

PROGRAMME SPECIFICATION

1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	B.Sc. Honours
4	Programme Title	Food & Human Nutrition Food & Human Nutrition with Professional Placement Food and Human Nutrition with Placement Year Food and Human Nutrition with Placement Year*
5	UCAS/Programme Code	B46D/B4D6/1610U
6	Programme Accreditation	The Association for Nutrition
7	QAA Subject Benchmark(s)	Biosciences; Agriculture, forestry, agricultural sciences, food sciences; and Consumer sciences.
8	FHEQ Level	6
9	Last updated	May 2022

10 Programme Aims

This programme aims to provide students with a thorough academic grounding in nutrition science and its application to human health, the food industry, and society. The programme will have a primary focus on the molecular, cellular and biochemical basis for understanding nutritional needs and subsequent links to human health. Students will be introduced to: the structure of the food industry (which represents the largest manufacturing base in Europe); the links between diet and health; the drivers for a sustainable, safe and secure food supply; the key stakeholders within the food environment; and food consumer decision-making and behaviour change.

The programme aims to:

1. facilitate the general higher education and intellectual development, within the context of the science of food and human nutrition, of well-motivated students from diverse geographical and academic backgrounds.
2. encourage students to develop an informed interest in the science of food, human nutrition and health and to engender an awareness of a) the impact of food production and processing on the environment and b) the central importance of food-related activities on society.
3. produce graduates, through research led teaching, who have a) a thorough understanding of the scientific basis of food and human nutrition and of relationships between food, nutrition and human health that is informed by research b) a range of core skills including the use of communication and information technology; the ability to assemble, evaluate and use information from a variety of sources; the ability to prioritise work and to meet deadlines; the ability to work alone and in teams; and, through the use of oral, literary and/or numerical skills, the ability to analyse issues and problems, propose potential resolutions and to derive critical accounts of alternatives.
4. lead to a qualification which meets the FHEQ at Honours level and which takes appropriate account of the subject benchmark statements in Biosciences.
5. encourage students to develop appropriate strategic professional development.

6. actively encourage and provide student with the opportunities to partake in work related and experiential learning activities in order to develop their awareness and understanding of their own personal and professional skills set and of how these skills can be employed in real world contexts.
7. provide a high-quality research led programme of study that enhances student keys skills and employability
8. provide a programme that takes appropriate account of the subject benchmark statements in Consumer Sciences, Food Sciences and Biosciences.

11 Learning Outcomes

The programme provides opportunities for students to develop, integrate, practice and demonstrate knowledge and understanding of nutrition and health based biomedical and social science disciplines.

Knowledge and Understanding

On completing the programme students should have gained and be able to demonstrate:

- A1 A good knowledge and understanding of fundamental biomedical subjects including biochemistry, physiology, microbiology and genetics.
- Be able to express relevant biological reactions in chemical terms.
 - Understand how the chemistry and structure of the major biological macromolecules, including proteins, carbohydrates and nucleic acids, determine their properties.
 - Explain and undertake standard methods for the detection and enumeration of micro-organisms important in the food industry.
- A2 A good knowledge of human nutrition, food science and of the links between nutrition and health.
- Demonstrate understanding of the chemistry underpinning molecular interactions and the behaviour of components in food materials during processing and storage.
 - Describe biochemical, physical and biological factors underlying the synthesis and metabolism of food materials.
 - Describe physical properties of food and experimentally determine their values.
 - Explain the role of nutrients in health.
 - Describe the principles and practice of major food processing operations and food preservation systems.
- A3 A basic knowledge of molecular genetics and food biotechnology.
- Understand how the principles of genetics underlie much of the basis of modern molecular biology.
- A4 A basic understanding of national and international policies relevant to food, nutrition and health.
- Explain the role of nutrients in health.
 - Explain the importance of hygiene and waste management systems for the food industry.
- A5 An understanding of recent developments in science relating particularly to the interactions between genetic inheritance and environmental factors, including diet, which influence the risk of common non-communicable diseases.
- Explain the role of nutrients in health.
 - Describe the risks to health of key chemical contaminants of foods.
 - Understand basic principles of scientific experimentation and data analysis and describe a limited range of potential pitfalls relevant for investigations of the role of nutrients in health.
- A6 An understanding of the scientific, societal and environmental contexts in which decisions about the application of scientific developments relevant to food and human nutrition are taken.
- Describe the food law framework within which food businesses operate.

- Describe a limited range of social and individual factors in the formation of consumer knowledge.
- Describe a limited range of social and individual factors in consumer attitudes and choices.
- Recognise and be able to comment on the moral and ethical issues associated with the subject.

