BSc Food Science with Business with Industrial Training **UCAS code: D691**
For students entering Part 1 in 2013/4

Awarding Institution:	University of Reading
Teaching Institution:	University of Reading
Relevant QAA subject Benchmarking group(s):	Agriculture, Forestry, Agricultural Sciences, Food Sciences and Consumer Sciences
Faculty:	Life Sciences Faculty
Programme length:	4 years
Date of specification:	24/Jun/2016
Programme Director:	Dr Lisa Methven
Programme Advisor:	
Board of Studies:	Food and Nutritional Sciences
Accreditation:	

Summary of programme aims
The programme aims to provide a degree-level education from which graduates can enter a career in the food industry (or employment in other sectors of the food chain, or related scientific and marketing sectors) as professionals capable of assisting in the scientific evaluation of food, and of undertaking analysis of the economics and marketing of safe and quality foods. The testable learning outcomes will be the ability to:

- Apply scientific and marketing knowledge of food products so as to meet industry and consumer needs.
- Undertake research into problems relating to the science, economics and marketing of foods.

The Food Science with Business programme aims to:

- Provide a programme of education which can enable its graduates to enter a career in the food industry as professionals capable of assisting in the scientific evaluation of food, and of undertaking analysis of the economics and marketing of safe and quality foods.
- Provide a broadly based education combining science, economics and marketing, whose graduates can also enter into employment in other sectors of the food chain, or related scientific and marketing sectors, where they can apply their skills.
- Allow individuals to develop their capacity to undertake research into the science of foods and their economics and marketing.
- Provide students with a programme containing integrated periods of industrial training allowing students to experience and apply the skills developed during the course.
- Provide undergraduates with opportunities to develop their inter-personal and communication skills.
- Enable graduates to meet the entry requirements of the Institute of Food Science and Technology (IFST) and the Institute of Marketing (IM).

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.
Students will also have had the opportunity to enhance their skills relating to career management and team working.

Programme content
The profile which follows states which modules must be taken (the core Food Science with Business modules) and, for Part 2 and 3, lists of modules from which the student must make a selection (the optional modules). 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

Code	Module Title	Credits	Level
AP1EE1	Economics 2	10	4

AP1EM1	Introduction to Marketing	10	4
AP1SB1	Introduction to Management	10	4
AP1EE3	Economics 1	10	4
CH1FC3	Molecular Studies for the Life Sciences	10	4
FB1EP1	Physical Aspects of Food Systems A	10	4
FB1GFN	Key Skills for Food and Nutritional Sciences	10	4
FB1MB1	Introduction to Food Microbiology	10	4
FB1EQ2	Quantitative Skills for Life Sciences A	10	4
BI1S1	Introductory Microbiology	10	4
ST2S1	Statistics and Epidemiology for the Life Sciences	10	5

10 credits from the following (choice dependent upon entry qualifications):

CH1FC1	Fundamental Concepts in Chemistry 1	10	4
FB1PH1	Public Health Nutrition 1	10	4

Part 2 (three terms)
Compulsory modules

Code	*Module title*	*Credits*	*Level*
AP2EE4	Economics 3	10	5
AP2EE5	Economics 4	10	5
AP2EM1	Marketing Management	10	5
AP2SB1	Business Management	10	5
FB2EFP	Food Processing	20	5
FB2N1	Fundamentals of Human Nutrition	20	5
FB2CCP	Composition and Properties of Food	20	5
FB2PYA	Industrial Training Preparation	0	5

Students entering directly into Part 2 from Henan University are required to take:

FB2CAL	English for Science	20	5
Optional modules (20 credits) (for students not from Henan)			
LA1XX1	Institution Wide Language Programme	20	4
MM270	Practice of Entrepreneurship	20	5
PY1PC	Perception	10	4
FB2GPD	Basic Food Product Development	10	5
FB2SEN	Sports and Exercise Nutrition	10	5

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

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

Mod Code	*Module Title*	*Credits*	*Level*
FB2PYB	Industrial Training Year	120	5

Industrial Training
Students are required to undertake a period of industrial training between Parts 2 and 3. The placement takes 44 weeks and may be split into two, 22-week periods at two different establishments. Performance in the training will be assessed. In addition, students are expected to seek relevant industrial training during the Summer vacation between Parts 1 and 2.

Part 3 (three terms)
Compulsory modules

Code	*Module title*	*Credits*	*Level*
AP3EB1	Business Strategy	10	6
AP3EM1	Marketing Strategy	10	6
FB3AFQa	Advanced Food Quality, Safety and Sensory 2	10	6
FB3AFC	Advanced Food Chemistry	20	6
FB3PFB	Research Project	40	6
FB3FPD	Food Product Development	20	6
FB2FQS	Food Quality and Sensory Science	10	5

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% in CH1FC3, FB1EP1, FB1EQ2 and FB1GFN.

