

PROGRAMME SPECIFICATION

1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	B.Sc.(Hons)
4	Programme Title	Nutrition and Psychology
5	UCAS/Programme Code	BC48
6	Programme Accreditation	n/a
7	QAA Subject Benchmark(s)	Biosciences; Agriculture, forestry, agricultural sciences, food sciences and consumer sciences.
8	FHEQ Level	6
9	Date written/revised	August 2013

10 Programme Aims

This specification for component subject in a Joint Honours in Science Programme must be read in conjunction with the over-arching Joint Honours Programme Specification and one other component subject specification in combinations as outlined above.

The programme aims:

A to provide a 50% component of a joint honours degree which gives a thorough understanding of the scientific basis of nutrition and of relationships between food, nutrition and human health that is informed by research.

B to develop an informed interest in the sciences of nutrition and psychology, and to engender an awareness of a) the impact of food production and processing on the environment b) the central importance of food-related activities on society and c) the role of cognitive behaviour in food choice health and well-being.

C To facilitate the general higher education and intellectual development of well motivated students from diverse geographical and academic backgrounds.

D to develop students' intellectual and key skills enabling graduates to work in a wide variety of careers

11 Learning Outcomes

The programme provides opportunities for students to develop, integrate, practice and demonstrate knowledge and understanding of the range of biomedical and social science disciplines on which a sound understanding of the relationships between food, nutrition, and health is based. These outcomes are referenced in the following sections to benchmark statements for Biosciences (B); Agriculture, forestry, agricultural sciences, food sciences (FS) and Consumer sciences (CS)

Knowledge and Understanding

A successful student will 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 (*B*)
 - Understand how the chemistry and structure of the major biological macromolecules, including proteins and nucleic acids, determines their properties (*B*)
 - Explain and undertake standard methods for the detection and enumeration of micro-organisms important in the food industry (*FS*)
 - Explain the importance of hygiene and waste management systems for the food industry (*FS*)
- A2 A good knowledge and understanding 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 (*FS*)
 - Describe biochemical, physical and biological factors underlying the synthesis and metabolism of food materials (*FS*)
 - Describe physical properties of food and experimentally determine their values (*FS*)
 - Explain the role of nutrients in health (*FS*)
 - Describe the principles and practice of major food processing operations and food preservation systems (*FS*)
- 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 (*B*)
- A4 A basic understanding of national and international policies relevant to food, nutrition and health.
- A5 An appreciation of recent developments in science relating particularly to the interactions between genetic inheritance and environmental factors, including diet, which influences the risk of common non-communicable diseases.
- Explain the role of nutrients in health (*FS*)
 - Describe the risks to health of key chemical contaminants of foods (*FS*)
- 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 (*FS*)
 - Describe a limited range of social and individual factors in the formation of consumer knowledge (*CS*)
 - Describe a limited range of social and individual factors in consumer attitudes and choices (*CS*)
 - Recognise and be able to comment on the moral and ethical issues associated with the subject (*FS*)

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, Blackboard (A1-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 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 (FS)
 - Use appropriate laboratory and field equipment competently and safely (FS)
 - Select and apply a range of appropriate methods to solve problems (FS)
- B2 Use statistical procedures to facilitate the design of studies and the analysis of collected data.
 - Define a suitable and effective sampling procedure (FS)
 - Recognise incomplete sets of information and propose appropriate solutions (FS)
 - Understand risk (FS)
 - Process and interpret data effectively (FS)
 - Solve a range of numerical problems using appropriate techniques (FS)
 - Select and apply a range of appropriate methods to solve problems (FS)
- 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 (FS)
 - Use appropriate technology to address problems efficiently (FS)
 - Use appropriate laboratory and field equipment competently and safely (FS)
 - Handle computer-based information using appropriate techniques or packages (FS)
 - Describe clearly and record accurately in the field and in the laboratory (FS)
 - Design, apply and interpret statistically valid sensory evaluation methods to assess food quality and/or preference (FS)
- B4 Gather and critically evaluate data from a variety of sources.
 - Analyse, synthesise and evaluate information (FS)
 - Critically appraise academic literature and other sources of information (FS)
 - Interpret practical results in a logical manner (FS)

B5	Present data in written format according to accepted scientific conventions. • Relate investigations to prior work and to reference appropriately; recognise when information is incomplete (FS) • Describe clearly and record accurately in the field and in the laboratory (FS) • Present research findings in a number of formats effectively and appropriately (FS)
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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 an optional research project in the final year. B2 and B3 are developed through specific modules (Research methods for Food and Human nutrition) involving lectures followed by smaller group calculation classes 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. 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.

