

## MSc in Nutrition and Food Science

### For students entering Part 1 in 2011/2

|   |                                     |
|---|-------------------------------------|
| Awarding Institution:                                       | University of Reading               |
| Teaching Institution:                                       | University of Reading               |
| Relevant QAA subject Benchmarking group(s):                 |                                     |
| Faculty:  | Life Sciences Faculty               |
| Programme length:   | 1 years                             |
| Date of specification:                                      | 23/Aug/2011                         |
| Programme Director:   | Prof Mike Gordon                    |
| Programme Advisor:  | Dr David Jukes                      |
| Board of Studies:   | MSc Programmes in Food Science Food |
| Technology Quality Assurance and Nutrition and Food Science |                                     |
| Accreditation:  |                                     |

### 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;
- A broad range of transferable employment and interpersonal skills.

In addition, students will acquire and demonstrate skills in the following areas:

- **Nutrition:** Identify 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:

- **Microbial quality assurance:** Be able to participate in a Hazard Analysis Critical Control Point study and, using modern methods for the assessment of foods through recognised sampling and laboratory techniques, be able to assess the microbial contamination of foods;
- **Food choice and regulation:** Be able to (a) describe the main factors that influence food choice and outline the degree and impact of factors that influence food behaviour; (b) outline the effect of government and community campaigns and commercial advertising strategies on individual food choice; (c) describe the main elements of UK, EU and international food regulation and, with particular reference to health and nutrition, identify and explain current and future legal requirements;
- **Clinical nutrition:** Be able to (a) critically evaluate the scientific literature on the effect of nutrition on disease and the effect of disease on nutrition; (b) illustrate the role of nutritional support including enteral and parenteral feeding; (c) describe commonly occurring clinical conditions in various age groups where nutrition plays an important role in both cause and effect, *e.g.* coeliac disease and cystic fibrosis; (d) define and determine the nutritional requirements for patients and describe the methods of delivering adequate nutrition.

### 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**

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

*Compulsory modules (170 credits for MSc; 110 credits for PG Diploma (normally excluding the Project)):*

| <i>Code</i> | <i>Module title</i>                           | <i>Credits</i> | <i>Level</i> |
|-------------|---|----------------|--------------|
| AS2B1       | Statistics and Epidemiology for Life Sciences | 10             | 5            |
| FBMFCA      | Chemistry of Food Components A                | 10             | 7            |
| FBMFCA      | Chemistry of Food Components B                | 10             | 7            |
| FBMFM1      | Introductory Food Microbiology                | 10             | 7            |
| FBMFPR      | Project                                       | 60             | 7            |
| FBMFS1      | Sensory Properties of Foods                   | 10             | 7            |
| FBMN01      | Fundamentals of Human Nutrition               | 10             | 7            |
| FBMN02      | Metabolism                                    | 10             | 7            |
| FBMN03      | Research Methodology                          | 10             | 7            |
| FBMN04      | Public Health Science                         | 10             | 7            |
| FBMN05      | Genes, Lifestyle and Nutrition                | 10             | 7            |
| FBMN06      | Nutrition in Health and Disease               | 10             | 7            |

*Optional modules (10 credits):*

|        |                             |    |   |
|--------|-----------------------------|----|---|
| FBMFM3 | Microbial Quality Assurance | 10 | 7 |
| FB3CN1 | Clinical Nutrition          | 10 | 6 |
| FBMN07 | Food Choice and Regulation  | 10 | 7 |

**Part-time or modular arrangements**

The modules may be taken on a part-time basis over a maximum of 3 years. Modules FBMN01, FBMN02, FBMFCA, FBMFCB and FBMN06 will normally be taken during year 1.

**Progression requirements**

Diploma / MSc Students meeting the requirements to pass the Diploma may proceed to the MSc at the discretion of the School Director of Teaching and Learning.

**Assessment and classification**

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. 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.

### **Admission requirements**

Entrants to this programme are normally required to have obtained an 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 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 Student Employment, Experience and Careers Centre (SEEC), 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. 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](http://www.reading.ac.uk/student)

### **Career prospects**

An 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.

### **Programme Outcomes**

#### **Knowledge and Understanding**

##### **A. Knowledge and understanding of:**

1. the concepts and methodologies of nutrition to allow critical awareness of their application in devising appropriate diets or food products for target

##### **Teaching/learning methods and strategies**

- The knowledge required is provided in formal lectures supported by practical work, seminars and presentations.

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

- 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 domains. 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 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.**