



# UNIVERSITY OF LINCOLN

## Programme Specification

Title:

### **Food and Drink Operations and Manufacturing Management**

Final Award: **Bachelor of Science with Honours (BSc (Hons))**

With Exit Awards at:

**Certificate of Higher Education (CertHE)**

**Diploma of Higher Education (DipHE)**

**Bachelor of Science with Honours (BSc (Hons))**

To be delivered from: 1 Sep 2017

<b>Level</b>	<b>Date</b>
Level 1 or Certificate of Higher Education (CertHE)	2019-20
Level 2 or Diploma of Higher Education (DipHE)	2020-21
Level 3 or Bachelor of Science with Honours (BSc (Hons))	2021-22

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## **1. Introduction**

This document describes one of the University of Lincoln's programmes using the protocols required by the UK National Qualifications Framework as defined in the publication *QAA guidelines for preparing programme specifications*.

This programme operates under the policy and regulatory frameworks of the University of Lincoln.

## 2. Basic Programme Data

<b>Final Award:</b>	Bachelor of Science with Honours (BSc (Hons))
<b>Programme Title:</b>	Food and Drink Operations and Manufacturing Management
<b>Exit Awards and Titles</b>	Certificate of Higher Education (CertHE) Diploma of Higher Education (DipHE) Bachelor of Science with Honours (BSc (Hons))
<b>Subject(s)</b>	
<b>Mode(s) of delivery</b>	Part Time
<b>Is there a Placement or Exchange?</b>	
<b>UCAS code</b>	
<b>Awarding Body</b>	University of Lincoln
<b>Campus(es)</b>	Holbeach Campus
<b>School(s)</b>	National Centre for Food Manufacturing
<b>Programme Leader</b>	Vanessa Sutton (vsutton)
<b>Relevant Subject Benchmark Statements</b>	
<b>Professional, Statutory or Regulatory Body Accreditation</b>	
<b>Programme Start Date</b>	2019-20

## **3. Programme Description**

### **3.1 Overview**

The BSc (Hons) in Food and Drink Operations and Manufacturing Management with its diverse module specifications has been developed in order to best prepare students for managing multi-disciplined teams in today's fast-paced food manufacturing environments. Students are introduced to both the theoretical and practical aspects of management within food manufacturing sector including planning, logistics, technical support and resource management. Furthermore, the course aims to provide the students with the necessary technical knowledge in order to support the safe production of food within their roles. Typical job roles and titles for graduates of this course may include food manager, operations manager, production manager, manufacturing manager, business unit manager and general site manager. The course acknowledges the importance of a holistic, all-encompassing farm-to-fork supply chain focus across the food sector.

The sector is experiencing momentous change such as the introduction of living wage, increase in inflation and cost as well as large-scale adoption of advanced technologies. It is imperative, therefore, that the managers within this section have ready access to higher level skills, which are typically developed through this programme. Developed by a research-engaged and research-led teaching team, curriculum content is focused, relevant and current throughout the course. It also provides the students with a unique period of independent scientific research, in accordance with the University's "Student as Producer" ethos.

The BSc (Hons) in Food and Drink Operations and Manufacturing Management also equips the undergraduates with the essential practical and professional transferable skills to enable them to reach their potential within the food sector as well as academic, industrial, commercial, government and environmental settings. To achieve this, the course places considerable emphasis on enhancing intellectual, critical analysis, problem solving, project and time management, report writing, teamwork, ethics, health and safety, intellectual property, information technology and career management.

The course content is suitable for students who are interested in food operations, food manufacture and related food-related topics. The key content areas of the programme build on the diverse knowledge of existing members of staff whose expertise includes but is not limited to the following key areas:

1. Theoretical and practical training in Food Manufacturing
2. Specialism in Food Operations and Managing Food Manufacture sites
3. Policies and markets including corporate social responsibility, food law and employment legislation
4. Specialist training in Project Management and Resource Management
5. Skills training in research and professional development relevant to personal effectiveness for leadership
6. Experience of planning, managing, undertaking (including practical work) and reporting of food related project work.
7. Innovative Digital technologies

### **3.2 Aims and Objectives**

Educational aims of the programme:

The BSc (Hons) in Food and Drink Operations and Manufacturing Management aims to provide:

- An extensive and detailed understanding of a broad range of principles and practices underpinning food operations and manufacturing;

- Career development within the food manufacturing sector;
- Personal transferable and management skills of individuals;
- Access to postgraduate qualifications;
- A curriculum relevant to the needs of local and national businesses and provide companies with the means to develop their own operations personnel and managers;
- A curriculum that meets the needs of individuals in employment, studying on a part-time basis.

