contribute to specific degree courses. Thus, it is not possible to specify a precise core subject knowledge that is common to all the subjects covered by this Statement. Nevertheless, courses in these subject areas share common features of structure, approach and pedagogic philosophy.

3.2 This section describes the general characteristics of the courses under consideration, with the aim of facilitating and encouraging a diversity of provision across higher education. Each higher education provider is able to map its own provision within this general framework.

3.3 For individual degree courses, the content depends on whether the objective is to produce a graduate who is a 'general practitioner' or a 'subject specialist'; that is, a graduate who is skilled in a broad or a narrow range of subjects. The balance between breadth and depth of a graduate's knowledge is similarly variable.

3.4 Nevertheless, graduates possess an appreciation of the interacting nature of a range of elements growing out of a more specialist understanding of some of them. Generally, students develop an ability to synthesise concepts and ideas across subjects and to take a holistic view appropriate to their particular subject.

## Subject-specific knowledge and understanding

3.5 Despite their diversity, the subject areas being considered share a number of important features:

- the relevance and application of the subject
- the development of integrated, multidisciplinary, interdisciplinary and interprofessional approaches
- integration of theory, experiment, investigation and fieldwork, and the development of principles into practice
- quantitative and qualitative approaches to information
- an understanding of the importance of entrepreneurship and innovation
- awareness of risks of exploitation and the requirement for sustainable solutions
- consideration of rapid and continuing change and development of the subject.

3.6 Each degree course addresses:

- the underlying principles of the subject
- its relevant defining concepts, theories and methods
- the current knowledge and development of the subject
- identification of current gaps in knowledge or understanding
- current issues of wider concern to society and the world
- issues of sustainability and environmental impact
- the global, regional and local contexts of the topic
- the location of resources, and the management, exploitation and pattern of utilisation of resources within socioeconomic, policy and legal frameworks
- subject-specific and generic skills, problem-solving and a professional approach to study and lifelong learning.

## Abilities and skills

3.7 Honours graduates of courses covered by this Statement:

- demonstrate familiarity with a wide range of subject-specific facts and principles in combination with an awareness of the current limits of theory and applied knowledge
- understand the provisional nature of information and allow for competing and alternative explanations within their subject
- exhibit ownership of the defining elements of the subject as a result of in-depth study or research
- tackle problems by collecting, analysing and evaluating appropriate qualitative and quantitative information, and use it creatively and imaginatively to solve problems, introduce and develop innovations, and make decisions
- plan and execute research or development work, evaluate the outcomes and draw valid conclusions
- display skills in evaluating and interpreting, in a balanced manner, new information provided by others from a range of fields of study
- understand the importance of intellectual property rights
- display generic skills and demonstrate the ability to acquire new competencies required for career progression
- assess the ethical consequences of human activities to optimise community and environmental sustainability.

3.8 The abilities and skills developed during the course of degree courses covered by this Statement are subdivided into:

- intellectual
- practical
- analytical and data interpretation
- communication
- digital literacy and social media
- interpersonal and teamwork
- self-management and professional development.

3.9 These skills are generally developed in a subject-specific context, but have wider applications for continuing personal development and in the world of work. The subject skills encompass technical knowledge and abilities specific and appropriate to the focus of the degree course. In addition, each individual course develops a capacity for holistic and lateral thinking and an appreciation of both inductive and deductive reasoning.

## Intellectual skills

3.10 Honours graduates of courses covered by this Statement:

- critically analyse, synthesise and summarise information from a variety of sources
- recognise and use appropriate theories, concepts and principles from a range of subjects
- collect, analyse and integrate several lines of evidence to develop balanced arguments demonstrating critical thinking and synthesis
- design an experiment, investigation, survey or other means to test a hypothesis or proposition
- apply knowledge and understanding to address multidisciplinary problems within a global context

- demonstrate creativity and innovation balanced by ethical awareness
- demonstrate awareness of the provisional nature of the facts and principles associated with a field of study
- make decisions in complex and unpredictable contexts
- understand the importance of academic integrity.

## Practical skills

3.11 Honours graduates of courses covered by this Statement:

- plan, conduct and report on investigations, including those using secondary data
- collect and record diverse types of information generated by a wide range of methodologies and summarise it using appropriate qualitative and/or quantitative techniques
- devise, plan and undertake field, laboratory or other investigations in a responsible, sensitive and safe manner, paying due diligence to risk assessment, ethical and data protection issues, rights of access, and relevant health and safety issues
- take account of safety regulations, legal requirements including intellectual property rights, and the impact of investigations on the environment
- appreciate and analyse financial and other management information and use it in decision-making
- acquire subject-specific practical and professional competencies.

## Analytical and data interpretation skills

3.12 Honours graduates of courses covered by this Statement:

- appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field, laboratory or collated from secondary sources
- appreciate the difficulties of having incomplete information on which to base decisions
- understand the nature of risk
- prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques and packages
- solve numerical problems using computer-based and other techniques.

## Communication skills

3.13 Honours graduates of courses covered by this Statement:

- receive, evaluate and respond to a variety of information sources, for example electronic, textual, numerical, verbal, graphical, and digital
- communicate accurately, clearly, concisely, confidently and appropriately to a variety of audiences using a range of formats and employing appropriate scientific language
- contribute constructively to group discussions
- consider, appreciate and evaluate the views of others.

## Digital literacy and social media skills

3.14 Honours graduates of courses covered by this Statement:

- use the internet critically as a means of communication and a source of information
- demonstrate competence in the use of electronic information handling and data processing and analysis software and applications
- use a range of IT platforms (for example desktop, server, tablet and mobile) and social media to communicate information to a range of audiences effectively
- demonstrate an awareness of legal, effective and safe use of digital and social media
- use and interpret digital data and information to inform decision-making.

## Interpersonal and teamwork skills

3.15 Honours graduates of courses covered by this Statement:

- organise teamwork and participate effectively in a team
- set realistic targets
- identify individual and collective goals and responsibilities
- plan, allocate and evaluate the work of self, individuals and teams
- perform in a manner appropriate to allocated roles and responsibilities
- recognise and respect the views and opinions of other team members
- show positive intent
- reflect on and evaluate own performance as an individual or as a team member.

## Self-management and professional development skills

3.16 Honours graduates of courses covered by this Statement:

- appreciate the need for professional codes of conduct where applicable
- recognise the moral, ethical and social issues related to the subject
- assume responsibility for their own actions
- identify and work towards targets for personal, academic and career development
- develop an adaptable and flexible approach to study and work
- develop the skills necessary for self-managed and lifelong learning (working independently, time-management and organisational skills)
- demonstrate the competence, behaviour and attitude required in professional working life, including initiative, reflection, leadership and team skills
- behave in a responsible manner to ensure the rights of others are protected
- understand the importance of academic and research integrity.

# 4 Teaching, learning and assessment

## Teaching and learning

4.1 The ultimate goal of student learning is the considered application of knowledge and skills together with an appreciation of the integrative nature of the subject areas in an appropriate context.

4.2 As students progress through a degree course, there is an increasing reliance on student-centred modes of learning, which fosters the development of a professional approach to lifelong learning.