Initially, students are introduced to many of the principles underlying cognitive skills through the lectures, where the different views and critical issues surrounding particular areas of psychology are introduced. Following this, intellectual skills (B1-B5) are acquired further and developed through tutorials seminars, and coursework essays.

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 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

Intellectual skills (B1-B6) are assessed by essays, data interpretation, empirical design work and unseen written examinations.

Practical Skills

A successful student will 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 (FS) • Analyse, synthesise and evaluate information (FS) • 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 (FS) |
| C2 | <p>Interpret scientific information, both quantitative and qualitative.</p> <ul style="list-style-type: none"> • Analyse, synthesise and evaluate information (FS) • Integrate lines of evidence from a range of sources to support findings and hypotheses (FS) |

C3	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. - Analyse, synthesise and evaluate information (FS) - Integrate lines of evidence from a range of sources to support findings and hypotheses (FS) - 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 (FS) - Relate investigations to prior work and to reference appropriately; recognise when information is incomplete (FS)
C4	Produce rational analyses of complex problems, in particular, those involving the application of scientific advances in the areas of food and human nutrition. - Integrate lines of evidence from a range of sources to support findings and hypotheses (FS) - Explain the role of nutrients in health (FS)

Teaching and Learning Methods

Teaching Strategy

Cognitive 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 research project and its associated dissertation require students to display all skills C1-C4 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 essays), 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:

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| D1 | Communicate clearly and effectively through written documents and oral presentations in ways that are appropriate to the target audience. <ul style="list-style-type: none"> Communicate effectively on a limited range of consumer issues (CS) Communicate effectively to audiences in written, graphical and verbal forms (FS) Use computer packages selectively to convey information effectively (FS) |
| D2 | Make effective use of library and other sources of information. <ul style="list-style-type: none"> Critically appraise academic literature and other sources of information (FS) Recognise and use a range of information sources effectively (FS) Use the internet critically for communication and information retrieval (FS) |
| D3 | Make effective use of communication and information technology. <ul style="list-style-type: none"> Communicate effectively on a limited range of consumer issues (CS) Recognise and use a range of information sources effectively (FS) Use computer packages selectively to convey information effectively (FS) |

- D4 Plan, organise and prioritise work effectively to meet deadlines.
- Take a responsible, adaptable and flexible approach to study and work (FS)
 - Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills) (FS)
 - Take a responsible, adaptable and flexible approach to study and work (FS)
- D5 Work independently and as part of a team.
- Contribute coherently to group discussions (FS)
 - Listen to, and evaluate the views of others (FS)
 - Organise a team effectively (FS)
 - Contribute effectively to team work (FS)
 - Identify individual and collective goals (FS)
 - Recognise and respect the views of others (FS)
 - Reflect on performance as an individual and team member (FS)
 - Take a responsible, adaptable and flexible approach to study and work (FS)
 - Understand and be able to apply profession codes of conduct (FS)
- D6 Demonstrate problem-solving skills and initiative.
- Analyse, synthesise and evaluate information (FS)
 - Integrate lines of evidence from a range of sources to support findings and hypotheses (FS)
 - 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 (FS)
 - Relate investigations to prior work and to reference appropriately; recognise when information is incomplete (FS)
 - Critically appraise academic literature and other sources of information (FS)
- D7 Research employment opportunities, to prepare and submit effective applications for employment and to gain skills in effective presentations at interview.
- Identify individual and collective goals (FS)
 - Reflect on performance as an individual and team member (FS)
 - Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills) (FS)
- D8 Undertake self-appraisal skills in the area of skills development.
- Identify individual and collective goals (FS)
 - Reflect on performance as an individual and team member (FS)
 - Identify and work towards targets for personal, career and academic development (FS)
 - Accept responsibility for one's actions (FS)
 - Analyse personal strengths and weaknesses (FS)
- D9 Demonstrate personal achievement by collating a personal development plan.
- Identify individual and collective goals (FS)
 - Reflect on performance as an individual and team member (FS)
 - Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills) (FS)
 - Analyse personal strengths and weaknesses (FS)
- D10 Produce a development plan to help overcome identified skills weaknesses.
- Identify individual and collective goals (FS)
 - Reflect on performance as an individual and team member (FS)
 - Analyse personal strengths and weaknesses (FS)
 - Identify and work towards targets for personal, career and academic development (FS)
 - Develop the skills necessary for self-managed and lifelong learning (eg independent study, time management, organisational skills) (FS)