The programme is distinctive in that it has been developed in partnership with the needs of employers for food and drink operations and manufacturing management. The broad based curriculum reflects the wishes of employers to see those working at this level demonstrating flexibility through knowledge of a range of subjects and their interrelationship along with effective people and personal management skills.

Ethical issues have been fully considered in the development of this programme, particularly in the delivery and assessment strategies. If an issue were to arise reference would be made to the university regulations concerned. All foods used in experimentation will originate from the food chain and as such would not have special ethical considerations. Students will be made aware of ethical issues during their independent study and if any arise this will be dealt with during the project proposal stage.

#### QAA Subject Benchmark Statement:

The subject benchmarks used in authoring this document can be found in the QA benchmarking document. Agriculture, Horticulture, Forestry, Food, Nutrition, Consumer Sciences, (QAA, 2016).

#### Internal contexts:

The BSc (Hons) in Food and Drink Operations and Manufacturing Management is a programme taught through blended part-time distance learning and study blocks from the University of Lincoln's National Centre for Food Manufacturing (NCFM) based in Holbeach, Lincs. The NCFM is a non-residential satellite campus of the University which in addition to providing internationally recognised part-time higher education and apprenticeships courses, offers bespoke research and technical business support for the food industry. Strategically situated in South Lincolnshire, NCFM serves the UK's largest concentration of food manufacturing businesses. Over 250 employers, including major international companies such as Bakkavör, FreshTime, Moy Park, Tulip, Bakkavör and Nestlé support employees attending courses at NCFM each year. With the help of its well-qualified and committed team, all with extensive experience of the sector informed by close association with businesses, NCFM helps over 2,000 individuals each year to advance their skills and achieve qualifications.

The NCFM is focused on meeting the education and business needs of the food producers and land-based industries. The NCFM College Executive is charged with ensuring parity with respect to operational and quality processes and the student experience, regardless of the geographical location of the campus where delivery takes place. In support of this strategy, individual academic staff are responsible for the delivery of teaching regardless of location, and students normally share the same course leader and teaching staff. Access to learning resources and additional support is equitable across campuses. It is acknowledged that access to physical resources in support of teaching varies in nature between campuses. However, when set in the context of the student experience, these are comparable.

The BSc (Hons) in Food and Drink Operations and Manufacturing Management also contributes significantly towards meeting the standards set by the government for the Food and Drink: Manufacturing Manager standards. It enables the University to work with employers, their employees and other organisations to fulfil their needs by offering bespoke training and innovative learning strategies as well as collaboration with professional bodies, regional strategic partnerships and educational providers in order to raise the skill levels of the workforce in the UK and beyond. Furthermore, the award can be used to promote a positive change in employer involvement in continual professional development.

In addition to Levels 2 and 3 apprenticeships, NCFM offers a wide range of food-related short courses all of which have been accredited by professional bodies such as the British Retail Consortium (BRC), The Chartered Institute of Environmental Health (CIEH) or The Royal Society for Public Health (RSPH). NCFM works closely with employers in the food industry, responding to a growing need for skilled manufacturing and operational managers, food scientists and technologists. With its expert food industry know-how and unrivalled collaboration with leading suppliers of robotics and automation, processing and packaging technology, NCFM's research facility progresses cutting-edge work across a number of food sector areas. NCFM is recognised for its highly innovative delivery model, comprising distance learning study typically supplemented with three weeks of block release study per year.