4.3 Graduates in these subjects have wide employment prospects. They are adaptable and have subject-specific knowledge and abilities, and generic skills. Many different formats for teaching and learning aid the development of these attributes. Courses incorporate a research project or other self-motivated individual study leading to a thesis, dissertation or report. Courses also contain most, but not necessarily all, of:

- lectures
- tutorials and seminars
- student-led seminars
- specialist external lectures
- practical classes in and outside the laboratory (defined broadly and including the computing laboratory and other specialist facilities)
- literature-based research
- field-based research
- e-learning technologies, including the use of virtual learning environments
- case studies
- problem-solving
- problem-based learning
- working in groups on realistic/live projects with external organisations
- other exercises which require students to integrate information and techniques
- directed self-study
- visits to commercial and industrial businesses, consumer organisations, public services, policy-making bodies and research organisations
- opportunities for work experience, for example a managed placement or work-based learning.

## Assessment

4.4 Assessments are formative as well as summative and are likely to take a number of forms, including examinations (written, electronic, oral or practical; closed or open book), and to incorporate continuous assessment. The style of assessment varies between subjects and higher education providers, but is linked to clearly defined goals and anticipated learning outcomes. Assessment is managed to promote deep rather than surface learning. Assessments based on real-life problems, with employer involvement and with effective feedback, are valuable and are included where they are compatible with the assurance of academic standards.

# 5 Benchmark standards

5.1 In this section, standards of attainment are expressed as statements of learning outcomes. These describe what a student should be able to demonstrate on completion of an honours degree in the range of subjects covered by this Statement. The outcomes are demonstrable through appropriate assessment strategies. It is recognised, however, that not all learning outcomes can be objectively assessed. Preceding sections have emphasised the diversity of degree courses covered by this Statement. Many of the degree courses involve study in more than one subject area and may cover a relatively broad or narrow range of topics. This needs to be considered when evaluating levels of student performance. It is important that standards of attainment reflect the shared values of the academic community as moderated internally and externally by academic quality procedures, including by external examiners.

5.2 Tables 1 and 2 articulate standards at three levels: 'threshold', 'typical' and 'excellent'. These are defined as:

- **threshold standard**: the minimum required to gain an honours degree; graduates at this level demonstrate an acceptable level of ability and skills
- **typical standard**: the level of attainment expected of the majority of honours graduates; such graduates demonstrate definite competence and skills
- **excellent standard**: graduates achieving this standard have a range of competencies and skills at an enhanced level.

5.3 The benchmark standards defined in Table 1 are for the seven main categories of abilities and skills outlined in paragraph 3.8, and in Table 2 for subject-specific skills. These categories do not constitute a checklist, nor does the list imply any particular weighting. Courses include the full range of abilities and skills, but their point of introduction and the level of engagement is decided by curriculum designers.

5.4 To reach a given standard at the point of completion of an honours degree in the subjects covered by this Statement, students demonstrate achievement across the main categories of abilities and skills in Tables 1 and 2, interpreted for the particular degree course. However, a lower performance in one category may be compensated for by a higher performance in another.

5.5 The standards in these tables should be read in conjunction with Sections 3 and 4, and paragraphs 5.1 to 5.4.

**Table 1: Benchmark standards - Generic skills: on graduating with an honours degree in agriculture, forestry, food, nutrition or consumer sciences graduates should be able to:**

| | Threshold | Typical | Excellent |
|---|---|---|---|
| **Intellectual skills** | i. recall knowledge based on the directly taught course<br>ii. demonstrate some understanding of subject-specific theories, paradigms, concepts and principles<br>iii. demonstrate ability to define and solve routine problems<br>iv. collate, summarise and analyse information<br>v. integrate lines of evidence from a limited range of sources to support findings and hypotheses<br>vi. demonstrate some ability to consider issues from a range of multidisciplinary and interdisciplinary perspectives<br>vii. source academic literature and extract relevant points. | i. recall knowledge based on the directly taught course with some evidence of wider enquiry<br>ii. demonstrate understanding of subject-specific theories, paradigms, concepts and principles, as well as some understanding of more specialised areas<br>iii. demonstrate ability to define problems, and devise and evaluate solutions to both routine and unfamiliar problems<br>iv. analyse, synthesise, summarise and evaluate information<br>v. integrate lines of evidence from a range of sources to formulate and test hypotheses<br>vi. demonstrate the ability to consider issues from a range of multidisciplinary and interdisciplinary perspectives and to draw on appropriate concepts and values in arriving at a critical assessment<br>vii. critically appraise academic literature and other sources of information. | i. recall knowledge based well beyond the directly taught course<br>ii. demonstrate thorough understanding of subject-specific theories, paradigms, concepts and principles as well as in-depth understanding of more specialised areas<br>iii. demonstrate the ability to define problems, devise and evaluate possible solutions, and to solve both routine and unfamiliar problems confidently<br>iv. seek out, analyse, synthesise, summarise and critically evaluate information<br>v. show a well-developed ability to integrate lines of evidence from a wide range of sources to formulate and test hypotheses<br>vi. demonstrate the ability to consider issues from a wide range of multidisciplinary and interdisciplinary perspectives and to draw on appropriate concepts and values in arriving at a critical assessment<br>vii. demonstrate a highly developed ability for critical appraisal of academic literature and other sources of information. |

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| **Practical skills** | i. plan, conduct and present an independent investigation with significant guidance<br>ii. relate investigations to some prior work and reference it appropriately<br>iii. use appropriate laboratory and field equipment safely<br>iv. apply a range of methods to solve problems<br>v. use technologies to address problems<br>vi. describe and record in the field and laboratory<br>vii. interpret practical results with guidance<br>viii. present results of investigations in a number of formats. | i. plan, conduct and present an independent investigation with some reliance on guidance<br>ii. relate investigations to prior work and reference it appropriately; recognise when information is incomplete<br>iii. use appropriate laboratory and field equipment competently and safely select and apply a range of appropriate methods to solve problems<br>iv. use appropriate technology to address problems efficiently<br>v. describe adequately and record accurately in the field and laboratory<br>vi. interpret practical results in a logical manner<br>vii. present research findings effectively and appropriately in a number of formats. | i. suggest, plan, conduct and present an independent investigation with limited reliance on guidance<br>ii. relate investigations to prior work, be aware of recent research developments and reference it appropriately<br>iii. use appropriate laboratory and field equipment highly competently and safely<br>iv. select, justify and apply a range of appropriate methods to solve challenging problems<br>v. select and use appropriate technology to address problems effectively<br>vi. describe clearly and record accurately in the field and laboratory<br>vii. interpret practical results perceptively<br>viii. present research findings perceptively and effectively in a number of formats. |
| **Analytical and data interpretation skills** | i. select an appropriate sampling procedure<br>ii. recognise when information is incomplete<br>iii. appreciate risk<br>iv. process and interpret data<br>v. solve basic numerical problems using appropriate techniques. | i. define a suitable and effective sampling procedure<br>ii. recognise incomplete sets of information and propose appropriate solutions<br>iii. understand risk<br>iv. process and interpret data effectively<br>v. solve a range of numerical problems using appropriate techniques. | i. define a suitable and efficient sampling procedure<br>ii. recognise incomplete sets of information and suggest solutions<br>iii. understand and quantify risk<br>iv. choose appropriate techniques to process data and interpret them effectively<br>v. solve challenging numerical problems using appropriate techniques. |

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| **Communication skills** | i. communicate to a variety of audiences in written, graphical, electronic and verbal forms<br>ii. make contributions to group discussions<br>iii. listen and respond to others. | i. communicate effectively to audiences in written, graphical and verbal forms<br>ii. contribute coherently to group discussions<br>iii. listen attentively and respond to others. | i. communicate effectively and engagingly to a variety of audiences in written, graphical and verbal forms<br>ii. contribute constructively to group discussions<br>iii. listen to, evaluate and respond effectively to the views of others. |
| **Digital literacy and social media skills** | i. use the internet for communication and information retrieval<br>ii. handle electronic information with guidance, using appropriate techniques, software and applications<br>iii. have an awareness of effective and safe use of digital media<br>iv. use social media for communication. | i. use the internet critically for communication and information retrieval<br>ii. handle electronic information using appropriate techniques, software and applications<br>iii. demonstrate the effective and safe use of digital media<br>iv. communicate effectively using social media. | i. use digital sources critically and imaginatively for communication and information retrieval<br>ii. handle electronic information confidently and competently using appropriate techniques, custom interfaces, software and applications<br>iii. develop effective and safe use of digital media<br>iv. actively use social media for effective communication and respond appropriately to feedback. |
| **Interpersonal and teamwork skills** | i. make some contribution to teamwork and goals<br>ii. recognise and respect the views of others<br>iii. reflect on team performance. | i. organise a team effectively<br>ii. contribute effectively to teamwork<br>iii. identify individual and collective goals<br>iv. recognise and respect the views of others<br>v. evaluate performance as an individual and team member. | i. organise, lead and motivate a team effectively<br>ii. contribute effectively and enthusiastically to teamwork<br>iii. identify individual and collective goals and responsibilities<br>iv. recognise and respect the views of others<br>v. evaluate performance as an individual and team member, and learn for the future. |

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| **Self-management and professional development skills** | i. recognise the existence of moral and ethical issues associated with the subject<br>ii. appreciate the need for professional codes of conduct<br>iii. accept some responsibility for their own learning<br>iv. identify targets for personal, career and academic development<br>v. be adaptable and have a flexible approach to study and work<br>vi. develop some skills necessary for self-managed and lifelong learning (independent study, time management, organisational skills)<br>vii. recognise personal strengths and weaknesses. | i. recognise and be able to comment on the moral and ethical issues associated with the subject<br>ii. understand and be able to apply professional codes of conduct<br>iii. accept responsibility for their own learning<br>iv. identify and work towards targets for personal, career and academic development<br>v. take a responsible, adaptable and flexible approach to study and work<br>vi. develop the skills necessary for self-managed and lifelong learning (that is, independent study, time management, organisational skills)<br>vii. analyse personal strengths and weaknesses. | i. recognise, explain and evaluate the moral and ethical issues associated with the subject<br>ii. understand and be able to apply professional codes of conduct<br>iii. assume responsibility for their own learning<br>iv. identify and work towards ambitious targets for personal, career and academic development<br>v. manage a responsible, adaptable and flexible approach to study and work<br>vi. develop the skills necessary for self-managed and lifelong learning (that is, independent study, time management, organisational skills) to an enhanced level<br>vii. analyse personal strengths and weaknesses and take account of them. |

**Table 2: Benchmark Standards - Subject-specific knowledge and understanding: on graduating with an honours degree in agriculture, forestry, food, nutrition or consumer sciences**

| | Threshold | Typical | Excellent |
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| **Subject-specific knowledge and understanding in agriculture and horticulture** | Graduates have some familiarity with the science and management of sustainable production systems that comprise the broad agricultural or horticultural industries within the global socioeconomic and environmental contexts required by society.<br><br>Graduates will be able to:<br><br>i. demonstrate some understanding of the scientific factors affecting production<br>ii. describe the changing policy, socioeconomic and environmental factors which form and influence systems<br>iii. understand how production systems can be manipulated and managed sustainably<br>iv. recognise the ethical implications of production systems<br>v. recognise the needs and requirements of society with specific reference to food security and sustainable and ethical intensification<br>vi. apply this knowledge to a range of routine real-life situations. | Graduates have a well-grounded understanding of the science and management of sustainable production systems that comprise the broad agricultural or horticultural industries within the global socioeconomic and environmental contexts required by society.<br><br>Graduates will be able to:<br><br>i. demonstrate understanding of the scientific factors limiting production<br>ii. understand the national and international policy, socioeconomic and environmental factors which form and influence systems<br>iii. understand how production systems can be improved by manipulation and management<br>iv. recognise and address the ethical implications of production systems<br>v. appreciate the needs and requirements of society with specific reference to food security and sustainable and ethical intensification<br>vi. apply this knowledge to a wide range of real-life situations. | Graduates have a comprehensive understanding of the biology and management of sustainable production systems that comprise the broad agricultural or horticultural industries within the global socioeconomic and environmental contexts required by society. They demonstrate both excellent knowledge of the literature and creative application of the material.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. demonstrate understanding of the scientific factors limiting production and their interactions, including climate change<br>ii. understand the national and international policy, socioeconomic and environmental factors which form and influence systems<br>iii. propose improved systems through manipulation and management<br>iv. recognise, anticipate and address the ethical implications of production systems<br>v. understand, anticipate and address the needs and requirements of society with specific reference to food security and sustainable and ethical intensification<br>vi. apply this knowledge creatively to a wide range of real-life situations. |

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| **Subject-specific knowledge and understanding in agriculture and horticulture** | Graduates have some familiarity with the social, environmental, economic, legal, scientific and technological principles underlying the business management of farm or horticultural enterprises.<br><br>Graduates will be able to:<br><br>i. demonstrate limited familiarity with a range of economic and business management theory and techniques<br>ii. demonstrate familiarity with relevant policy<br>iii. describe some features of the legal, environmental and ethical framework applicable to production systems<br>iv. apply a limited range of specific scientific and technological processes<br>v. appraise the roles and responsibilities of regulatory and advisory bodies. | Graduates have a well-grounded understanding of the social, environmental, economic, legal, scientific and technological principles underlying the business management of farm or horticultural enterprises.<br><br>Graduates will be able to:<br><br>i. describe and evaluate a wide range of economic and business management theory and techniques<br>ii. demonstrate familiarity with relevant policy and understand its aims<br>iii. describe and evaluate features of the legal, environmental and ethical framework applicable to production systems<br>iv. apply and evaluate a range of specific scientific and technological processes<br>v. appraise and evaluate the roles and responsibilities of regulatory and advisory bodies. | Graduates have a well-grounded understanding of the social, environmental, economic, legal, scientific and technological principles underlying the business management of farm or horticultural enterprises. They demonstrate both excellent knowledge of theory and techniques and creative application of the material.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. describe, evaluate and apply a wide range of economic and business management theory and techniques<br>ii. demonstrate familiarity with relevant policy and understand its origins and aims<br>iii. describe and evaluate features of the legal, environmental and ethical framework applicable to production systems<br>iv. apply and evaluate a range of specific scientific and technological processes<br>v. describe and evaluate the roles and responsibilities of regulatory and advisory bodies. |