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.
To gain a threshold performance at Part 2, a student shall normally be required to achieve:
(i) a weighted average of 40% over 120 credits taken at Part 2;
(ii) marks of at least 40% in individual modules amounting to not less than 80 credits; and
(iii) marks 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 must achieve a threshold performance and must achieve a mark of at least 40% in the Industrial Training Year. Students who fail the Industrial 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%. In order to achieve a BSc Honours degree students are required to achieve a mark of at least 30% in the final year project module FB3PFB. Students who fail to achieve this mark will qualify for a PASS degree if they meet the other criteria.

Assessment and classification

The University's honours classification scheme is:

Mark	*Interpretation*
70% - 100%	First class
60% - 69%	Upper Second class
50% - 59%	Lower Second class
40% - 49%	Third class
35% - 39%	Below Honours Standard
0% - 34%	Fail

For the University-wide framework for classification, which includes details of the classification method, please see: www.reading.ac.uk/internal/exams/Policies/exa-class.aspx.

The weighting of the Parts/Years in the calculation of the degree classification is

Four-year programmes, including placement year: Normally:
Part 2 23%
Placement 10%
Part 3 67%

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 coursework 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. The industrial training is assessed by using formal reports from the employer and the student's tutor and the assessment of a report submitted by the student.

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, B at A2 with at least one core science subjects, including either chemistry, biology, physics and maths.
- UCAS grades equivalent to BBB.

Admissions Tutor: Dr Niamh Harbourne

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 learning

Career prospects
The food industry has a great demand for qualified graduates with an understanding of the relationship between the science of food, the economics of the food supply system and the marketing of the products. Graduates from this programme gain employment in research (gaining an understanding of the underlying science of foods from nutritional factors to enzyme reactions) in product development (assisting the development of products meeting a particular marketing need) or in quality assurance (monitoring of compliance with legal requirements and the establishment of food safety systems meeting national and international standards). Food retailers employ graduates to ensure the cover the broad issues of food safety, quality and marketing. Other opportunities arise in companies supplying the food industry where graduates are able to take positions such as product development and technical sales. In addition to the career opportunities in the biotechnological industries, the academic training our graduates receive equips them for positions in other industries, commerce and Government service.

Opportunities for study abroad
As part of the degree programme students have the opportunity to study abroad at an institution with which the University has a valid agreement.
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.

Placement opportunities
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Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:	**Teaching/learning methods and strategies**
1. The role of food chemistry, food processing and food microbiology in the context of food quality and safety. 2. Economic and social approaches to the analysis of food related issues. 3. Consumer food choice and approaches to consumer and market research in food markets. 4. Human resource management, finance and marketing management and business management.	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. The industrial training year provides a major opportunity for most students to enhance their skills relating to some or all of topics 1 - 4. *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. Where appropriate, the industrial training assessment is also used.

Skills and other attributes

B. Intellectual skills - *able to:*	**Teaching/learning methods and strategies**
1. Analyse and solve problems 2. Critically evaluate scientific literature 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	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 course-work. Topics 3, 4 and 5 are fully developed during the individual research project in Part 3 of the programme. The industrial training year provides a major opportunity for most students to enhance their skills relating to some or all of topics 1 - 5. *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. Where appropriate, the industrial training assessment is also used.

C. Practical skills - *able to:*	**Teaching/learning methods and strategies**
1. Perform chemical, physical, microbiological and sensory laboratory tests to assess the quality and safety of foods. 2. Participate in, and help develop, food product development programmes. 3. Operate quality assurance procedures in food processing. 4. Perform economic analyses of food production systems. 5. Assist in the management of food businesses and in the marketing of their products.	Topics 1, 4 and 5 are introduced by lectures but are developed fully by appropriate exercises during all Parts of the programme. Topics 2 and 3 are developed during lectures, exercises and group work in Part 3 of the programme. The industrial training year provides a major opportunity for most students to enhance their skills relating to some or all of topics 1 - 5. *Assessment* All topics will be assessed by coursework. Where appropriate, the industrial training assessment is also used.

D. Transferable skills - *able to:*	**Teaching/learning methods and strategies**
1. Work as an individual, in a small group or as part of a larger team. 2. Prepare reports and make presentations that	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

effectively present the results of investigations carried out.
3. Critically assess and present data using appropriate statistical techniques.
4. Make effective use of information technology.
5. Consider and manage career choice.

groups. Career skills (topic 5) are introduced in a Part 1 module and reinforced by the industrial experience period between Parts 2 and 3. The industrial training year provides a major opportunity for most students to enhance their skills relating to some or all of topics 1 - 5.

Assessment
All topics are assessed both by coursework within the modules and in formal examinations. Where appropriate, the industrial training assessment is also used.

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.