

## Programme Specification

**BSc Food Technology with Bio-processing (3 year)**

**For students entering Part 1 in September 2024**

**UCAS Code: D622**

**UFFDTECHBIO3**

**UFFDTBIO1**

**UFFDTBIO2**

**UFFDTBIO3**

**UFFDTBIO3IP**

**UFFDTECHBIO**

**This document sets out key information about your Programme and forms part of your Terms and Conditions with the University of Reading.**

Awarding Institution	University of Reading
Teaching Institution	University of Reading
Length of Programme	3 years
Length of Programme with placement/year abroad	BSc Food Technology with Bio-processing (students from Jiangnan University) - 3 years BSc Food Technology with Bio-processing (students from Henan University of Technology) - 3 years BSc Food Technology with Bio-processing (students from Taylor's University) - 3 years BSc Food Technology with Bio-processing with Industrial Training - 4 years (UCAS Code: D621)
Accreditation	Accredited by the Institute of Food Science and Technology (IFST) for the purpose of eligibility to apply for associate level membership.
QAA Subject Benchmarking Group	Agriculture, Horticulture, Forestry, Food, Nutrition and Consumer Sciences

### Programme information and content

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 sectors) as technologists and to develop their capacity to undertake research into problems relating to the production and marketing of safe and quality foods. Students will learn to integrate the scientific disciplines relevant to food and to apply and communicate technological knowledge to meet the needs of industry and the consumer for the production and marketing of safe and quality foods.

Part 1:	Part 1 introduces you to the foundations of the degree, with a strong focus on fundamental science modules such as physiology, chemistry and microbiology, but also quantitative skills, an introduction to food science and awareness of the food chain and food industry. The modules in Part 1 ensure that students have sufficient knowledge to underpin their later studies.
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Part 2:	Part 2 provides you with different aspects of food technology, in particular food composition, processing, food microbiology and food quality.
Placement/Study abroad year:	The placement year normally takes place between Parts 2 and 3 of this degree programme. It is an opportunity for students to apply their skills in an 'real-world' environment and gain invaluable experiences.
Part 3:	Part 3 gives you the opportunity to apply your knowledge to the development of a new food product and your research project (dissertation). You will also be able to deepen your knowledge and understanding of food chemistry, quality and safety as well as sustainable processing.

### **Programme Learning Outcomes - BSc Food Technology with Bio-processing (3 year)**

During the course of the Programme, you will have the opportunity to develop a range of skills, knowledge and attributes (known as learning outcomes) For this programme, these are:

	<b>Learning outcomes</b>
1	Develop a sound understanding of the chemical, microbiological and processing and bioprocessing aspects in the context of food quality and safety.
2	Demonstrate understanding of food processing equipment, food engineering, and ways to promote sustainability within food systems.
3	Solve new problems by applying knowledge, designing experiments to test hypotheses, and critically analysing and interpreting data in respect to scientific literature available.
4	Plan, conduct and report on an individual research project.
5	Quantitatively evaluate the performance of food processing and bioprocessing equipment and propose alternatives to establish technical, environmental and economic viability and sustainability of the process.
6	Perform chemical, physical, microbiological, and sensory laboratory tests to assess the quality and safety of foods and participate in food product development programmes.
7	Implement quality assurance procedures and appropriate legislation to ensure the production of safe and quality foods.
8	Work as an individual and in teams to solve a research question, and to critically assess and present data using appropriate statistical techniques and making effective use of information technology.
9	Evaluate the wider consequences of food chain activities and identify ways to minimise any harmful effects on the environment and on people.
10	Effectively communicate information related to food technology at a level and in a format appropriate to the needs of both specialist and non-specialist target audiences.

You will be expected to engage in learning activities to achieve these Programme learning outcomes. Assessment of your modules will reflect these learning outcomes and test how far you have met the requirements for your degree.

To pass the Programme, you will be required to meet the progression or accreditation and award criteria set out below.

### Module information

Each part comprises 120 credits, allocated across a range of compulsory and optional modules as shown below. Compulsory modules are listed.