Teaching and Learning Methods

Teaching Strategy

Some key skills, D1-D4, are formally taught in specific, compulsory skills modules (e.g. Introduction to Nutrition and Food Science) while the others are integrated into subject-specific modules as appropriate to meet the aims of those modules e.g. team-working in Experimental Human Nutrition, in Sports and Exercise Nutrition and in Plants as Food. All students benefit from tutorials and one-to-one sessions with their Tutor to develop D7-D10 especially in the creation and maintenance of personal development.

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 parts of others 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. Teamwork, working independently and taking responsibility for their own learning (D5, D8) are skills that are acquired in the context of practical and project work and also by progression from a fairly structured course in Stages 1 and 2 to more independent learning in Stage 3. D7-D10 are developed as part of the tutorial system when students are encouraged to prepare their own personal development plans.

Assessment Strategy

Assessment Strategy

Key skills form all or part of the assessment in various forms through submitted coursework such as essays, practical and project reports. In addition D1-D6 are indirectly assessed through their contribution to coursework and during in-course exercises in some modules. D7-D10 are not assessed per se, but are necessary for the student to achieve success over the three year period, and support in relation to personal academic development is provided where necessary by personal tutors.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

This provides 50% component of a three-year full-time programme of study. An optional Placement Year is available to students between the second and final years.

Stage 1 provides good foundation knowledge and understanding in Nutrition to provide them with basic nutrition principles, which are important to apply throughout the subject. There is also guidance in the development of a range of key skills, including time management, organising knowledge, note-taking, reading styles, cognitive skills and statistics, creative use of IT and communication skills.

Stage 2 focuses on the core principles underlying nutrition knowledge. These modules provide a detailed and comprehensive approach to research methodology underpinned in both disciplines with practical work. Quantitative techniques and statistics are essential and are taught in conjunction with examples in practical classes and provide the necessary foundation for independent project work at Stage 3. Critical thinking is encouraged through discussion of topical issues in food and nutrition.

Stage 3 allows for specialisation and offers the opportunity to discover some of the latest work that is being carried out. The compulsory modules in nutrition provide the in-depth researched knowledge of a particular subject area, and are mainly taught in lecture style. Completion of the project and dissertation demands high quality subject-specific, cognitive and transferrable skills. All modules at stage 3 make extensive use of original research papers to support taught material ensuring that students are aware of current developments and are able to deal critically with such information. Communication of information plays an important part in this Stage further developing the students' abilities to produce written reports and essays, oral presentations using appropriate visual aids and poster presentations. Transferrable skill development is integrated into most Stage 3 modules with time management being particularly important at this Stage.

The Placement Year, which is optional, occurs between Stages 2 and 3. The year allows students to experience first-hand food science and/or nutrition and psychology in an industrial, commercial or public sector environment. The Placement Year enhances the understanding of concepts and processes covered theoretically in Stages 1 and 2 and put much of the students' previous knowledge into context. In addition to many subject specific skills which are developed students enhance their cognitive skills (learning outcomes B3-B6) and develop additional transferable skills (D5-D10).

Programme regulations (link to on-line version)

<http://www.ncl.ac.uk/regulations/programme/>

13 Criteria for admission

Presented in overarching Joint Honours Programme Specification.

14 Support for Student Learning

Presented in overarching Joint Honours Programme Specification.

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

Module reviews

All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the Board of Studies. Student opinion is sought at the Student-Staff Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

Integration at Programme level is dealt with in the overarching Joint Honours Programme Specification.

16 Regulation of assessment

Presented in overarching Joint Honours Programme Specification.