Teaching and Learning Methods

Teaching Methods

The primary means of imparting knowledge and understanding in all the above is through lectures supplemented, as appropriate, with practical classes, seminars and tutorials, many of which are supported through the University's virtual learning environment including the lecture recording system ReCap. A5 is enhanced by the undertaking of an individual research project in the final year requiring a substantial literature review and interpretation of the experimentally generated data. Visiting speakers and attendance at a scientific conference contribute to A4 – A6.

Learning Methods

Throughout the programme students are encouraged to supplement taught material by self-study of reading materials and appropriate information on the internet to which they are directed by staff. In the final year most of the directed reading is of research papers and guidance on their effective use is provided. Short tests are administered in some modules on completion of specific topics to enable students to monitor the progress of their learning. Feedback on essays and laboratory reports allows students to refine their presentation techniques in these areas and assess the level of their knowledge and understanding.

Assessment Strategy

Assessment of knowledge and understanding is by use of unseen written examinations (including essay questions, short answer and problem-solving as appropriate to the module and level of study) and by coursework (including essays, laboratory or case-study reports, in-course tests, research project work and dissertation, oral and poster presentations). The mix of examination and coursework varies as appropriate to the module, but most modules include some aspect of formative assessment during the module in addition to the summative assessment.

Intellectual Skills

On completing the programme students should be able to:

- B1 Develop hypotheses and design, execute and analyse data for a range of study types including laboratory-based, clinical and nutritional epidemiological studies.
- Plan, conduct and present an independent investigation with some reliance on guidance.
 - Use appropriate laboratory and field equipment competently and safely.
 - Select and apply a range of appropriate methods to solve problems.
- B2 Use statistical procedures to facilitate the design of studies and the analysis of collected data.
- Define a suitable and effective sampling procedure.
 - Recognise incomplete sets of information and propose appropriate solutions.
 - Understand risk.
 - Process and interpret data effectively.
 - Solve a range of numerical problems using appropriate techniques.
 - Select and apply a range of appropriate methods to solve problems.
- B3 Demonstrate skills in a range of quantitative and qualitative techniques used in the area of food and human nutrition.
- Safely use methods of analysis for most types of large and small molecules of relevance to food.
 - Use appropriate technology to address problems efficiently.
 - Use appropriate laboratory and field equipment competently and safely.

	<ul style="list-style-type: none"> • Handle computer-based information using appropriate techniques or packages. • Describe clearly and record accurately in the field and in the laboratory. • Design, apply and interpret statistically valid sensory evaluation methods to assess food quality and/or preference.
B4	<p>Critically evaluate data from a variety of sources</p> <ul style="list-style-type: none"> • Analyse, synthesise and evaluate information. • Critically appraise academic literature and other sources of information. • Interpret practical results in a logical manner.
B5	<p>Present data in written format according to accepted scientific conventions.</p> <ul style="list-style-type: none"> • Relate investigations to prior work and to reference appropriately; recognise when information is incomplete. • Describe clearly and record accurately in the field and in the laboratory. • Present research findings in a number of formats effectively and appropriately.

Teaching and Learning Methods

Teaching Strategy

Practical classes associated with many modules during the first two years progressively develop B1 which is greatly enhanced by the individual research project in the final year. B2 and B3 are developed throughout the degree, with foundations taught in stage 1. This involves lectures followed by smaller group calculation classes, practicals or computing classes and completion of appropriate example calculations and analyses. These fundamental skills in B1, B2 and B3 are honed by practice in laboratory classes at Stage 2 and 3. The research project also makes a major contribution to B3, B4 and B5. From the first year, students are required, after appropriate guidance, to search the literature for information and submit all written work in an appropriate scientific format so that by the final year B4 and B5 are thoroughly integrated into all submitted work.

Learning Strategy

Students are encouraged to develop appropriate quantitative and practical skills (B1-B4) by monitored attendance at formal classes during the first two years and subsequently through practice and discussion with their supervisor as part of their final year research project. From the first year all written work must be submitted in an appropriate scientific format and feedback on such work enhances learning of the skill outlined in B5.

Assessment Strategy

B2 and B3 are assessed through unseen examinations and, together with B5, through coursework (laboratory reports, completion of quantitative and statistical calculation sheets, essays) during the first two years and laboratory reports from practical classes in the final year. Together with B1 and B4 these skills form a major part of the assessment of the final year research project.