#### External contexts:

As the largest UK manufacturing sector, the food industry is dynamic, at the forefront of some of the most advanced technological developments and offers a wealth of exciting and rewarding careers, yet the sector has had limited success in getting its message across to young people. As a result skills shortages are a major challenge. It suggests that a quarter of all Food Scientist and Food Technologist vacancies in the UK remain unfilled due to lack of available talent. With the sector experiencing the large-scale adoption of advanced technologies and automation across the industry, ready access to higher level skills is priority for many businesses. The sector has made progress in addressing skills gaps but the lack of widely available degree level career paths has been a factor in sector's inability to promote its STEM (Science, Technology, Engineering and Maths) credentials and assume the esteem for degree level training schemes that the automotive sector has long enjoyed.

The sector's Degree is a product of collaborative working by employers to lever scale, build momentum and strategic partnerships with universities to secure a skills infrastructure for the future which is underpinned by excellent providers. Degree Apprenticeships will provide a long-term solution to the industry's challenges and much needed parity with other sectors and ensure that a career in the Food Industry is seen as attractive option for young people seeking STEM careers. This in turn will boost the numbers of learners with the right skills, abilities and behaviours and enable the sector to set and meet ambitious recruitment targets.

The area hosts one of the highest concentrations of food manufacturing companies in the country and the sector is expanding rapidly. The BSc (Hons) in Food and Drink Operations and Manufacturing Management responds to the continuing demand for qualified graduates in the food manufacturing industry. High quality, locally accessible Higher Education is essential to provide companies with the means to develop their own personnel. Current and past students have been consulted regarding the course structure and unit content. The BSc (Hons) in Food and Drink Operations and Manufacturing Management has been developed in conjunction with employer

consultations with local and national employers such as Bakkavor, Freshtime, Moy Park, and Tulip.

### **3.3 Variations to Standard Regulations and Guidance**

A variation to the University's Undergraduate Regulations is in place relating to module credit values at level 3. Follow link for details: <http://secretariat.blogs.lincoln.ac.uk/university-regulations/>

## 4. Programme Outcomes

Programme-level learning outcomes are identified below.

Refer to *Appendix I – Curriculum Map* for details of how outcomes are deployed across the programme.

### 4.1 Knowledge and Understanding

On successful completion of this programme a student will have knowledge and understanding of:

- 1 How to apply the principles of operations and manufacturing management to analyse issues relevant to the modern food industry.
- 2 Ways to evaluate the structure, function and operation of food operations and manufacturing, and relate to factors which drive and influence it.
- 3 An integrated understanding of management strategies for operations and manufacturing.
- 4 Methods to evaluate the importance of Food Processing, Storage and Preservation in relation to the chemical and microbiological content of foods
- 5 How to critically evaluate the value chain in operations and manufacturing, and demonstrate how to maximise its potential
- 6 Critical evaluation of financial and management data to develop commercial awareness within operations and manufacturing roles in the food & drink industry

### 4.2 Subject Specific Intellectual Skills

On successful completion of this programme a student will be able to:

- 7 Relate food technology operations and manufacturing processing to food safety
- 8 Demonstrate the principles of operations and manufacturing management related to food safety, food processes, food quality assurance and food technical management
- 9 Critically appraise current developments in food science, technology and manufacture and relate to operations and manufacturing of food and drink.

### 4.3 Subject Specific Practical Skills

On successful completion of this programme a student will be able to:

- 10 Successfully undertake a research project in the subject of operations and manufacturing management producing primary data which will be analysed, synthesised and summarised to critically evaluate the research
- 11 Critically analyse food operations and manufacturing management practices and propose solutions
- 12 Analyse the methods used for people management and demonstrate an indepth knowledge of the management of change in operations and manufacturing

#### 4.4 Transferable Skills and Attributes

On successful completion of this programme a student will be able to:

- 13 Successfully complete an independent project by using time and project management strategies
- 14 Be capable of managing one's self and personal development within their job role and wider context
- 15 Be capable of operating effectively within a team, appropriate to role
- 16 Critically evaluate subject, written and numeracy knowledge acquired and relate their application to operations and manufacturing management
- 17 Identify, assess and address issues of health and safety, ethics, confidentiality and other legislative requirements as appropriate to their own study and operational role
- 18 Apply effective research skills and strategies by engaging in primary research
- 19 Plan, prepare and deliver effective presentations in a number of formats to include written and oral
- 20 Plan, organise and write effective reports, essays, documents
- 21 Evaluate and act on opportunities for business development

For details of each module contributing to the programme, please consult the module specification document.

