MSc in Food Technology - Quality Assurance (full-time)
For students entering in 2015/6

Awarding Institution: University of Reading
Teaching Institution: University of Reading
Relevant QAA subject Benchmarking group(s):
Faculty: Life Sciences Faculty
Programme length: 1 year
Date of specification: 25/Aug/2015
Programme Director: Dr David Jukes
Programme Advisor:
Board of Studies: MSc Programmes in Food Science Food
Technology Quality Assurance and Nutrition and Food Science
Accreditation:

Summary of programme aims

The purpose of this course is to enable graduates to acquire the scientific, technical and professional skills for a career in the food industry through an understanding of the sciences underlying food technology together with a deeper comprehension of food quality assurance.

The expected outcomes are that students should acquire and demonstrate:

- A knowledge and competence in the principles of quality assurance and quality management systems as they are applied in the food manufacture and distribution to produce safe food meeting quality and legal requirements;
- An understanding of the chemical, biological and physical principles which underlie food processing and storage;
- An ability to apply the principles of chemical analysis, microbiology and statistical control techniques to assure the quality and safety of food;
- A capacity to undertake research into the science of foods;
- Critical, presentational and inter-personal skills.

Educational aims of the programme

- **Quality assurance**: Establish and operate quality assurance procedures in food processing that conform to recognised quality systems, ISO 9000 and HACCP, using appropriate statistical tools that are legal and take regard to current regional and international issues in food legislation;
- **Food chemistry**: Apply knowledge of the physical and chemical behaviour of food constituents in the context of the manufacture and storage of foods, and in relation to safety and nutritional attributes;
- **Food analysis**: Critically develop and perform chemical, microbiological and physical tests to assess the quality and safety of foods;
- **Food processing**: Qualitatively evaluate the performance of the principal food processing operations used by industry, and use quantitative techniques to evaluate safety factors;
- **Food microbiology**: Identify and establish control procedures for all important food pathogens, food spoilage microorganisms and for food fermentation;
- **Sensory attributes**: Acquire and apply knowledge of sensory tests for the assessment of food quality and consumer preference.

Transferable skills

As part of this programme students are expected to gain or enhance their experience and competences in the following skills: Information retrieval using library and Web sources, IT (word-processing, use of spreadsheets and databases), scientific writing, oral presentations, team working, problem solving, and time management.

Programme content

MSc students will follow the modules given below making 180 credits; PG Diploma students will take 120 credits (normally excluding the Project).

Compulsory modules (180 credits for MSc; 120 credits for PG Diploma)

Code	Module title	Credits	Level
FBMF1A	Food Analysis 1	10	7
FBMFSEN	Sensory Evaluation of Food	10	7
FBMFP	Food Processing	20	7
FBMFCM	Food Control Management	20	7
FBMFPR	Project	60	7

FBMC1	Chemistry of Food Components B	10	7
FBMFRA	Risk Analysis in the Food Chain	10	7
FBMM2B	Food Microbiology and Safety B	20	7
FBMRSF	Postgraduate Research Skills for Food	10	7
MMM052	Entrepreneurial Management for Food Scientists	10	7

Part-time or modular arrangements
The modules may be taken on a part-time basis over a maximum of two years. The taught modules may be taken in any order agreed with the Head of School.

Progression requirements
Diploma / MSc Students gaining an average mark of 50 or more overall in the taught modules, who have no mark below 40, and who have fewer than 60 credits with marks below 50, may proceed to the MSc at the discretion of the Head of School.
See appended progression requirements for students following a post-experience certificate.

Summary of Teaching and Assessment
The teaching is organised in modules (totalling 180 credits) that involve a combination of lectures, tutorials, workshops, seminars, and practical sessions. Modules taken during the Autumn and Spring Terms (120 credits) will be assessed by a mixture of coursework and formal examinations. The assessment of the remaining 60 credits, which will be based on a practical project or dissertation, will be based on a written report of the work undertaken.

The University's taught postgraduate marks classification is as follows:

Mark Interpretation
70 - 100% Distinction
60 - 69% Merit
50 - 59% Good standard (Pass)

Failing categories:
40 - 49% Work below threshold standard
0 - 39% Unsatisfactory Work

For Masters Degrees
To pass, the MSc students must gain an average mark of 50 or more overall (in 180 credits) including a mark of 50 or more for the dissertation and a mark of at least 40 in modules FBMM2B and FBMFCM. In addition the total credit value of all modules marked below 40 must not exceed 30 credits and for all modules marked below 50 must not exceed 55 credits.*

Students who gain an average mark of 70 or more overall including a mark of 60 or more for the dissertation and have no mark below 40 will be eligible for a **Distinction**. Those gaining an average mark of 60 or more overall including a mark of 50 or more for the dissertation and have no mark below 40 will be eligible for a **Merit**.

For PG Diplomas
To pass, the Postgraduate Diploma students must gain an average mark of 50 or more overall (in 120 credits). In addition the total credit value of all modules marked below 40 must not exceed 30 credits and for all modules marked below 50 must not exceed 55 credits.*

Students who gain an average mark of 70 or more and have no mark below 40 will be eligible for the award of a **Distinction**. Those gaining an average mark of 60 or more and have no mark below 40 will be eligible for a **Merit**.
*The provision to permit a candidate to be passed overall with a profile containing marks below 40 is made subject to the condition that there is evidence that the candidate applied his or herself to the work of those modules with reasonable diligence and has not been absent from the examination without reasonable cause.
For PG Certificates
To qualify for a Postgraduate Certificate, students must gain an overall average of 50 or more over 60 credits. In addition, the total credit value of all modules marked below 40 must not exceed 10 credits.

Admission requirements
Entrants to this programme are normally required to have obtained an honours degree in a Pure or Applied Science or an equivalent qualification.

Admissions Tutor: Dr D J Jukes

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
An MSc degree in Food Technology - Quality Assurance provides a strong platform from which to undertake a wide range careers, particularly relating to food, in industry, government and education. Food Technologists are highly valued for their problem solving skills and their ability to apply their technical knowledge to ensure the safety and quality of food in production, manufacture and distribution. Some students choose to apply their research skills by pursing a higher degree through research or through research and development in industry.

Opportunities for study abroad or for placements
Students will be able to undertake the 60 credit project module at an approved institution or an appropriate industrial concern, but this will depend on having the necessary linguistic skills, finding a suitable placement, and appropriate supervisory arrangements being in place.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:

1. The concepts and techniques of the chemistry and microbiology of food and a critical awareness of their application in food quality assurance.
2. The concepts and techniques of the application of quality assurance systems and a critical awareness of their application in food manufacture and production.

Teaching/learning methods and strategies

The knowledge required is provided in formal lectures supported by practical work, seminars and presentations.
Feedback on student work is provided by the discussion and return of work in tutorials and seminars. All practical work is marked and returned to the student.

Assessment
Most knowledge is tested through a combination of coursework, including oral presentations, and formal examinations, plus a written report of a practical based project or dissertation.

Skills and other attributes

B. Intellectual skills - *able to:*

1. Think logically and evaluate critically, research and advance scholarship in the discipline.
2. Plan and implement tasks at a professional level

Teaching/learning methods and strategies

Logical application of science and the critical appraisal of methodology are essential parts of the application of quality assurance system in the food

to solve problems related to the discipline.
3. Evaluate methodologies and were appropriate propose new hypotheses.
4 Plan, conduct and write a report on an independent project or dissertation.

industry. These skills will underpin the lectures, practical and project work.

Assessment
1-3 are assessed directly and indirectly in most parts of the course
1-4 are assessed in the final project report.

C. Practical skills - *able to:*

1. Apply, or adapt, practical instructions safely and accurately.
2. Carry out a variety of experimental procedures in the laboratory or pilot plant.
3. Interpret quantitatively the results of experiments undertaken by themselves or others.
4. Devise experimental methods appropriate for tackling a particular problem.

Teaching/learning methods and strategies

A range of detailed or outline practical instructions are used to allow students to develop a range of practical skills.
Staff and postgraduate demonstrators are present during practical sessions to guide and help, to mark their reports and give feedback on their work.
Students will work on their project or dissertation under the guidance of one or more members of staff.

Assessment
1-4 are assessed to different extents by the practical work associated with the various modules undertaken.

D. Transferable skills - *able to:*

1 Use of IT (word processing, spreadsheets, web sources)
2 Communicate scientific ideas
3 Give oral presentations
4 Work part of a team
5 Use library resources
6 Manage time

Teaching/learning methods and strategies

The use of IT is embedded throughout the programme, but is particularly addressed in modules FBMM2B, FBMF1A, FBMFP.
Team work is essential in the practical and role play sessions associated with modules FBMF1A, FBMM2B, FBMFRA and FBMFCM.
Library resources are addressed in the first term modules and during the project and dissertation work.
Time management is essential for the timely and effective completion of the programme.

Assessment
1-5 contribute to assessed coursework during the first two terms.

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.