Practical Skills

On completing the programme students should be able to:

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| C1 | <p>Critically analyse information and arguments derived from a range of sources.</p> <ul style="list-style-type: none"> • Demonstrate ability to define problems, devise and evaluate solutions to both routine and unfamiliar problems. • Analyse, synthesise and evaluate information. • Demonstrate the ability to consider issues from a range of multi-disciplinary and inter-disciplinary perspectives and to draw on appropriate concepts and values in arriving at a critical assessment. |
| C2 | <p>Interpret scientific information, both quantitative and qualitative.</p> <ul style="list-style-type: none"> • Analyse, synthesise and evaluate information. • Integrate lines of evidence from a range of sources to support findings and hypotheses. |
| C3 | <p>Derive and recognise hypotheses based on existing knowledge; to advance logical arguments, based on new or existing scientific evidence, to support or refute hypotheses; identify gaps in knowledge and propose means for filling them.</p> |

<ul style="list-style-type: none"> • Analyse, synthesise and evaluate information. • Integrate lines of evidence from a range of sources to support findings and hypotheses. • Demonstrate the ability to consider issues from a range of multi-disciplinary and inter-disciplinary perspectives and to draw on appropriate concepts and values in arriving at a critical assessment. • Relate investigations to prior work and to reference appropriately; recognise when information is incomplete. <p>C4 Produce rational analyses of complex problems, in particular, those involving the application of scientific advances in the areas of food and human nutrition.</p> <ul style="list-style-type: none"> • Integrate lines of evidence from a range of sources to support findings and hypotheses. • Explain the role of nutrients in health.
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Teaching and Learning Methods

Teaching Strategy

Practical skills are developed progressively throughout the programme in modules containing practical classes, case studies, small group discussion tutorials and essays. This is a particular feature of the final year where students undertake critical reviews of recently published papers. In the final year the individual research project and its associated dissertation require students to display all skills C1-C3 and they are supported by their supervisor when gaining full confidence in their ability to do this.

Learning Strategy

In all years students are encouraged to consider information and experimental data in a critical manner and to justify interpretation by logical development of ideas and reference to known facts. Planning, executing and reporting on their final year research project enhances the learning of these skills in a less controlled environment than in previous years.

Assessment Strategy

Assessment Strategy

Cognitive skills are assessed through various forms of coursework (including laboratory reports, case studies and critical essays, scientific briefing papers and research project proposals), culminating in assessment of the final year research project dissertation. In the final year, student appraisal of recently published papers is assessed according to predetermined criteria.

Transferable/Key Skills

On completing the programme students should be able to:

- D1 Communicate clearly and effectively through written documents and oral presentations in ways that are appropriate to the target audience.
 - Communicate effectively on a limited range of consumer issues.
 - Communicate effectively to audiences in written, graphical and verbal forms.
 - Use computer packages selectively to convey information effectively.
- D2 Make effective use of library and other sources of information.
 - Critically appraise academic literature and other sources of information.
 - Recognise and use a range of information sources effectively.
 - Use the internet critically for communication and information retrieval.
- D3 Make effective use of communication and information technology.
 - Communicate effectively on a limited range of consumer issues.
 - Recognise and use a range of information sources effectively.
 - Use computer packages selectively to convey information effectively.
- D4 Plan, organise and prioritise work effectively to meet deadlines.
 - Take a responsible, adaptable and flexible approach to study and work.
 - Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills).
 - Take a responsible, adaptable and flexible approach to study and work.

D5	<p>Work independently and as part of a team.</p> <ul style="list-style-type: none"> • Contribute coherently to group discussions. • Listen to and evaluate the views of others. • Organise a team effectively. • Contribute effectively to teamwork. • Identify individual and collective goals. • Recognise and respect the views of others. • Reflect on performance as an individual and team member. • Take a responsible, adaptable and flexible approach to study and work. • Understand and be able to apply professional codes of conduct.
D6	<p>Demonstrate problem-solving skills and initiative.</p> <ul style="list-style-type: none"> • Analyse, synthesise and evaluate information. • Integrate lines of evidence from a range of sources to support findings and hypotheses. • Demonstrate the ability to consider issues from a range of multi-disciplinary and inter-disciplinary perspectives and to draw on appropriate concepts and values in arriving at a critical assessment. • Relate investigations to prior work and to reference appropriately; recognise when information is incomplete. • Critically appraise academic literature and other sources of information.
D7	<p>Research employment opportunities, to prepare and submit effective applications for employment and to gain skills in effective presentations at interview.</p> <ul style="list-style-type: none"> • Identify individual and collective goals. • Reflect on performance as an individual and team member. • Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills).
D8	<p>Undertake self-appraisal skills in the area of workplace skills</p> <ul style="list-style-type: none"> • Identify individual and collective goals. • Reflect on performance as an individual and team member. • Identify and work towards targets for personal, career and academic development. • Accept responsibility for one's actions. • Analyse personal strengths and weaknesses.
D9	<p>Demonstrate personal achievement by preparation of a portfolio of evidence.</p> <ul style="list-style-type: none"> • Identify individual and collective goals. • Reflect on performance as an individual and team member. • Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills). • Analyse personal strengths and weaknesses.
D10	<p>Produce a development plan to help overcome identified skills weaknesses.</p> <ul style="list-style-type: none"> • Identify individual and collective goals. • Reflect on performance as an individual and team member. • Analyse personal strengths and weaknesses. • Identify and work towards targets for personal, career and academic development. • Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills).