## **5. Learning, Teaching and Assessment Strategies**

### **5.1. Learning and Teaching Strategy**

Learning and teaching strategy:

The teaching and learning strategy adopted within the BSc (Hons) in Food and Drink Operations and Manufacturing Management reflects the purposes and objectives set out in the United Kingdom QAA Subject Benchmark Mapping Agriculture, Horticulture, Forestry, Food, Nutrition, Consumer Sciences 2015 statement in the following ways: The teaching and learning strategy adopted within the BSc (Hons) in Food and Drink Operations and Manufacturing Management is blended learning and uses a variety of learning modes. The delivery of the programme will also be flexible, in that it will be taught primarily through distance learning and study blocks where attendance is required at NCFM.

Distance learning is achieved through the delivery of engaging digitally enhanced learning materials produced by experienced research-led academic and support staff. In addition, module seminars and tutorials are typically planned to give students the opportunity to apply, investigate, assimilate and evaluate issues around the core lecture topics. Practical sessions, where applicable, for experimentation and/or illustration of principles, practices and techniques are timetabled for the appropriate modules and typically delivered through student attendance at campus/study weeks/master class. For the science-based modules these practical sessions usually take place in fully supported laboratories where there is full technician support for timetabled activities and for student project work.

The main focus of the research led teaching is the relationship of the teaching to the working experience of the students, and hence, every emphasis is made to ensure teaching is practically focused, industry relevant and draws upon the experiences of the individual students within the group. The majority of modules will have a work-based assignment built into the assessment where the students will be able to draw upon their experience or indeed experience new environments related to the subject outcomes of the module. Students are encouraged to attend seminars of Guest speakers and Master classes as they are seen as key opportunities for learning in that these enable the theory elements to be applied and analysed in context in the food manufacture industries and their inclusion develops the cultural awareness of the student.

Timetable and semester length:

The part-time programme will typically be completed over 4 years. Students following the supported distance learning programme will typically study 7 modules over the course of a year at Level 1 and 2. Module credits increase from 15 to 20 and 40 at Level 3 reflects the depth requirement for the subject knowledge, skills and behaviours.

Supported blended distance learning:

This mode of learning adheres to the QAA Code of Practice, section 2: Collaborative Provision and Flexible and Distributed Learning (including e-learning), which addresses the management of flexible and distributed learning. Supported and distance learning is used here to characterise approaches to teaching, learning and assessment that:

- Do not require a student's place of study to be physically located within the institution whose academic award is being sought through successful completion of the programme of study;
- Do not assume that the student is routinely working with other students;
- Do not necessarily require assessment of student's achievement to take place at the location of the awarding institution.

The programme adopts a modular approach, in that delivery and assessments, will normally follow the academic timescales. Students will be required to attend the campus for the typically 5 day

induction programmes, study weeks and revision/exam weeks at all academic levels. Students will require access to a computer with e-mail and broadband facilities.

Delivery of teaching materials will mainly be through Blackboard; the university's VLE. Lectures, has been adopted within the Level 1 modules in which the students can be guided in self-study, laboratory skills and the collection and interpretation of data. In year 1, tutorials are an integral part of the support framework and are particularly relevant given the diverse nature of the students. Level 2 modules, whilst using traditional lectures as a framework, employ increasingly challenging strategies to develop the students' ability to learn independently and employ critical and analytical thought. The main focus of the teaching and learning is through lectures, practicals, tutorials and seminars with significant emphasis being placed on the initiative of 'student as a producer'. Where circumstances dictate, students may be able to adopt a flexible approach to their learning within the normal structure of the year.