#### Part 1 Modules:

Module	Name	Credits	Level
CH1GCA	General Chemistry A	20	4
FB1BOB	Food and Nutritional Chemistry: a Practical Approach	20	4
FB1FSC	Food System Challenges	20	4
FB1MIC	Food Microbiology	20	4
FB1NBP	Nutritional Biochemistry and Physiology	20	4
FB1SFM	Introduction to Sustainable Food Manufacturing	20	4

#### Part 2 Modules:

Module	Name	Credits	Level
FB2CPF	Composition and Properties of Foods	20	5
FB2FM2	Food Spoilage, Preservation and Hazards	20	5
FB2FMP	Food Manufacturing Principles	20	5
FB2JOB	Securing a Job: Recruitability and Employability Skills	0	5
FB2PQA	Food Processing and Quality Assurance	20	5
FB2SCS	Sensory and Consumer Science	20	5

Remaining 20 credits will be made up of optional modules provided by the Department of Food and Nutritional Science or modules from an approved list.

Students on the (UFFDTBIO3IP) BSc Food Technology with Bio-Processing (International Programme) will take the module *FB2CAL English for Sciences* in place of the optional 20 credit module.

#### Modules during a placement year or study year (if applicable):

Module	Name	Credits	Level
FB2PLY	Placement Year	120	5

If you take a year-long placement or study abroad, Part 3 as described below may be subject to variation.

#### Part 3 Modules:

<b>Module</b>	<b>Name</b>	<b>Credits</b>	<b>Level</b>
FB3AQS	Advanced Food Quality and Safety	20	6
FB3NPD	New Product Development	20	6
FB3PFB	Research Project	40	6
FB3SFS	Sustainable Food Systems	20	6

Remaining 20 credits will be made up of optional modules provided by the Department of Food and Nutritional Science or modules from an approved list.

### **Placement opportunities**

#### **Placements:**

You may be provided with the opportunity to undertake a credit-bearing placement as part of your Programme. This will form all or part of an optional module. You will be required to find and secure a placement opportunity, with the support of the University

#### **Study Abroad:**

You may be provided with the opportunity to undertake a Study Abroad placement during your Programme. This is subject to you meeting academic conditions detailed in the Programme Handbook, including obtaining the relevant permissions from your School, and the availability of a suitable Study Abroad placement. If you undertake a Study Abroad placement, further arrangements will be discussed and agreed with you.

### **Optional modules:**

The optional modules available can vary from year to year. An indicative list of the range of optional modules for your programme can be found online in the Course Catalogue. Details of optional modules for each part, including any additional costs associated with the optional modules, will be made available to you prior to the beginning of the Part in which they are to be taken and you will be given an opportunity to express interest in the optional modules that you would like to take. Entry to optional modules will be at the discretion of the University and subject to availability and may be subject to pre-requisites, such as completion of another module. Although the University tries to ensure you are able to take the optional modules in which you have expressed interest this cannot be guaranteed.

### **Teaching and learning delivery:**

You will be taught through a wide range of approaches to teaching and learning in our programmes, spanning from seminars to workshops, practical classes, but also problem-based learning and flipped-classroom type methods. These aim to maximise your engagement and accommodate students with different learning styles. The latter ensures that our teaching is diverse and inclusive, as our students are from a wide variety of different

backgrounds with very different learning experiences. Within the design of the programmes, we aim to incorporate time for you to reflect on your learning.

You are taught throughout the programme by highly research-active staff who are able to ensure that you learn about current research in their discipline. In the final year project, many of you will be involved in cutting-edge research projects and become an integral part of the different research groups within the department.

We use pedagogies appropriate to the discipline with a student-centred learning paradigm. This means that our main role is to guide and facilitate your learning and provide experience-based learning opportunities. In applied sciences, such as Food Science, active learning has a crucial role. You are expected to be active learners and contribute to the learning process, building knowledge and understanding in response to opportunities provided. You will develop your existing knowledge in order to achieve deeper levels of understanding, allowing you to analyse, evaluate and synthesize ideas. Our teaching is informed by the concept of constructive alignment, ensuring that the components of the teaching system are aligned to each other.

