

BSC (HONS) (FOOD SCIENCE) - CK505

Overview

NFQ Level 8, Major Award

The BSc (Hons) (Food Science) Degree is of four years' duration. The programme includes a 24-week period of Work Placement in the Third Year.

First Year - Food Science

In order to be admitted to the First University Examination in Food Science a student must have satisfactorily attended modules amounting to **60** credits.

Second Year - Food Science

No student may register for Second Year Food Science until the First University Examination in Food Science has been passed. To be admitted to the Second University Examination in Food Science a student must have satisfactorily attended modules amounting to **60** credits.

Third Year - Food Science

The Third Year Food Science programme consists of taught modules to the value of 50 credits and Work Placement to the value of 10 credits. No student may register for Third Year Food Science until the Second University Examination in Food Science has been passed. To be admitted to the Third University Examination in Food Science a student must have satisfactorily attended taught modules amounting to **50** credits.

Work Placement

Students must also undertake a 24-week period of Work Placement (FS3001 Work Placement - 10 credits) after the Third University Examination. Students debarred from examination in any module in the Third Food Science Programme will not be permitted to undertake Work Placement (FS3001 Work Placement).

Students who do not secure a work placement position by April 30 each year, or who are debarred from examination in any module in Third Food Science Programme, will take module FS3100 Food Industry Skills (10 credits).

Fourth Year - Food Science

Students who fail or do not undertake FS3001 Work Placement or FS3100 Food Industry Skills must repeat or take this module after the BSc (Hons) Food Science Degree Examination has been completed. To be allowed to graduate a student must have passed either FS3001 or FS3100. To be admitted to the BSc (Hons) (Food Science) Degree Examination a student must have satisfactorily attended modules amounting to **60** credits.

Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

Programme Requirements

Code	Title	Credits
Year 1		
Students take 60 credits as follows:		
<i>Core Modules</i>		

BC1001	Introduction to Biochemistry and the Biological Basis of Disease	5
BL1004	Physiology and Structure of Plants and Animals	5
CM1005	Introductory Chemistry for Food and Nutritional Sciences	15
FS1005	Food Technology, Culture and Ethics	5
FS1006	Success Skills for Food Scientists	5
MA1001	Calculus for Science Part 1	5
MA1002	Calculus for Science Part 2	5
MB1003	Microbiology in Society	5
PY1008	Physics for Biomedical, Environmental, Food and Nutritional Sciences	10

Year 2

Students take **60** credits as follows:

Core Modules

BC2001	Biomolecules	5
BC2002	Principles of Metabolic Pathways	5
FS2001	Introductory Food Chemistry - Analytical Methods	5
FS2002	Introductory Food Chemistry: Food Constituents A	5
FS2003	Introductory Food Chemistry - Selected Topics in Physical Chemistry	5
FS2006	Food Process Design and Optimisation	5
FS2007	Topics in Food Quality, Hygiene and Legislation	
MB2005	Fundamentals of Microbiology	5
MB2006	Principles of Microbiology	5
NT2013	Fundamentals of Nutrition Part 1	5
PE2006	Process Engineering Principles	5
ST2001	Introduction to Biostatistics	5

Year 3

Students take **60** credits as follows:

Core Modules

FS3008	Fundamentals of Food Packaging	5
FS3013	Proteins and Lipids in Food Systems	5
FS3014	Macromolecules, Emulsions and Food Structure	5
FS3015	Dairy Processing and Preservation	5
FS3016	Ingredient Recovery from Milk, Whey and their Co-Products	5
FS3020	Methods of Food Processing and Analysis	5
FS3021	Professional Skills for Food Scientists	5
FS3022	Sensory Evaluation for Food and Nutritional Sciences	5
MB3003	Food and Industrial Microbiology I	5
MB3014	Food and Industrial Microbiology II	5
FS3001	Work Placement ¹	10
or FS3100	Food Industry Skills	

Year 4

Students take **60** credits as follows:

Core Modules

FS4002	Team Research and Development Project	10
FS4014	Food Product Development and Innovation	5
FS4006	Cereals and Related Beverages	5
FS4011	Advanced Food Packaging	5
FS4020	Dairy Fermentations and Biotechnology A	5

FS4021	Meat Science and Technology	5
FS4023	Food Biopolymer Ingredients	5
FS4025	Food Formulation and Design for Nutrition and Health	5
FS4026	Food Factory Design, Utilities and Services	
MB4011	Microbial Food Safety	5
NT4014	Sustainable Food Systems	5
Total Credits		230

¹ Students must also undertake a 24-week period of Work Placement (FS3001 Work Placement - 10 credits) after the Third University Examination. Students debarred from examination in any module in the Third Food Science Programme will not be permitted to undertake Work Placement (FS3001 Work Placement). Students who do not secure a work placement position by April 30 each year, or who are debarred from examination in any module in Third Food Science Programme, will take module FS3100 Food Industry Skills (10 credits).

Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.

Programme Learning Outcomes

Programme Learning Outcomes for BSc (Hons) (Food Science) (NFQ Level 8, Major Award)

On successful completion of this programme, students should be able to:

- Identify, analyse and solve problems in food science using knowledge of biological and physical sciences and technology;
- Describe the chemistry of the major constituents of food systems, and relate the presence of these constituents to food properties;
- Explain the principles behind microbial processes in food systems, including adaptation and environmental factors, fermentation, spoilage and pathogenicity, and relate these to processes for production of safe, stable food systems;
- Describe unit operations used in food processing and the effects of processing parameters on product quality;
- Explain the principles of, and apply in practice, techniques in food analysis;
- Plan, conduct, evaluate and report research in food science;
- Work effectively as an individual, in teams and in multi-disciplinary settings, in particular in the context of research or food product/process development, and with an appreciation of the structure and operation of the modern food industry;
- Develop the capacity to undertake lifelong learning;
- Communicate effectively with the food industry and with society at large.