#### Induction:

Typically the 5 day induction will take place in either September or January prior to the commencement of the programme. It aims to provide the students with the necessary information to participate and contribute to the programme. The induction will include the following:

- An overview of the University regulations and programme structure;
- An introduction to course tutors and administrative staff;
- Study and learning skills;
- Personal Tutor role;
- Study support profiling;
- An introduction to the learning mode, modules and timetables;
- Library and learning resources;
- Presentation of course materials, course handbook and examples of assessments;
- Introduction to the use of Blackboard as an e-learning environment.

#### Study weeks:

By the very nature of the food industries, elements of the programme are practically based and with the subject being multi-disciplinary, it requires the development of a large range of practical skills which are neither possible nor desirable to ignore. The study week provide an opportunity for this element to be delivered and for skills to be acquired, developed and assessed and the learning outcomes attained. The study week will typically take place at NCFM sites, Holbeach using the microbiology and chemical laboratories, kitchen and sensory suite and specialist trial factory facilities. This will allow students to fully experience the academic and technical support in food science, management, research and food manufacture. The principle objective of the study weeks are to provide a programmed opportunity for the student to undertake a series of research and practical investigations in support of their studies as a 'student as a producer'. Some of these skills may already have been developed by participants during their employment, but the theme of the weeks are to not only develop laboratory and practical competence, but also encourages the development of problem solving skills in an environment exploring the various disciplines involved in food science. The study weeks will provide an opportunity for the students to:

- Meet with their peers, tutors and support staff;
- Study through supervised practical investigations;
- Gain further knowledge of the subject material;
- Integrate aspects of the various disciplines;
- Use the specialist facilities of learning support;
- Have immediate access to tutorial support;

- Undertake some assessments particularly where presentations are involved;

Typically modules which contain practical elements will be undertaken during one of the campus/study weeks. The fees for the study weeks are included in the course fee, but students will be required to meet the costs of their own travel, food and accommodation. The programme administrator will advise with regards to accommodation and travel.

Learning materials:

These will be typically presented via the University's virtual learning environment 'Blackboard' and will be typically in the form of written on-line digital media lecture notes, PowerPoint presentations typically using new emerging digital technologies e.g. videos, recorded seminars, virtual classroom tutorials using current software: Blackboard collaborate, Skype© and Panopto ©, which may be superseded with new and emerging technologies. Practical elements of the modules may typically take place during the study weeks as detailed above. Student to student interaction and 'student as a producer' initiatives will be encouraged and discussion groups will form the basis of some formative assessments, tutor feedback and student participation. Lectures will typically form an integral part of the induction and during study weeks to support the learning materials. There is an ongoing commitment by the department to continually develop new and innovative supported distance learning materials through emerging digital capabilities and new developments will be utilised where appropriate.

Tutors and mentors:

Tutors, mentors and personal tutors will be identified to the student at induction and contact details will be provided in the Supported Distance Learning handbook. All students will be monitored, supported and typically contacted at least once during a semester by the respective personal tutor and module tutors. It is expected that the student should contact their tutor or programme leader with any issues or concerns relating to the programme as soon as they are able. Student support provided by the University is discussed and detailed throughout the programme and described in programme handbooks and included during induction week.

## Academic Skills

Throughout the programme students are actively engaged with the development of their academic skills. Students are introduced to study skills and library resources during enrolment week, which are then supported and further developed throughout module delivery.

Workshops during study weeks are designed to support the development and application of skills such as numerical and data analysis which are typically demonstrated in the Work Based Project and later Independent Project. Communication, critical thinking and evaluation skills will develop across modules and levels with support and guidance as well as practical experience.

Module activities progressively develop and apply interpretation of data, statistical and mathematical knowledge in order to support the development of students' ability to transform data to useful information.

The skills typically include:

- Library resources, using the library - accessing databases, journals and book searching.
- Referencing Formatting - in text citation and reference list.

- Reviewing literature and evaluating sources
- Writing and communication skills
- Research methodology, how to research and keep clear research notes.
- Descriptive Statistics and Inferential Statistics
- Statistical and mathematical skills for food business activities
- Summarising data using measures of central tendency
- Analysis and presentation of data using graphs and tables

These skills are fundamental to academic development and are transferrable within the work place which enhances problem solving and data analysis skills. There will be an emphasis on solving work-related problems; presenting and interpreting results through both statistical and mathematical means; and development of skills appropriate to module content throughout the degree programme.