Elements of your programme will be delivered via digital technology.

The scheduled teaching and learning activity hours and amount of technology enhanced learning activity for your programme will depend upon your module combination. In addition, you will undertake some self-scheduled teaching and learning activities, designed by and/or involving staff, which give some flexibility for you to choose when to complete them. You will also be expected to undertake guided independent study. Information about module study hours including contact hours and the amount of independent study which a student is normally expected to undertake for a module is indicated in the relevant module description.

### **Accreditation details**

This programme is accredited by the Institute of Food Science and Technology (IFST) for the purpose of eligibility to apply for associate level membership.

### **Assessment**

The programme will be assessed through a combination of coursework, set exercises, in-class tests, oral assessments, artefact production, written examinations and a capstone project. Further information is contained in the individual module descriptions.

### **Progression**

#### *Part 1*

To achieve a threshold performance at Part 1, a student will normally be required to:

- (i) Obtain an overall average of 40% over 120 credits taken in Part 1;
- (ii) Obtain a mark of at least 40% in individual modules amounting to not less than 80

credits taken in Part 1; and

(iii) Obtain marks of at least 30% in modules amounting to 120 credits.

In order to progress from Part 1 to Part 2, a student must achieve a threshold performance;

The achievement of a threshold performance at Part 1 qualifies a student for a Certificate of Higher Education if they leave the University before completing the subsequent Part.

*Transferring from a Joint Honours to a Single Honours programme*

Students are able to transfer from a Joint Honours to a Single Honours programme in one of their joint subject areas at the end of Part 1, subject to fulfilling the Part 1 University Threshold Standard, achieving marks of at least 40% in at least 40 credits of modules in the subject to which they wish to transfer, and fulfilling any programme-specific progression rules for the Part 1 Single Honours Programme to which they wish to transfer.

Students who transfer from a Joint Honours to a Single Honours programme may not have taken all of the Part 1 modules listed in the Single Honours Programme Specification. The modules which they have taken will be shown on their Diploma Supplement.

*Part 2*

To achieve a threshold performance at Part 2, a student shall normally be required to:

(i) Obtain a weighted average of 40% over 120 credits taken in Part 2; and

(ii) Obtain marks of at least 40% in individual modules amounting to at least 80 credits taken in Part 2; and

(iii) Obtain marks of at least 30% in individual modules amounting to at least 120 credits, except that a mark below 30% may be condoned in no more than 20 credits of modules owned by the Department of Mathematics and Statistics.

In order to progress from Part 2 to Part 3, a student must achieve a threshold performance;

The achievement of a threshold performance at Part 2 qualifies a student for a Diploma of Higher Education if they leave the University before completing the subsequent Part.

*Professional/placement year*

Students are required to pass the professional placement year/study abroad year in order to progress on the programme which incorporates the professional placement year/study abroad year. Students who fail the professional placement year/study abroad year transfer to the non-placement year version of the programme.

## **Classification**

Bachelors' degrees

The University's honours classification scheme is based on the following:

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

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

*Three year programmes:*

Part 2: one-third

Part 3: two-thirds

*Four year programmes, including professional/work placement or study abroad:*

Part 2: one-third

Professional/work placement or Study abroad: not included in the classification

Part 3: two-thirds

The classification method is given in detail in Section 17 of the Assessment Handbook.

### **Additional costs of the programme**

During your programme of study, you will incur some additional costs. For textbooks and similar learning resources, we recommend that you budget between £50 to £150 a year. Some books may be available second-hand, which will reduce costs. A range of resources to support your curriculum, including textbooks and electronic resources, are available through the library. Reading lists and module specific costs are listed on the individual module descriptions.

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations. Estimates were calculated in 2023.

**For further information about your Programme please refer to the Programme Handbook and the relevant module descriptions, which are available at <http://www.reading.ac.uk/module/>. The Programme Handbook and the relevant module descriptions do not form part of your Terms and Conditions with the University of Reading.**

BSc Food Technology with Bio-processing (3 year) for students entering Part 1 in session 2024/25

6 February 2024

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