

BSc Nutrition and Food Science with Professional Training
For students entering Part 1 in 2010/1

UCAS code: BDK6

Awarding Institution:	University of Reading
Teaching Institution:	University of Reading
Relevant QAA subject Benchmarking group(s):	i) Biosciences and ii) Agriculture, Forestry, Agricultural and Food Sciences
Faculty:	Life Sciences Faculty
Programme length:	4 years
Date of specification:	23/Jul/2013
Programme Director:	Prof Jeremy Spencer
Programme Advisor:	Prof Jeremy Spencer
Board of Studies:	Food and Nutritional Sciences
Accreditation:	Nutrition Society

Summary of programme aims

The aim is to provide a programme of education which can enable its graduates to enter a career in government, the food industry or other sectors involved in the food chain, education or health, as scientists, and to develop their capacity to undertake research into the science of food and health. The testable learning outcomes will be the ability to:

- Integrate the scientific disciplines relevant to nutrition, food and health
- Communicate and apply scientific knowledge in nutrition, food and health to meet the needs of consumers, industry and food regulatory authorities for the production and marketing of safe and quality foods.

The Nutrition and Food Science programme aims to:

- Provide a programme of education which can enable its graduates to enter a career in a wide range of public and private organisations, as scientists, capable of supporting the relation between food and health through development, production, regulation and consumer acceptance of quality food.
- Provide a broadly based scientific education whose graduates can also enter into employment in related scientific sectors where they can apply their scientific skills.
- Allow individuals to develop their capacity to undertake research into the science of food and health.
- Provide students with an opportunity to experience the application of their course work through a short placement in industry.
- Provide undergraduates with opportunities to develop their inter-personal and communication skills.
- Enable graduates from the course to meet the qualification and curriculum requirements for post graduate qualification as 'Registered Nutritionist'.

Transferable skills

During the course of their studies at Reading, all students will be expected to enhance their academic and personal transferable skills. In following this programme, students will have had the opportunity to develop such skills, in particular relating to communication (both written and oral), interpersonal skills, learning skills, numeracy, self-management, use of information technology and problem-solving and will have been encouraged to further develop and enhance the full set of skills through a variety of opportunities available outside their curriculum.

Programme content

The Nutrition and Food Science programme provides an opportunity for students to follow a core curriculum that will allow them to gain post graduation registration as a 'Registered Nutritionist' with opportunity to diversify their subject knowledge through selection of specified optional modules. The programme is also designed to allow graduates from the course to be recognised as competent food and nutrition scientists with sufficient understanding and knowledge to function within the food and health industries in technical, development, advisory and marketing roles.

The profile which follows states which modules must be taken (the core Nutrition and Food Science modules) and, for Part 2 and 3, the lists of modules from which the student must make a selection (the optional modules). The fundamental science modules in Part 1 have been selected to ensure students gain a thorough grounding in biology, chemistry, mathematics and aspects of physical systems, necessary to form the basis for further study in Food Science and in Nutrition. Although there is a significant degree of overlap in the foundation science requirements for both Nutrition and Food Science, the Human Physiology, Cell Biology and Biochemistry and Genetics and Molecular Biology modules provide an essential base for the health related and mechanistic

aspects of nutrition that will be studied later in the course. The Microbiology and Chemistry are foundation modules for both subjects, whereas the Mathematics and Computing and Physical aspects of Biological Systems are modules that have been specifically designed for this programme to ensure that this group of students has sufficient numeracy and knowledge of physical systems to underpin their later studies involving food processing, food engineering and product development. For the optional modules, students are free to select any module that is not a compulsory module so as to make 120 credits in each Part.

Part 1 (three terms)

Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credits</i>	<i>Level</i>
FB1EQ1	Quantitative Skills for Life Sciences	20	4
FB1GFN	Key Skills for Food and Nutritional Sciences	10	4
FB1PH1	Public Health Nutrition 1	10	4
BI1BB2	Biochemistry and Metabolism	10	4
BI1BA1	The Living Cell	10	4
CH1FC3	Molecular Studies for the Life Sciences	10	4
PM1PB2	Human Physiology	20	4
BI1BE2	Pathology: Introduction to Human Disease	10	4
BI1S1	Introductory Microbiology	10	4

Plus 10 credits from the following modules (choice dependent on qualifications):

CH1FC1	Fundamental Concepts in Chemistry	10	4
FB1EP1	Physical Aspects of Food Systems A	10	4

Part 2 (three terms)

Compulsory modules

<i>Code</i>	<i>Module title</i>	<i>Credits</i>	<i>Level</i>
AP2EC1	Consumer Behaviour	10	5
FB2N1	Fundamentals of Human Nutrition	20	5
FB2AG1	Farm to Fork: Primary Production of Food	10	5
FB2CCP	Composition and Properties of Food	20	5
FB2EFA	Food Processing A	10	5
FB2FC1	Food Choice and Regulation	10	5
FB2MF2	Microbiological Hazards in Foods	10	5
FB2BBE	Biochemistry and Enzymology	10	5

Optional modules (20 credits):

AP1EM1	Introduction to Marketing	10	4
AP1SB1	Introduction to Management	10	4
LA1XX1	Institution Wide Language Programme	20	4
MM270	Practice of Entrepreneurship	20	5

Students can select other suitably weighted modules from other Schools, timetable permitting.

Year abroad/Year away/Additional year (three terms)

Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credits</i>	<i>Level</i>
FB2PYB	Industrial Training Year	120	5

Professional Experience / Training

The student on the 4-year programme will be required to spend 12 months between Parts 2 and 3 on gaining approved industrial or professional experience. Appropriate vacation employment in at least one Summer vacation is also recommended.

Part 3 (three terms)

Compulsory modules

<i>Code</i>	<i>Module title</i>	<i>Credits</i>	<i>Level</i>
FB3GSE	Sensory Evaluation of Food	10	6
FB3N2A	Diet and Disease	10	6
FB3N2B	Genes, Lifestyle and Nutrition	10	6
FB3N3	Bioavailability, Diet and Gut Health	10	6
FB3PFA	Research Methods for Food and Nutritional Science	10	6
FB3RP**	Research Project	30	6
FB3PN2	Public Health Nutrition 2	10	6
FB3GPD	Food Product Development	10	6

**Students may take FB3PRE Science and Food Technology Education Project instead of

Optional modules (20 credits):

FB3QAS	Food Quality Assurance and Safety	20	6
FB3CF1	Special Topics in Food and Toxicology	10	6
FB3CF2	Selected Topics in Food Chemistry	10	6
LA1XX1*	Institution Wide Language Programme	20	5
MM270*	Practice of Entrepreneurship	20	5
FB3GSA	Consumer Attitudes to Food Quality	10	6

Students can select other suitably weighted modules from other Schools, timetable permitting.

**Students are only permitted to take a maximum of 20 credits below level 6*

Progression requirements

- To gain a threshold performance at Part 1 and qualify for the CertHE a student shall normally be required to achieve an overall average of 40% over 120 credits taken in Part 1, where all the credits are at level 4 or above, and a mark of at least 30% in individual modules amounting to not less than 100 credits. In order to progress from Part 1 to Part 2, a student shall normally be required to achieve a threshold performance at Part 1, and have no module mark below 30%.
- To gain a threshold performance at Part 2 and qualify for the DipHE a student shall normally be required to achieve an overall average of 40% over 120 credits taken in Part 2, and a mark of at least 30% in individual modules amounting to not less than 100 credits. In order to progress from Part 2 to Part 3, a student shall normally be required to achieve a threshold performance at Part 2.
- To pass the Professional Training Year students must achieve a mark of 40%. Students who fail the Professional Training Year will be required to transfer to the 3 year Programme.
- To obtain the degree at the end of Part 3, students must obtain an overall average of 40%. The final degree assessment is based on the following weightings:

For students registered for a 4 year programme:

Part 2 Modules 23%
Professional Year 10%
Part 3 Modules 67%

In order to achieve a BSc Honours degree students are required to achieve a mark of at least 30% in the final year project modules FB3RP and FB3PFA combined. Students who fail to achieve this mark will qualify for a PASS degree if they meet the other criteria.

Summary of Teaching and Assessment

Teaching is organised into modules - each module will consist of lectures, practicals, or a combination of these. Students are assessed on each module, usually by a formal examination, although modules consisting only of practicals (or similar coursework) may not have a formal examination. All course work is assessed and the assessment contributes towards the modular marks. The Part 3 project is an individual study requiring the submission of formal report for assessment.

Admission requirements

Entrants to this programme are normally required to have obtained:

GCSE: Grade C or better in Mathematics and English in GCSE; and achieved

Advanced Level (AS and A2):

- Grades B,B, C at A2 with at least two science subjects, including either chemistry or biology. Related subjects at AS level that will be taken into account include food technology, environmental science and human biology
- A UCAS Tariff of 280 with 100 obtained in at least one core science

International Baccalaureat: 30 points

Irish Leaving Certificate: BBBB

Admissions Tutor: Dr C Wagstaff

Support for students and their learning

University support for students and their learning falls into two categories. Learning support is provided by a wide array of services across the University, including: the University Library, the Careers, Placement and Experience Centre (CPEC), In-sessional English Support Programme, the Study Advice and Mathematics Support Centre teams, IT Services and the Student Access to Independent Learning (S@il) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme. Student guidance and welfare support is provided by Personal Tutors, School Senior Tutors, the Students' Union, the Medical Practice and advisers in the Student Services Centre. The Student Services Centre is housed in the Carrington Building and offers advice on accommodation, careers, disability, finance, and wellbeing, academic issues (eg problems with module selection) and exam related queries. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist adviser; Student Services also offer drop-in sessions and runs workshops and seminars on a range of topics. For more information see www.reading.ac.uk/student

Career prospects

There are many varied job opportunities for scientifically trained graduates in nutrition. This course specifically trains graduates who are equipped to operate in many organisations and industries involved in the development, supply and regulation of food and food products. Graduates are equipped to work in education, consumer information and government departments concerned with assurance of nutrition quality and health as well as in public health nutrition. Other opportunities arise in companies supplying the food industry with ingredients, equipment and packaging and in specialist food and nutrition research laboratories.

Opportunities for study abroad or for placements

There are no formal arrangements for study abroad. Industrial training attachments have sometimes been found in other countries including the United States of America and Australia.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:

Teaching/learning methods and strategies

1. Food and nutrient composition, nutrient action, adaptation to food and nutrient supply
2. Biological basis of the interaction between food and health
3. Methods and data for acquiring and interpreting information about diet and health and evidence based food policy
4. Role of agriculture, food production, marketing, economic, social and behavioural factors affecting dietary adequacy

Lectures and practical classes provide the basic knowledge. A variety of coursework gives opportunities for extending knowledge and techniques. Individual and group projects reinforce techniques and give experience of practical applications.

Assessment

Most knowledge is tested through a combination of coursework and unseen formal examinations. Project work, reports, oral presentations and computer-based exercises also contribute to the final assessment.

Skills and other attributes

B. Intellectual skills - *able to:*

1. Analyse and solve problems
2. Critically evaluate scientific literature, recognising strengths and weaknesses in research findings
3. Assess problems and design experiments to test hypotheses
4. Apply knowledge to new problems
5. Plan, conduct and report on an individual research project

Teaching/learning methods and strategies

Topics 1 and 2 are essential components of the programme and are embedded in many parts of the programme. Topics 3 and 4 are introduced in Part 2 and Part 3 coursework. Topics 3, 4 and 5 are fully developed during product development module and the individual research project in Part 3 of the programme.

Assessment

Coursework is structured to assess topics 1, 2, 3 and 4. Topics 3, 4 and 5 are assessed as components of the individual research project

C. Practical skills - *able to:*

1. Develop and perform chemical, nutritional, microbiological and sensory laboratory tests to assess the quality and safety of foods
2. Appreciate principles associated with assessment and formulation of diets to meet specified requirements for individuals or populations
3. Ability to record, collate and analyse nutrition related data using appropriate statistical methods

Teaching/learning methods and strategies

Topic 1 is introduced by lectures but is developed fully by appropriate laboratory exercises during all Parts of the programme. Topics 2, 3 and 4 are developed during lectures, exercises and group work in Parts 2 and 3 of the programme.

Assessment

All topics will be assessed by coursework.

D. Transferable skills - *able to:*

1. Work as an individual, in a small group or as part of a larger team
2. Prepare reports and make presentations that effectively present the results of investigations carried out
3. Make effective use of information technology
4. Consider and manage career choice
5. Digest, summarise and communicate information concerning food and nutrition at a level appropriate to the needs of both specialist and non-specialist target audiences

Teaching/learning methods and strategies

The development of transferable skills is integrated into many parts of the programme. Students are required to work both as individuals and as part of groups. Career skills (topic 4) are introduced in a Part 1 module and reinforced by the work experience period between part 1 and part 2. Skills in communication and presentation are developed as part of seminar presentations (specialist and non-specialist), presentations of specialist material from laboratory classes, research project

Assessment

All topics are assessed both by coursework within the modules and in formal examinations.

Please note - This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance process or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.