## **5.2. Assessment Strategy**

The assessment strategy adopted within the BSc (Hons) in Food and Drink Operations and Manufacturing Management award is varied and will include written reports, work-based research projects, presentations, case studies and practical assessments. The format and timing of assessment is planned to take account of the needs of students studying whilst in employment. The assessment timetable is planned, as far as is reasonably practical, to take account of busy periods within the industry.

Practical reports are typically used to assess those modules which focus on the development of skills and knowledge in the scientific and technical aspects of science and the environment. Typically the focus of the work-based assessments is to provide the opportunity for the individual to link learning to the work experience and hence, projects and written reports which direct and focus students towards this are key assessment tools.

Students are provided with an assessment scheme typically at the beginning of each module, which give the timing of each assessment with reference to the start, hand-in and return dates. These are planned by the module coordinators prior to the start of the semester to ensure an even distribution of work.

Assessments in the programme are developed, published and assessed using a criterion referencing model with clearly defined grading criteria, 'rubriks'. Each module has an individual assessment strategy and this is stated in the module descriptor, where the link between individual module learning outcomes is made against individual assessment tasks. The equitability of the student's assessment experience is assured by the University's moderation and or second and double-marking procedures. The University's procedures and regulations regarding external verification of marks will be adhered to. To ensure the equitability of learning, employer mentors will be trained through an induction booklet to ensure that they understand the timescales involved in assessment and the emphasis on work-based learning. There will be individual module tutor and personal tutor support throughout the programme. The campus adheres to all equality and diversity policies and Consumer's Right Act 2015 adopted by the University of Lincoln (as seen in the Equality and Diversity Policy and Consumer's Right Act policy). Students are encouraged to review all the University's regulations and policies and are also posted on the communities' page on Blackboard via the University's portal. All students will be inducted on the use of the University's electronic resources during the induction.

## 6. Programme Structure

The total number of credit points required for the achievement of Certificate of Higher Education (CertHE) is 120.

The total number of credit points required for the achievement of Diploma of Higher Education (DipHE) is 240.

The total number of credit points required for the achievement of Bachelor of Science with Honours (BSc (Hons)) is 360.

### Level 1

<b>Title</b>	<b>Credit Rating</b>	<b>Core / Optional</b>
Managing Self and Others in Food Organisations 2019-20	15	Core
Food Sector Business , Finance, People and Performance 2019-20	15	Core
Policy and Market Dynamics 2019-20	15	Core
Food Quality Assurance, HACCP and Hygiene 2019-20	15	Core
Food Processing Operations 2019-20	15	Core
Health & Safety, Energy and The Environment 2019-20	15	Core
Food Science 2019-20	15	Core
Food Law, Ethics and CSR 2019-20	15	Core

### Level 2

<b>Title</b>	<b>Credit Rating</b>	<b>Core / Optional</b>
Planning, Forecasting and Logistics Management 2020-21	15	Core
Factory Design and Process Control 2020-21	15	Core
Lean Manufacturing and Continuous Improvement 2020-21	15	Core
Corporate Leadership and Governance in the Food Sector 2020-21	15	Core
Project Management and Management of Change 2020-21	15	Core
Robotics and Autonomous Systems 2020-21	15	Core
Foundation Project 2020-21	30	Core

### Level 3

<b>Title</b>	<b>Credit Rating</b>	<b>Core / Optional</b>
Advanced Food Sector Business, Finance, People and Performance 2021-22	20	Core
Managing Supply Chain Relationships 2021-22	15	Core
Holistic Margin Management 2021-22	15	Core
Advanced Commercial Relationships and Negotiation Skills 2021-22	15	Core
Independent Project 2021-22	40	Core
Advanced Business Improvement and Productivity 2021-22	15	Core

## Appendix I - Curriculum Map

This table indicates which modules assume responsibility for delivering and ordering particular programme learning outcomes.

**Key:**  Delivered and Assessed       Delivered       Assessed

### Level 1

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Food Law, Ethics and CSR 2019-20		<input checked="" type="checkbox"/>	<input type="checkbox"/>									
Food Processing Operations 2019-20	<input checked="" type="checkbox"/>			<input type="checkbox"/>			<input checked="" type="checkbox"/>		<input type="checkbox"/>			
Food Quality Assurance, HACCP and Hygiene 2019-20				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
Food Science 2019-20	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			
Food Sector Business , Finance, People and Performance 2019-20		<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>						<input type="checkbox"/>
Health & Safety, Energy and The Environment 2019-20		<input type="checkbox"/>					<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Managing Self and Others in Food Organisations 2019-20			<input checked="" type="checkbox"/>									<input checked="" type="checkbox"/>
Policy and Market Dynamics 2019-20		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>						

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21
Food Law, Ethics and CSR 2019-20					<input checked="" type="checkbox"/>				
Food Processing Operations 2019-20				<input checked="" type="checkbox"/>					
Food Quality Assurance, HACCP and Hygiene 2019-20					<input checked="" type="checkbox"/>				
Food Science 2019-20								<input type="checkbox"/>	
Food Sector Business , Finance, People and Performance 2019-20									
Health & Safety, Energy and The Environment 2019-20		<input type="checkbox"/>				<input type="checkbox"/>			
Managing Self and Others in Food Organisations 2019-20		<input checked="" type="checkbox"/>							
Policy and Market Dynamics 2019-20					<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>

## Level 2

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Corporate Leadership and Governance in the Food Sector 2020-21						✓					✓	
Factory Design and Process Control 2020-21	✓	✓			✓		✓				✓	
Foundation Project 2020-21										✓		
Lean Manufacturing and Continuous Improvement 2020-21	✓								✓			✓
Planning, Forecasting and Logistics Management 2020-21	✓			✓								
Project Management and Management of Change 2020-21		✓			✓							✓
Robotics and Autonomous Systems 2020-21									✓			

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21
Corporate Leadership and Governance in the Food Sector 2020-21									
Factory Design and Process Control 2020-21							✓	✓	✓
Foundation Project 2020-21	✓	✓	✓		✓	✓		✓	
Lean Manufacturing and Continuous Improvement 2020-21			✓						
Planning, Forecasting and Logistics Management 2020-21								✓	✓
Project Management and Management of Change 2020-21									
Robotics and Autonomous Systems 2020-21									

## Level 3

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Advanced Business Improvement and Productivity 2021-22									✓			
Advanced Commercial Relationships and Negotiation Skills 2021-22												✓

Advanced Food Sector Business, Finance, People and Performance 2021-22	✓	✓	✓	✓		✓					✓	
Holistic Margin Management 2021-22						✓					✓	
Independent Project 2021-22								✓	✓	✓	✓	
Managing Supply Chain Relationships 2021-22												✓

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21
Advanced Business Improvement and Productivity 2021-22									
Advanced Commercial Relationships and Negotiation Skills 2021-22			✓						
Advanced Food Sector Business, Finance, People and Performance 2021-22						✓			
Holistic Margin Management 2021-22						✓			
Independent Project 2021-22	✓	✓						✓	✓
Managing Supply Chain Relationships 2021-22			✓						

## Appendix II - Assessment Map

This table indicates the spread of assessment activity across the programme. Percentages indicate assessment weighting.

### Level 1

	01	02	03	04	05	06	07	08	09	10	11	12
Food Law, Ethics and CSR 2019-20												
Food Processing Operations 2019-20												
Food Quality Assurance, HACCP and Hygiene 2019-20					50					50		
Food Science 2019-20												
Food Sector Business , Finance, People and Performance 2019-20												
Health & Safety, Energy and The Environment 2019-20												
Managing Self and Others in Food Organisations 2019-20				50							50	
Policy and Market Dynamics 2019-20					50					50		
	13	14	15	16	17	18	19	20	21	22	23	24
Food Law, Ethics and CSR 2019-20							50				50	
Food Processing Operations 2019-20												
Food Quality Assurance, HACCP and Hygiene 2019-20												
Food Science 2019-20												
Food Sector Business , Finance, People and Performance 2019-20		50					50					
Health & Safety, Energy and The Environment 2019-20										50		
Managing Self and Others in Food Organisations 2019-20												





Lean Manufacturing and Continuous Improvement 2020-21		50					50					
Planning, Forecasting and Logistics Management 2020-21												
Project Management and Management of Change 2020-21											50	
Robotics and Autonomous Systems 2020-21										50		
	25	26	27	28	29	30	31	32	33	34	35	36
Corporate Leadership and Governance in the Food Sector 2020-21											40	
Factory Design and Process Control 2020-21												
Foundation Project 2020-21												
Lean Manufacturing and Continuous Improvement 2020-21												
Planning, Forecasting and Logistics Management 2020-21												
Project Management and Management of Change 2020-21							50					
Robotics and Autonomous Systems 2020-21						50						
	37	38	39	40	41	42	43	44	45	46	47	48
Corporate Leadership and Governance in the Food Sector 2020-21					60							
Factory Design and Process Control 2020-21												
Foundation Project 2020-21												
Lean Manufacturing and Continuous Improvement 2020-21												
Planning, Forecasting and Logistics Management 2020-21	50				50							
Project Management and Management of Change 2020-21												
Robotics and Autonomous Systems 2020-21												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
Corporate Leadership and Governance in the Food Sector 2020-21						
Factory Design and Process Control 2020-21						
Foundation Project 2020-21						
Lean Manufacturing and Continuous Improvement 2020-21						
Planning, Forecasting and Logistics Management 2020-21						
Project Management and Management of Change 2020-21						
Robotics and Autonomous Systems 2020-21						

### Level 3

	01	02	03	04	05	06	07	08	09	10	11	12
Advanced Business Improvement and Productivity 2021-22												
Advanced Commercial Relationships and Negotiation Skills 2021-22												
Advanced Food Sector Business, Finance, People and Performance 2021-22												
Holistic Margin Management 2021-22							50			50		
Independent Project 2021-22												
Managing Supply Chain Relationships 2021-22						50			50			
	13	14	15	16	17	18	19	20	21	22	23	24
Advanced Business Improvement and Productivity 2021-22											50	

Advanced Commercial Relationships and Negotiation Skills 2021-22										50		
Advanced Food Sector Business, Finance, People and Performance 2021-22												
Holistic Margin Management 2021-22												
Independent Project 2021-22				5								
Managing Supply Chain Relationships 2021-22												
	25	26	27	28	29	30	31	32	33	34	35	36
Advanced Business Improvement and Productivity 2021-22			50									
Advanced Commercial Relationships and Negotiation Skills 2021-22		50										
Advanced Food Sector Business, Finance, People and Performance 2021-22												50
Holistic Margin Management 2021-22												
Independent Project 2021-22						80		15				
Managing Supply Chain Relationships 2021-22												
	37	38	39	40	41	42	43	44	45	46	47	48
Advanced Business Improvement and Productivity 2021-22												
Advanced Commercial Relationships and Negotiation Skills 2021-22												
Advanced Food Sector Business, Finance, People and Performance 2021-22					50							
Holistic Margin Management 2021-22												
Independent Project 2021-22												
Managing Supply Chain Relationships 2021-22												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
Advanced Business Improvement and Productivity 2021-22						
Advanced Commercial Relationships and Negotiation Skills 2021-22						
Advanced Food Sector Business, Finance, People and Performance 2021-22						
Holistic Margin Management 2021-22						
Independent Project 2021-22						
Managing Supply Chain Relationships 2021-22						

## **Appendix III - Benchmark Analysis**

This table maps programme learning outcomes to relevant QAA subject benchmark statements or PSRB guidelines.

### **Knowledge and Understanding**

### **Subject Specific Intellectual Skills**

### **Subject Specific Practical Skills**

### **Transferable Skills and Attributes**

## **Appendix IV: Benchmark Benchmark Statement(s)**