Teaching and Learning Methods

Teaching Strategy

Some key skills, D1-D3, are formally taught in a Year 1 module; all skills are also integrated into subject-specific compulsory modules as appropriate to meet the aims of those modules e.g., team-working, oral presentations and sessions delivered by library services and outputs demonstrated through module assessments. All students benefit from career and personal development sessions with the Placement Tutor to develop D7-D10, and students undertaking a Placement Year will further develop D8 – D10 in the workplace under guidance from the University's City and Guilds' Tutor.

Learning Strategy

While skills D1-D3 are formally taught, and the students obtain feedback to enhance their learning as parts of individual modules, the same skills are applied in many subject-specific modules with students required to find information and give oral or written presentation throughout all years of study. In these cases, the student is learning not only subject-specific information but also the generic skills described in D1-D3. Deadlines for submission of coursework are strictly enforced encouraging students to develop D4 and this is supported by guidance provided during Induction Week at each Stage of the programme. Students learn D5 and D6 as part of the work associated with their final year research project and within a number of other modules with specific and substantial assignments. In addition, most practical classes require students to work in groups of two or more to carry out the experimental work and obtain data which provides an introduction to the more complex team-working skills that are developed subsequently. D4-D6 and D8-D10 are developed through reflective components of career development sessions. Those undertaking a placement year will be supported in this capacity by their workplace supervisor aiding in the learning process through regular appraisals.

Assessment Strategy

Assessment Strategy

Through an integrated approach to skills development, D1-D6 are assessed across a number of modules in all years, through their contribution to coursework (essays, oral and poster presentations, completion of final year research project and dissertation). For all students, D7-D10 is assessed through completion of compulsory career development sessions. For those undertaking a placement year, D7 is further assessed by their ability to obtain a suitable Placement and D8 – D10 are assessed for those pursuing the City and Guilds Licentiate award.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The programme is available as a four-year full-time programme (480 credits), with an integral Placement Year between the second and final years and a three-year full-time programme (360 credits).

Each non-placement year (Stage) consists of a taught component of 120 credits/year comprising taught modules with values of 10, 15 or 20 credits, along with a 40-credit research module in the final year. 10 credits are associated with 100 hours of study time (including time-tabled classes and private study time).

In Stage 1 and 3 a total of 20 credits from optional modules can be taken. Stage 2 consists only of compulsory modules, with Stage One modules also being designated as core.

The optional Placement Year provides a period of practical experience and the opportunity to develop students work based skills. Students are responsible for finding an appropriate placement opportunity which will be approved by the Placement Co-ordinator. In this process support is given by the School and Careers Service.

All placements will be undertaken in line with the University's placement policy
<http://www.ncl.ac.uk/ltds/assets/documents/qsh-workplacement-pol.pdf>

Key features of the programme (including what makes the programme distinctive)

Particular features of the programmes are:

- High content of laboratory-based practical work.
- State-of-the-art facilities for a wide range of practical activities.
- Opportunity to gain workplace skills through the Placement Year.
- Dedicated tutorial programme in preparation for Placement Year.
- Opportunity to gain a recognised qualification, awarded by City and Guilds, for the Placement Year.

- Opportunity to carry out an individual research project in a dynamic research environment.
- Accredited by the Association for Nutrition, enabling the graduates to apply for Direct Entry to the UK Voluntary Register of Nutritionists at Associate level.
- Provides the appropriate basis for postgraduate study in a wide range of food and nutrition-related areas, including dietetics, food science, molecular nutrition and public health research.
- Provides the appropriate basis for a successful career in the food and nutrition-related industry, in particular areas such as new product development, food quality management and corporate social responsibility.

Programme regulations (link to on-line version)

[-RB4D6, 1610U, B46D vFinal.pdf](#)

13 Support for Student Learning

Generic information regarding University provision is available at the following link.

[qsh_progspec_generic_info.pdf](#)

14 Methods for evaluating and improving the quality and standards of teaching and learning

Generic information regarding University provision is available at the following link.

[qsh_progspec_generic_info.pdf](#)

15 Regulation of assessment

Generic information regarding University provision is available at the following link.

[qsh_progspec_generic_info.pdf](#)

In addition, information relating to the programme is provided in:

The University Prospectus: <http://www.ncl.ac.uk/undergraduate/degrees/#subject>

Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided.