MSc in Nutrition and Food Science

Awarding Institution: The University of Reading
Teaching Institution: The University of Reading
Faculty of Life Sciences Programme length: 12 months
For students entering in 2003 Date of specification: May 2003
Programme Director: Dr P Yaqoob
Board of Studies: MSc Courses in Food Science, Food Technology and Nutrition.

Summary of programme aims

This MSc programme is for those wishing to develop a career in food-related research or the food industry and focuses on the interface between human nutrition and food science. The expected outcomes are that students should acquire and be able to demonstrate:

- An understanding of the subjects at the interface between human nutrition and food science.
- An understanding of the chemical behaviour and physical properties of food constituents in the context of their manufacture and storage, particularly from the standpoints of safety and nutrition.
- A capacity to undertake research in nutrition.
- A critical approach to understanding of diet and health issues, the implications for public health and impact on the food chain and associated industries.
- Acquisition of a broad range of transferable employment and interpersonal skills.

Transferable skills

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

Programme content

Mod Code	*Module Title*	*Credits*	*Level*
FBMFM1	Food Microbiology	10	M
FBMFC1	Food Chemistry	20	M
FBMN01	Human Nutrition 1	10	M
FBMN02	Science Base of Nutrition 1	10	M
FBMN03	Science Base of Nutrition 2	10	M
FBMNG1	Introductory Statistics	10	M
FBMN04	Science Base of Nutrition 3	10	M
FBMN05	Diet and Disease	10	M
FBMN06	Human Nutrition 2	10	M
FBMFS1	Sensory Properties of Foods	10	M
FBM301	Project	60	M

Optional modules (ONE to be taken in Spring Term)

FBMFM3	Microbial Quality Assurance	10	M
FBMFC3	Advanced Food Chemistry	10	M
FBMFQ3	Food Legislation	10	M

Part-time/Modular arrangements
The modules are may taken on a part-time basis over two years. In Year 1 modules FBMN01, FBMN02, FBMFC1 will normally be taken during the Autumn term, FBMN06 and one of the optional modules during the Spring term. During Year 2 the remaining modules will be taken. The dissertation project is started in the Summer Term of Year 1 and completed during the summer of Year 2 for submission by 14th September.

Progression requirements
Diploma/MSc Students gaining an average mark of 50 or more overall in the taught modules *and have no mark below 40, plus all modules below 50 must be less than 60 credits,* 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 term (120 credits) will be assessed by a mixture of course work 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.

To pass the MSc students must gain an average mark of 50 or more overall including a mark of 50 or more for the dissertation *and have no mark below 40*. In addition the total credit value of all modules marked below 50 must be less than 60 credits. No more than a pass mark of 50% can be obtained on re-sitting a module.

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

To pass the Postgraduate Diploma students must gain an average mark of 50 or more *and have no mark below 40.* In addition the total credit value of all modules marked below 50 must be less than 60 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 awarded eligible for a Merit.

Marks should be interpreted within the following framework.

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

MSc Merit: marks in excess of 60% being awarded to modules whose cumulative credit weighting represents at least two thirds of the total weighting for the course.

MSc Distinction: marks in excess of 70% being awarded to modules whose cumulative credit weighting represents at least two thirds of the total weighting for the course

A **Diploma** may be awarded to students who complete 12 of the 10 credit modules and who gain at least 40% in each module, with marks in excess of 50% being awarded in individual modules with a cumulative weighting of 60 credits.

Admission requirements
Entrants to this programme are normally required to have obtained a honours degree in a Pure or Applied Biological Science or an equivalent qualification. Applicants whose academic qualifications do not meet these requirements may in the first instant be admitted to a post-experience course; they may then transfer to MSc status if their performance during the first term is satisfactory.

Admissions Tutor: Dr R D King,

Support for students and their learning
University support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers and the University Library, which across its three sites holds over a million volumes, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses 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 Programme Directors, the Careers Advisory Service, the University's Special Needs Advisor, Study Advisors, Hall Wardens and the Students' Union.

Career prospects

A MSc degree in Nutrition and Food Science provides a strong platform from which to undertake a wide range of careers, particularly relating to diet and health, in industry, government and education. Our MSc graduates are highly valued for their problem-solving skills and their ability to apply their scientific training to formulate nutrition policy in governmental and commercial arenas, as well as in food-product development . Some students choose to apply their research skills by pursuing 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.

Educational aims of the programme

Nutrition	Identify the current issues in nutrition, including consumer concerns impinging on product development in

	the food industry and influencing nutrition policy..
Science Base of Nutrition	Through a knowledge of metabolism in humans and the relationships between diet and disease, to critically appraise epidemiological and experimental data used in deriving dietary recommendations aimed at reducing risk of chronic disease.
Food Chemistry	Apply knowledge of the physical and chemical behaviour of food constituents in the context of the manufacture and storage , and in relation to safety and nutritional attributes.
Food Microbiology	Identify and establish control procedures for all important food pathogens and food spoilage microorganisms. Be informed on microorganisms involved in food fermentation.
Sensory Analysis	Acquire and apply knowledge of sensory tests for the assessment of food quality and consumer preference.

Optional courses include

Quality Assurance:	Establish and operate quality assurance procedures in food processing that conform to recognized quality systems, ISO 9000 and HACCP, using appropriate statistical tools.
Advanced Food Chemistry	Be informed, through theoretical and practical learning methods, on advanced aspects of food chemistry relevant to the properties of pigments, proteins, lipids, carbohydrates in food.
Food Legislation	Assess the objectives and requirements of food legislation (concerning topics such as food labelling, food additives, novel foods) within the food industry, using the UK as an example.

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:	**Teaching/learning methods and strategies**
1. the concepts and methodologies of nutrition to allow critical awareness of their application in devising appropriate diets or food products for target populations. 2. the concepts and techniques of the application of food science to allow the application of nutritional principles to complex food systems in food manufacture →	The knowledge required is provided in formal lectures supported by practical work, seminars and presentations. Feed back 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.

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 to solve problems related to the discipline 3. evaluate methodologies and where appropriate propose new hypotheses 4. plan, conduct and write a report on an independent practical project.	**Teaching/learning methods and strategies** Logical application of science and the critical appraisal of methodology are essential parts of the role of a Nutritionist/Food Scientist in the commercial, governmental and research domaines. 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 human investigation unit. 3 interpret quantitatively the results of experiments undertaken by themselves or with 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 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 make use of IT (word processing, spreadsheets, web sources) 2 communicate scientific ideas 3 give oral presentations 4 work as 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 a non-modular Introductory Course and in modules: FBMFM1, FBMN03, FBMN06 and FBMNG1 Team work is essential in the practical and role play sessions associated with modules: FBMFC1, FBMN02, FBMN04 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 expect 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 module and programme handbooks.

Appendix

Progression from Post-experience certificate to MSc course

Candidates admitted to a post-experience course and have followed the MSc programme during the Autumn term may, at the discretion of the Head of School, transfer to the MSc programme if their performance in the December/January School examination is satisfactory. The registration being back dated to the beginning of the Academic year.