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| **Subject-specific knowledge and understanding in agriculture and horticulture** | Graduates select and apply a limited range of concepts, theories and methods drawn from the constituent subjects of their degree course to agricultural or horticultural enterprises.<br><br>They:<br><br>i. identify appropriate knowledge bases and some theoretical perspectives<br>ii. apply limited range of methods to problem evaluation and amelioration.<br><br>In addition to the acquisition of generic skills, graduates will be able to:<br><br>i. communicate on a limited range of agricultural or horticultural issues<br>ii. describe and apply professional standards and responsibilities in relation to the agricultural or horticultural industry. | Graduates select, apply and evaluate a wide range of concepts, theories and methods drawn from the constituent subjects of their degree course to agricultural or horticultural enterprises.<br><br>They:<br><br>i. identify and evaluate appropriate knowledge bases and a range of theoretical perspectives<br>ii. apply a range of methods to problem evaluation and amelioration.<br><br>In addition to the acquisition of generic skills, graduates will be able to:<br><br>i. communicate effectively on a wide range of agricultural or horticultural issues and review their performance critically<br>ii. describe, apply and evaluate professional standards and responsibilities in relation to the agricultural or horticultural industry | Graduates select, apply and evaluate a wide range of concepts, theories and methods drawn from the constituent subjects of their degree course to agricultural or horticultural enterprises. They demonstrate both an excellent knowledge of the literature and creative application of the material. This distinguishes the manner in which graduates will be able to:<br><br>i. identify and evaluate appropriate knowledge bases and a full range of theoretical perspectives<br>ii. justify, apply and evaluate a range of methods for problem evaluation and amelioration.<br><br>Graduates demonstrate mastery of generic skills. Additionally, performance is distinguished by excellence in their knowledge of the literature and the creative application of the material.<br><br>Graduates will be able to:<br><br>i. communicate effectively on a wide range of agricultural or horticultural issues and review their performance critically<br>ii. interact effectively with and guide professionals from a wide range of cognate subjects in solving multidisciplinary problems in agriculture and horticulture<br>iii. describe, apply and evaluate professional standards and responsibilities in relation to the |

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<tr><td></td><td></td><td></td><td>broader agricultural or horticultural industry<br>iv. mentor their peers in the concepts, theories and practice of agriculture and horticulture, and its improvement.</td></tr>
<tr><td>Subject-specific knowledge and understanding in the agricultural sciences</td><td colspan="3">In addition to possessing the knowledge, understanding and expertise described on the following page, graduates are familiar with one or more of the following subdivisions of applied science:<br><br>i. applied plant science<br>ii. applied animal science<br>iii. applied microbial science<br>iv. soil science<br>v. agricultural systems<br>vi. environmental science<br><br>Studies in each of these subdivisions draws on subject material from one or several parent subjects and reflect it in a manner relevant to applications in agricultural and cognate areas. The content of individual courses is defined according to local expertise, knowledge, reputation and research interests but courses are designed to provide graduates with a balanced awareness of their subject. Expected levels of achievement in the specialism are in the table for this section on pages 22-23.</td></tr>
<tr><td></td><td>Graduates have some familiarity and awareness of ethical issues related to agricultural practice, and:</td><td>Graduates have a well-grounded understanding of ethical issues related to the use and exploitation of biological entities, and:</td><td>Graduates have a deep and comprehensive understanding of ethical issues related to the use and exploitation of biological entities, and:</td></tr>
<tr><td></td><td colspan="3">i. the physical and chemical processes of the biosphere<br>ii. the biochemical processes of life<br>iii. the flow of energy and cycling of materials within the biosphere<br>iv. the organisation of the biosphere and classification of organisms<br>v. evolutionary process and its genetic basis<br>vi. the relevance and application of their subject to the agricultural industry<br>vii. the environmental impact and sustainability of agricultural practices<br>viii. agricultural production systems<br>ix. physiological and nutritional principles of crops and livestock<br>x. global issues in the production, distribution and use of agricultural products<br>xi. food quality, safety and security<br>xii. the impacts of agriculture on climate change<br>xiii. the socioeconomic, legal and policy framework for the agricultural industry<br>xiv. risk assessment, and health and safety issues in agricultural practice and on natural cycles and wildlife.</td></tr>
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| **Subject-specific knowledge and understanding in the agricultural sciences** | Graduates should:<br><br>i. have achieved a level of specialist knowledge and understanding, allowing them to work adaptably to apply their subject within the broad agricultural industry or a cognate field of activity<br>ii. be able to follow current practice, and adapt to future developments<br>iii. be able to comment on the local and global environmental impact and sustainability of agricultural practices | With extended knowledge in some areas<br><br>Graduates should:<br><br>i. 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<br>ii. be able to apply their subject to solve problems in the agricultural industry<br>iii. be able to advise on current practice and engage in discourse at a detailed level<br>iv. be able to assess the value and application of new research and developments from an informed perspective<br>v. be potentially able to lead developments in their area of specialist knowledge<br>vi. be able to evaluate the local and global environmental impact and sustainability of agricultural practices. | With significantly extended knowledge in some areas<br><br>Graduates should:<br><br>i. have achieved an outstanding level of specialist knowledge and understanding, allowing them to work as subject specialists within the broad agricultural industry or a cognate field of activity<br>ii. be able to apply their subject to solve problems in the agricultural industry<br>iii. be able to advise on current practice and engage in discourse at a detailed level<br>iv. be able to assess the value and application of new research and developments from an informed perspective<br>v. be able to lead research and developments in their area of specialist knowledge<br>vi. be able to evaluate the local and global environmental impact and sustainability of agricultural practices. |

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| **Subject-specific knowledge and understanding in food science, food technology and nutrition** | Graduates have some familiarity with relevant key scientific subjects.<br><br>Graduates will be able to:<br><br>i. demonstrate an understanding of the physiology, biochemistry, genetics and immunology relevant to the study of food and nutrition science and which form the biological basis of food and nutrition science<br>ii. demonstrate some understanding of the chemistry underpinning molecular interactions associated with foods and food production<br>iii. describe key biochemical, chemical, physical and biological factors underlying the synthesis and metabolism of food materials<br>iv. describe a limited range of physical properties of food<br>v. describe nutrients and non-nutrient components of food and drinks, including alcohol, and experimentally determine their values<br>vi. explain the role of key nutrients and non-nutrients in health<br>vii. demonstrate understanding of the human body and its systems, nutrient need and usage; metabolic demand and supply and its control<br>viii. changes across the lifespan at individual, community and population level<br>ix. demonstrate understanding of nutrition in health and disease, consequences of an imbalance<br>x. demonstrate understanding of | Graduates have a well-grounded understanding of the relevant key scientific subjects.<br><br>Graduates have an integrated understanding of food, nutrients and nutrition in relation to its science and methodologies for investigation and its communication and practice in health and disease.<br><br>Graduates will be able to:<br><br>i. demonstrate a good understanding of the physiology, biochemistry, genetics and immunology relevant to the study of food and nutrition science and which form the biological basis of food and nutrition science<br>ii. demonstrate understanding of the chemistry underpinning molecular interactions and the behaviour of components in food materials during processing and storage<br>iii. explain biochemical, chemical, physical and biological factors underlying the synthesis and metabolism of food materials<br>iv. describe physical properties of food and experimentally determine their values<br>v. identify the role of nutrients and non-nutrients in health<br>vi. illustrate a good understanding of nutrition in health and disease, consequences of an imbalance<br>vii. identify and compare a range of common conditions that can be addressed through dietary | Graduates have a comprehensive understanding of the relevant key scientific subjects.<br><br>Graduates have an excellent integrated understanding of food, nutrients and nutrition in relation to its science and methodologies for its understanding and investigation and its communication and practice in health and disease.<br><br>Graduates will be able to:<br><br>i. demonstrate an excellent understanding of the physiology, biochemistry, genetics and immunology relevant to the study of food and nutrition science and which form the biological basis of food and nutrition science<br>ii. demonstrate an excellent knowledge of current scientific developments relevant to food and nutrition science<br>iii. demonstrate understanding of the chemistry underpinning molecular interactions and the behaviour of components in food materials during processing and storage<br>iv. explain biochemical, chemical, physical and biological factors underlying the synthesis and metabolism of food materials<br>v. explain physical properties of food and experimentally determine their values<br>vi. explain the role of nutrients in health<br>vii. examine the role of nutrients and non-nutrients in health |

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| | common conditions that can be addressed through dietary management and/or physical activity<br>xi. describe the principles and methods of measurement, including anthropometric, biochemical and dietary, essential to the study of nutrition<br>xii. appreciate the nature, relevance and impact of food, nutrition and health policy locally, nationally and globally<br>xiii. understand the theories and application of food and nutrition in education and health promotion<br>xiv. understand qualitative and quantitative research methods as applied to the field of food and nutrition science<br>xv. describe the environmental impact of various food production processes. | management and/or physical activity<br>viii. undertake the principles and methods of measurement, including anthropometric, biochemical and dietary assessment, essential to the study of nutrition<br>ix. outline the development, relevance and impact of food, nutrition and health policy locally, nationally and globally<br>x. apply the underpinning theories and application of education and health promotion approaches<br>xi. critique a range of qualitative and quantitative research methods as applied to the field of food and nutrition science<br>xii. understand the impact of various food production processes upon the environment and describe relevant approaches to mitigate impact. | viii. illustrate an excellent understanding of nutrition in health and disease, consequences of an imbalance<br>ix. identify and compare a wide range of common conditions that can be addressed through dietary management and/or physical activity<br>x. justify the principles and methods of measurement, including anthropometric, biochemical and dietary assessment, essential to the study of nutrition problems<br>xi. evaluate the development, relevance and impact of food, nutrition and health policy locally, nationally and globally with critical insight<br>xii. justify underpinning theories and application of education and health promotion approaches<br>xiii. integrate understanding of qualitative and quantitative research methods and mix-method approaches as applied to the field of food and nutrition science<br>xiv. explain and evaluate the impact of various food production processes upon the environment and describe relevant approaches to mitigate impact. |

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| **Subject-specific knowledge and understanding in food science, food technology and nutrition** | Graduates assist in the extension of knowledge and understanding of food and nutrition science through a scientific approach.<br><br>Graduates will be able to:<br><br>i. use appropriate methods of analysis safely for most types of large and small molecules of relevance to food<br>ii. explain and undertake standard methods for the detection and enumeration of microorganisms important for food safety<br>iii. undertake nutrient analysis and dietary assessment using a number of approaches<br>iv. plan, conduct, analyse and report on investigations<br>v. understand the basic principles of ethical conduct and safe practice in scientific investigations.<br>vi. design/formulate a diet and/or food product to meet a specification appropriate for a stated situation<br>vii. describe the theory or methods of investigating the nutritional health and activity patterns of populations through to individuals<br>viii. describe the strengths and weaknesses and limitations of different research approaches. | Graduates have a well-grounded ability to extend knowledge and understanding of food and nutrition science through a scientific approach.<br><br>Graduates will be able to:<br><br>i. use appropriate methods of analysis safely for all types of large and small molecules of relevance to food<br>ii. explain and undertake standard methods for the detection and enumeration of microorganisms important for food safety and undertake appropriate examination of the microbiology of foods<br>iii. undertake nutrient analysis and dietary assessment using a range of approaches to solve nutritional problems<br>iv. plan, conduct, analyse and report on investigations.<br>v. demonstrate the basic principles of ethical conduct and safe practice in scientific investigations<br>vi. design/formulate and evaluate a diet and/or food product to meet a specification appropriate for a stated situation<br>vii. identify and critique the theory or methods of investigating the nutritional health and activity patterns of populations through to individuals<br>viii. critique the strengths, weaknesses and limitations of a range of research approaches. | Graduates have a comprehensive ability to extend knowledge and understanding of food and nutrition science through a scientific approach. They demonstrate an excellent appreciation of areas where scientific knowledge is limited and are capable of proposing methods for overcoming these deficiencies.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. use appropriate methods of analysis safely for all types of large and small molecules of relevance to food and undertake appropriate examination of the microbiology of foods<br>ii. explain and undertake methods for the detection and enumeration of microorganisms important to the food industry<br>iii. undertake and evaluate nutrient analysis and dietary assessment using a broad range of approaches to solve nutritional problems<br>iv. plan, conduct, analyse, reflect, and report on investigations<br>v. reflect and justify the basic principles of ethical conduct and safe practice in scientific investigations<br>vi. recommend, design and/or formulate, and evaluate a diet and/or food product to meet a specification appropriate for a stated situation<br>vii. justify and evaluate the theory or methods of investigating, the nutritional health and activity |

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| | | | patterns of populations through to individuals<br>viii. evaluate the strengths and weaknesses and limitations of a wide range of research approaches. |
| **Subject-specific knowledge and understanding in food science, food technology and nutrition** | Graduates assist in the application and communication of knowledge of food and nutrition science to meet the needs of society, industry and the consumer for sustainable and ethical food quality, safety, adequate nutrition and security of supply.<br><br>Graduates will be able to:<br><br>i. describe the principles and practice of major food processing operations and food preservation systems<br>ii. evaluate key aspects of engineering design of food equipment<br>iii. explain the role of packaging materials for food products and show awareness of their environmental impact<br>iv. apply simple sensory evaluation methods to assess food quality and/or preference<br>v. describe the legal framework within which food and nutrition businesses operate<br>vi. assist in the operation of quality assurance courses<br>vii. describe the risks to health of key chemical contaminants of food<br>viii. describe the main aspects of the business environment in which food and nutrition businesses operate<br>ix. explain the importance of hygiene, | Graduates have a well-grounded ability to apply and communicate knowledge of food and nutrition science to meet the needs of society, industry and the consumer for sustainable and ethical food quality, safety and security of supply.<br><br>Graduates will be able to:<br><br>i. explain the principles and practice of food processing operations and food preservation systems<br>ii. evaluate engineering design of food equipment and communicate professionally with specialist food engineers<br>iii. explain characteristics and properties of packaging materials for food products and identify appropriate ethical and sustainable packaging systems<br>iv. design, apply and interpret statistically valid sensory evaluation methods to assess food quality and/or preference<br>v. assess the performance of a process and the conformance of food to specifications and legislation<br>vi. contribute directly to quality assurance courses<br>vii. describe the risks to health of chemical contaminants of food and outline appropriate methods for risk | Graduates have a comprehensive ability to apply and communicate knowledge of food and nutrition science to meet the needs of society, industry and the consumer for sustainable and ethical food quality, safety and security of supply. They demonstrate excellent knowledge of the literature, creative application of the material, capacity for synthesis and an appreciation of innovation.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. explain the principles and evaluate the practice of food processing operations and food preservation systems<br>ii. evaluate the engineering design of food equipment and communicate professionally with specialist food engineers<br>iii. explain characteristics and properties of packaging materials for food products and identify appropriate ethical and sustainable packaging systems<br>iv. design, apply and interpret statistically valid sensory evaluation methods to assess food quality and/or preference<br>v. assess the performance of a |

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| | waste and environmental management systems for the food industry<br>x. explain the legal context, ethics and values of professional practice, including guidelines for providing nutrition information to individuals and groups<br>xi. explain responsibilities and accountability in relation to current national and international legislation, national guidelines, local policies and protocols and industry/clinical/corporate governance<br>xii. recognise the moral and ethical issues of investigation and appreciate the need for ethical standards and professional codes of conduct<br>xiii. understand the application of nutrition to the areas of bioscience, clinical practice, public health and the food industry<br>xiv. communicate on a limited range of food and nutrition issues and to different audiences. | reduction<br>viii. analyse the main aspects of the business environment in which food and nutrition businesses operate<br>ix. justify the importance of hygiene, waste and environmental management systems for the food industry<br>x. describe the main aspects of the business environment in which food businesses operate and recognise the impact of management principles on the decision-making process<br>xi. participate in hygiene and waste management systems for the food industry<br>xii. explain the legal context, ethics and values of professional practice, including guidelines for providing nutrition information to individuals and groups<br>xiii. justify responsibilities and accountability in relation to current national and international legislation, national guidelines, local policies and protocols and industry/clinical/ corporate governance.<br>xiv. justify the moral and ethical issues of investigation and appreciate the need for ethical standards and professional codes of conduct<br>xv. examine the application of nutrition to the areas of bioscience, clinical practice, public health and the food industry<br>xvi. communicate effectively on a range of food and nutrition issues and to different audiences. | process and the conformance of food to specifications and legislation<br>vi. evaluate the main aspects of the business environment in which food and nutrition businesses operate<br>vii. critique the importance of hygiene, waste and environmental management systems for the food industry<br>viii. contribute directly to quality assurance courses<br>ix. evaluate the risks to health of chemical contaminants of food and advise on appropriate methods for risk reduction<br>x. understand and clearly articulate the main aspects of the business environment in which food businesses operate and recognise the impact of management principles on the decision-making process<br>xi. develop and participate in hygiene and waste management systems for the food industry<br>xii. assess the legal context, ethics and values of professional practice, including guidelines for providing nutrition information to individuals and groups<br>xiii. translate responsibilities and accountability in relation to current national and international legislation, national guidelines, local policies and protocols and industry/clinical/corporate governance |

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| | | | xiv. identify the moral and ethical issues of investigation and appreciate the need for ethical standards and professional codes of conduct<br>xv. explain and evaluate the application of nutrition to the areas of bioscience, clinical practice, public health and the food industry and emerging possibilities<br>xvi. communicate effectively on a wide range of food and nutrition issues and to different audiences. |

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| **Subject-specific knowledge and understanding in rural environmental sciences** | Graduates have some familiarity with the physical, social, economic and cultural aspects of the rural environment.<br><br>Graduates will be able to:<br><br>i. describe the physical and ecological characteristics of the rural environment and the factors limiting its development<br>ii. describe the social, economic and cultural basis of the rural community<br>iii. recognise and describe the conflicting elements within the rural economy<br>iv. demonstrate some understanding of the basic economic and biological principles underpinning the various rural industries and environments<br>v. recognise the social and ethical implications implicit in the management of the rural environment<br>vi. apply this knowledge to a range of routine real-life situations. | Graduates have a well-grounded understanding of the physical, social, economic and cultural aspects of the rural environment.<br><br>Graduates will be able to:<br><br>i. understand and evaluate the physical and ecological characteristics of the rural environment and factors limiting its development<br>ii. understand and evaluate the social, economic and cultural basis of the rural community<br>iii. evaluate the conflicting elements within the rural economy<br>iv. demonstrate a clear understanding of the economic and biological principles underpinning the various rural industries and environments<br>v. evaluate the social and ethical implications implicit in the management of the rural environment<br>vi. apply this knowledge to a wide range of real-life situations and demonstrate an understanding of stewardship of the environment. | Graduates have a comprehensive and deep understanding of the physical, social, economic and cultural aspects of the rural environment.<br><br>They demonstrate comprehensive knowledge of relevant literature and be able to apply the material in a creative fashion.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. demonstrate understanding of the complex interactions between the physical and ecological characteristics of the rural environment and factors limiting its development<br>ii. understand the social, economic and cultural basis of the rural community<br>iii. propose solutions to reconcile conflicting elements within the rural community<br>iv. apply an understanding of the economic and scientific principles towards the solution of the problems confronting rural industries and environments<br>v. recognise, anticipate and address the social and ethical implications implicit in the management of the rural environment<br>vi. apply this knowledge creatively to a wide range of real-life situations, and demonstrate an understanding of the concepts of sustainability, conservation and stewardship of the environment. |

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| **Subject-specific knowledge and understanding in rural environmental sciences** | Graduates have some familiarity with the issues of sustainable development, conservation of biodiversity and landscapes, and environmental protection.<br><br>Graduates will be able to:<br><br>i. demonstrate some understanding of the legal and planning framework applicable to the rural environment<br>ii. describe the basic principles of ecology as applied to human, plant and animal communities<br>iii. demonstrate some understanding of the complex ecology of both managed near-natural and natural landscapes<br>iv. recognise and understand the concept of sustainability within a variety of contexts<br>v. demonstrate some understanding of the principles of wildlife and landscape conservation within a historical and contemporary context<br>vi. identify and describe the roles and responsibilities of statutory, advisory and non-governmental bodies. | Graduates have a well-grounded understanding of the issues of sustainable development, conservation of biodiversity and landscapes, and environmental protection.<br><br>Graduates will be able to:<br><br>i. describe and evaluate the legal and planning framework applicable to the rural environment<br>ii. indicate clear understanding of the principles of ecology as applied to human, plant and animal communities<br>iii. indicate clear understanding of the complex ecology of both managed near-natural and natural landscapes<br>iv. demonstrate familiarity with the concept of sustainability and its practical application in a variety of contexts<br>v. demonstrate familiarity with, and clear understanding of, the principles of wildlife and landscape conservation within a historical and contemporary context<br>vi. identify, describe and evaluate the roles and responsibilities of statutory, advisory and non-governmental bodies. | Graduates have a comprehensive understanding of the issues of sustainable development, conservation and environmental protection. Graduates demonstrate both excellent knowledge of theory and techniques and creative application of the material.<br><br>Graduates will be able to:<br><br>i. identify, describe and evaluate the legal and planning framework applicable to the rural environment and demonstrate its practical application<br>ii. demonstrate a comprehensive understanding of the principles of ecology as applied to human, plant and animal communities<br>iii. indicate an ability to apply an understanding of the complex ecology of managed near-natural and natural landscapes to the solution of practical problem<br>iv. critically evaluate and apply a range of models of sustainability in a creative manner<br>v. provide a comprehensive understanding of the principles of wildlife and landscape conservation, and propose appropriate solutions to address conflicts. |

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| **Subject-specific knowledge and understanding in rural environmental sciences** | Graduates are familiar with an integrated and holistic view of rural management and are able to select and apply a limited range of quantitative and qualitative analytical methods.<br><br>Graduates will be able to:<br><br>i. identify subject-specific knowledge bases and theoretical perspectives<br>ii. apply a limited range of statistical and other methods to evaluation and amelioration of problems. | Graduates understand the concept of an integrated and holistic view of rural management and select, apply and evaluate a wide range of quantitative and qualitative analytical methods.<br><br>Graduates will be able to:<br><br>i. identify and evaluate subject-specific knowledge bases and theoretical perspectives<br>ii. apply a range of statistical and other methods to the evaluation and amelioration of problems. | Graduates have a comprehensive understanding of the integrated and holistic nature of rural management and select, apply and evaluate the full range of quantitative and qualitative analytical methods available. They demonstrate both an excellent knowledge of the literature and creative application of the material.<br><br>Graduates will be able to:<br>i. identify, select and critically evaluate knowledge bases and theoretical perspectives<br>ii. apply a wide range of statistical and other methods to the evaluation and amelioration of problems. |
| **Subject-specific knowledge and understanding in forestry** | Graduates have some familiarity with the main scientific and socioeconomic principles underlying forestry.<br><br>Graduates will be able to:<br><br>i. describe the main physical and biological processes that shape the natural world<br>ii. outline the economic concepts applicable to natural resource management<br>iii. describe the main social factors that influence the use of natural resources. | Graduates have a well-grounded understanding of the scientific and socioeconomic principles underlying forestry.<br><br>Graduates will be able to:<br><br>i. explain the physical and biological processes that shape the natural world and their modification by human activity<br>ii. explain the economic concepts applicable to natural resource management and apply them in particular situations<br>iii. explain the social factors that influence the use of natural resources and discuss the relative importance of different factors in particular situations. | Graduates have a comprehensive understanding of the scientific and socioeconomic principles underlying forestry. They demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. explain the physical and biological processes that shape the natural world and evaluate their modification by human activity<br>ii. explain the economic concepts applicable to natural resource management and apply them imaginatively in particular situations<br>iii. explain the social factors that influence the use of natural resources and evaluate the relative |

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| | | | importance of different factors in particular situations. |
| **Subject-specific knowledge and understanding in forestry** | Graduates understand the structure, function and resilience of forest ecosystems.<br><br>Graduates will be able to:<br><br>i. describe the distribution and main features of the world's forests<br>ii. describe the processes that control the structure and function of forest ecosystems<br>iii. describe the main threats to the world's forests. | Graduates have a well-grounded understanding of the structure, function and resilience of forest ecosystems.<br><br>Graduates will be able to:<br><br>i. describe and explain the distribution and features of the world's forests<br>ii. describe the processes that control the structure and function of forest ecosystems and explain how they vary in time and space<br>iii. describe and discuss the main threats to the world's forests and explain the concept of forest resilience. | Graduates have a comprehensive understanding of the structure, function and resilience of forest ecosystems. They demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis.<br><br>This will distinguish the manner in which graduates will be able to:<br><br>i. describe and explain in detail the current and possible future distribution and features of the world's forests<br>ii. describe the processes that control the structure and function of forest ecosystems and explain how and why they vary in time and space<br>iii. describe and evaluate the main threats to the world's forests and the concept of forest resilience |

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| **Subject-specific knowledge and understanding in forestry** | Graduates understand the main functions and impacts of forests.<br><br>Graduates will be able to:<br><br>i. describe some of the ecosystem services that forests provide<br>ii. describe the main effects of forestry on society<br>iii. describe the main feature of forestry policy for a particular country or region. | Graduates have a well-grounded understanding of the functions and impacts of forests.<br><br>Graduates will be able to:<br><br>i. explain the ecosystem services that forests provide, and discuss the relative importance of these ecosystem services in particular situations<br>ii. explain the effects of forestry on society and the environment, and discuss the relative importance of these effects in particular situations<br>iii. explain how forest policy is developed and delivered and describe in detail the forestry policy for a particular country or region. | Graduates have a comprehensive understanding of the functions and impacts of forests. They demonstrate excellent knowledge of the literature, creative application of the material, and a capacity for synthesis.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. explain the ecosystem services that forests provide, and evaluate the relative importance of these ecosystem services in particular situations<br>ii. explain the effects of forestry on society and the environment, and evaluate the relative importance of these effects in particular situations<br>iii. explain how forest policy is developed and delivered and evaluate the forestry policy for a particular country or region. |

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| **Subject-specific knowledge and understanding in forestry** | Graduates understand the meaning and some of the practices of sustainable forest management.<br><br>Graduates will be able to:<br><br>i. define sustainability in a forestry context<br>ii. identify the main components of forest planning<br>iii. describe and apply some of the forestry practices used to meet management objectives<br>iv. describe and apply some of the methods used for the economic and environmental appraisal of forestry practices. | Graduates have a well-grounded understanding of the meaning and practice of sustainable forest management.<br><br>Graduates will be able to:<br><br>i. explain the meaning of sustainability in forestry and discuss the sustainability of some forestry practices<br>ii. explain the process of forest planning, and discuss how the process is applied in different situations<br>iii. explain and apply the forestry practices used to meet different management objectives, and discuss how they are applied in particular situations<br>iv. explain and apply the methods used for the economic and environmental appraisal of forestry practices. | Graduates have a comprehensive understanding of the meaning and practice of sustainable forest management. They demonstrate excellent knowledge of the literature, creative application of the material, and have a capacity for synthesis.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. explain the meaning of sustainability in forestry and evaluate the sustainability of different forestry practices<br>ii. explain the process of forest planning, and evaluate the way in which process is applied in different situations<br>iii. explain, evaluate and apply the forestry practices used to meet different management objectives<br>iv. explain, evaluate, and apply the methods used for the economic and environmental appraisal of forestry practices. |

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| **Subject-specific knowledge and understanding in consumer sciences/studies** | Graduates have some familiarity with the social and individual contexts of consumer behaviour.<br><br>Graduates will be able to:<br><br>i. describe a limited range of social and individual factors in the formation of consumer knowledge<br>ii. describe a limited range of social and individual factors in consumer attitudes and choices<br>iii. apply this knowledge to a limited range of routine real-life situations. | Graduates have a well-grounded understanding of the social and individual contexts of consumer behaviour.<br><br>Graduates will be able to:<br><br>i. describe and evaluate a wide range of social and individual factors in the formation of consumer knowledge<br>ii. describe and evaluate a wide range of social and individual factors in consumer attitudes and choices<br>iii. apply this knowledge to a wide range of real-life situations. | Graduates have a comprehensive understanding of the social and individual contexts of consumer behaviour.<br><br>They demonstrate both excellent knowledge of the literature and creative application of the material.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. critically evaluate a wide range of social and individual factors in relation to consumer attitudes and choices in the formation of consumer knowledge and opportunities for representation and redress<br>ii. analyse and synthesise academic literature and policy documents that seek to influence consumer attitudes, choices and behaviour<br>iii. apply this knowledge creatively to a wide range of real-life situations. |

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| **Subject-specific knowledge and understanding in consumer sciences/studies** | Graduates have some familiarity with the social, economic, legal, ethical, scientific, technological and ecological principles underlying the production of, and access to, consumer goods and services.<br><br>Graduates will be able to:<br><br>i. describe a limited range of social and economic factors in differential access to goods and services<br>ii. describe some features of the legal framework and ethical considerations applicable to the production, purchase and quality of consumer goods and services<br>iii. apply a limited range of specific scientific and technological processes<br>iv. describe the roles and responsibilities of consumer organisations. | Graduates have a well-grounded understanding of the social, economic, legal, ethical, scientific, technological and ecological principles underlying the production of, and access to, consumer goods and services.<br><br>Graduates will be able to:<br><br>i. describe and evaluate a wide range of social and economic factors in differential access to goods and services<br>ii. describe and evaluate features of the legal framework and ethical considerations applicable to the production, purchase and quality of consumer goods and services<br>iii. apply and evaluate a range of specific scientific and technological processes<br>iv. describe and evaluate the roles and responsibilities of consumer organisations. | Graduates have a deep and comprehensive understanding of the social, economic, legal, ethical, scientific, technological and ecological principles underlying the production and supply of, and access to, consumer goods and services. They demonstrate both excellent knowledge of the literature and creative application of the material.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. critically discuss a range of social and economic factors in differential access to goods and services<br>ii. examine and apply features of the legal framework and ethical considerations in relation to the production, quality, advertising and purchase of consumer goods and services<br>iii. apply and evaluate a range of specific scientific and technological processes<br>iv. evaluate the roles and responsibilities of consumer organisations. |

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| **Subject-specific knowledge and understanding in consumer sciences/studies** | Graduates select and apply to consumer issues a limited range of concepts, theories and methods drawn from the constituent subjects of their degree course.<br><br>Graduates will be able to:<br><br>i. identify appropriate knowledge bases and theoretical perspectives<br>ii. apply a limited range of methods to problem evaluation and amelioration.<br><br>In addition to the acquisition of generic skills, graduates will be able to:<br><br>i. communicate on a limited range of consumer issues<br>ii. describe and apply professional standards and responsibilities in relation to work with consumers. | Graduates select, apply and evaluate to consumer issues a wide range of concepts, theories and methods drawn from the constituent subjects of their degree course.<br><br>Graduates will be able to:<br><br>i. identify and evaluate appropriate knowledge bases and theoretical perspectives<br>ii. apply a range of methods to problem evaluation and amelioration.<br><br>In addition to the acquisition of generic skills, graduates will be able to:<br><br>i. communicate effectively on a wide range of consumer issues and review their own performance critically<br>ii. describe, apply and evaluate professional standards and responsibilities in relation to work with consumers. | Graduates select, apply and evaluate to consumer issues a wide range of concepts, theories and methods drawn from the constituent subjects of their degree course. They demonstrate both an excellent knowledge of the literature and creative application of the material.<br><br>This distinguishes the manner in which graduates will be able to:<br><br>i. identify and evaluate appropriate knowledge bases and theoretical perspectives<br>ii. apply a range of methods to problem evaluation and amelioration<br>iii. communicate effectively on a wide range of consumer issues and critically review consumer, industry, business and government policies<br>iv. evaluate and apply professional standards and responsibilities in relation to work with consumers. |

# Appendix 1: Indicative course titles

The lists below give indicative course titles that are (a) likely to fall completely or substantially within this Statement, or (b) may fall at the interface with another Statement. The lists are not intended to be exhaustive of the range of degree titles that currently exists.

**(a) Completely or substantially within this Statement**

| | |
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| Agricultural botany | Agricultural business management |
| Agricultural economics | Agricultural sciences |
| Agriculture | Agriculture with business management |
| Agroforestry | Agronomy |
| Animal care | Animal health |
| Animal health and welfare | Animal nutrition |
| Animal science | Arboriculture |
| Arboriculture and urban forestry | Consumer behaviour |
| Consumer science | Consumer studies |
| Consumer studies and hospitality | Consumer studies and management |
| Consumer studies and marketing | Consumer studies and retailing |
| Countryside and environmental management | Countryside management |
| Crop protection | Crop science |
| Equine management | Equine science |
| Equine studies | Food and consumer sciences |
| Food and consumer studies | Food and nutrition |
| Food biotechnology | Food design and technology |
| Food marketing economics | Food microbiology |
| Food, nutrition and health | Food production |
| Food production and quality | Food science |
| Food science and technology | Food studies |
| Food supply | Food technology |
| Food with marketing | Forest and woodland management |
| Forest management | Forest sciences |
| Forestry | Forestry and conservation |
| Horticulture | Human nutrition |
| Nutrition | Organic agriculture |
| Rural environmental protection | Rural studies |
| Soil science | |

**(b) At the interface with another Statement**

| | |
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| Agricultural engineering | Agricultural technology |
| Agri-food marketing and business studies | Applied biology |
| Biotechnology | Brewing |
| Business management and marketing for the agricultural industry | Business management and marketing for the food industry |
| Consumer and management studies (home economics) | Countryside business and development |
| Ecological agriculture | Economics |
| Environmental biology | Environmental science |
| Equine and human sports science | Equine business management and marketing |
| Food and hospitality management | Food quality and safety management |
| Food quality with product development and nutrition | International agri-business management |
| Land and estate management | Landscape management |
| Natural sciences | Nutritional biochemistry |
| Nutritional sciences | Plant science |
| Pre-veterinary science | Public health nutrition |
| Rural enterprise and land management | Rural environmental sciences |
| Rural resource management | Sports nutrition |
| Woodland ecology and conservation | |

# Appendix 2: Membership of the benchmarking and review groups for the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences

**Membership of the review group for the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences (2019)**

The fourth edition, published in 2019, was revised by QAA to align the content with the revised UK Quality Code for Higher Education, published in 2018. Proposed revisions were checked and verified by the Chair of the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences from 2016.

| | |
|---|---|
| Professor Julian Park | University of Reading |
| Dr Alison Felce | QAA |

**Membership of the review group for the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences (2016)**

Details provided below are as published in the third edition of the Subject Benchmark Statement.

| | |
|---|---|
| Dr Sue Bailey | London Metropolitan University |
| Dr Christine Cahalan | Bangor University |
| Professor Ian Connerton | University of Nottingham |
| Professor Basma Ellahi | University of Chester |
| Dr Peter Glaves | Chartered Institute of Ecology and Environmental Management (CIEEM) |
| Professor Mike Gooding | Aberystwyth University |
| Dr Phil Lyon | Queen Margaret University Edinburgh |
| Leonie Milliner | Association for Nutrition |
| Alison Murray | SRUC (Scotland's Rural College) |
| Professor Julian Park (Chair) | University of Reading |
| Dr Anya Perera | Writtle College |
| Professor Carol Phillips | Institute of Food Science and Technology |
| Mr Nigel Warner | Royal Agricultural University |
| Dr Andy Wilcox | Harper Adams University |
| Professor Paul Wilson | University of Nottingham |
| **Student reader** | |
| Anne Carpenter | University of Reading |
| **QAA officer** | |
| Helen Kealy | QAA |

**Membership of the review group for the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences (2009)**

Details provided below are as published in the second edition of the Subject Benchmark Statement.

| | |
|---|---|
| Mrs Carol Brennan | Queen Margaret University |
| Dr Christine Cahalan | University of Wales, Bangor |
| Professor Ian Connerton | University of Nottingham |
| Professor Richard Ellis | University of Reading |
| Professor Phil Garnsworthy | University of Nottingham |
| Mr Mike Kitson | Independent, formerly London Metropolitan University |
| Mrs Chris Leggate | Scottish Agricultural College |
| Dr Phil Lyon | University of Umeå, Sweden |
| Mr Nigel Warner | Royal Agricultural College |
| Dr Andy Wilcox | Harper Adams University College |
| Dr Alan Younger | University of Newcastle |

**Membership of the original review group for the Subject Benchmark Statement for Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences (2002)**

Details below are as published in the original Subject Benchmark Statement.

| | |
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| Dr Christine Cahalan | University of Wales, Bangor |
| Mr Alan Costley | Harper Adams University College |
| Dr David Gray | University of Nottingham |
| Dr William Hutcheon | Scottish Agricultural College, Aberdeen |
| Ms Margaret Jepson | Liverpool John Moores University |
| Professor Philip John | University of Reading |
| Dr David Jukes | University of Reading |
| Dr Ara Kanekanian | University of Wales Institute, Cardiff |
| Dr Karen King | The Queen's University of Belfast |
| Dr Martin Luck | University of Nottingham |
| Dr Phil Lyon | University of Dundee |
| Professor Richard Moore-Colyer | University of Wales, Aberystwyth |
| Professor Robert Naylor (Chair) | University of Aberdeen |
| Dr Iwan Owen | University of Wales, Aberystwyth |
| Dr Chris Strugnell | University of Ulster |
| Mr Nigel Warner | Royal Agricultural College |

Fourth edition – October 2019
QAA2447


Southgate House, Southgate Street, Gloucester GL1 1UB
Registered charity numbers 1062746 and SC037786

Tel: 01452 557000
Website: www.qaa.ac.uk