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

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

The School Brochure: enquiries@ncl.ac.uk)

The University Regulations: <http://www.ncl.ac.uk/regulations/docs/>)

The Degree Programme Handbook: <http://www.ncl.ac.uk/afrd/undergrad/>)

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. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Mapping of Intended Learning Outcomes onto Curriculum/Modules

Compulsory modules are indicated in **bold**

A1	A good knowledge and understanding of fundamental biomedical subjects including biochemistry, physiology, microbiology and genetics.	ACE1013, ACE1018, BIO1019, ACE2037, ACE2038, ACE2059
A2	A good knowledge and understanding of human nutrition, food science and of the links between nutrition and health.	ACE1018, ACE2037, ACE2038, ACE2059, ACE3084, ACE3086, ACE3054, ACE3062, ACE3083
A3	A basic knowledge of molecular genetics and food biotechnology.	ACE1018, ACE2037, ACE3054
A4	A basic understanding of national and international policies relevant to food, nutrition and health.	ACE1018, ACE2038, ACE2048, ACE3084, ACE3086, ACE3062, ACE3083, Placement Year
A5	An appreciation 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.	ACE1018, ACE2037, ACE2038, ACE3084, ACE3086, ACE3083
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.	ACE1018, ACE2038, ACE3084, ACE3086, ACE3062, ACE3901
B1	Develop hypotheses and design, execute and analyse data for a range of study types including laboratory-based, clinical and nutritional epidemiological studies.	ACE1018, MAS1401, ACE2037, ACE2038, ACE2059, ACE3901
B2	Use statistical procedures to facilitate the design of studies and the analysis of collected data.	MAS1401, ACE2037, ACE2059, ACE2046, ACE3901
B3	Demonstrate skills in a range of quantitative and qualitative techniques used in the area of food and human nutrition.	ACE2037, ACE2038, ACE3901
B4	Gather and critically evaluate data from a variety of sources.	ACE1018, ACE2048, ACE3084, ACE3086, ACE3054, ACE3062, ACE3901, Placement Year
B5	Present data in written format according to accepted scientific conventions.	ACE1018, ACE2037, ACE2038, ACE2058, ACE3084, ACE3086, ACE3054, ACE3062, ACE3901, Placement Year
C1	Critically analyse information and arguments derived from a range of sources.	ACE1018, ACE2048, ACE3084, ACE3086, ACE3054, ACE3083, ACE3901, Placement Year
C2	Interpret scientific information, both quantitative and qualitative.	ACE1018, ACE2037, ACE2038, ACE2059, ACE3084, ACE3086, ACE3054, ACE3083, ACE3901, Placement Year
C3	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.	ACE2037, ACE2038, ACE3084, ACE3086, ACE3054, ACE3083, ACE3901, Placement Year
C4	Produce rational analyses of complex problems, in particular, those involving the application of scientific advances in the areas of food and human nutrition and psychology.	ACE3084, ACE3086, ACE3054, ACE3083, ACE3901

D1	Communicate clearly and effectively through written documents and oral presentations in ways that are appropriate to the target audience.	ACE1013, ACE1018, MAS1401, ACE2037, ACE2038, ACE3084, ACE3086, ACE3054, ACE3083, ACE3901, Placement Year
D2	Make effective use of library and other sources of information.	ACE1013, ACE1018, ACE2037, ACE2038, ACE2059, ACE3084, ACE3086, ACE3054, ACE3083, ACE3901
D3	Make effective use of communication and information technology.	ACE1018, MAS1401, ACE2048, ACE3084, ACE3086, ACE3054, ACE3901, Placement Year
D4	Plan, organise and prioritise work effectively to meet deadlines.	ACE1018, ACE2037, ACE2038, ACE2059, ACE3084, ACE3054, ACE3083, ACE3901, Placement Year
D5	Work independently and as part of a team.	ACE1018, ACE2037, ACE2038, ACE3084, ACE3054, ACE3083, ACE3901, Placement Year
D6	Demonstrate problem-solving skills and initiative.	ACE2046, ACE3901 <i>Placement Year</i>
D7	Research employment opportunities, to prepare and submit effective applications for employment and to gain skills in effective presentations at interview.	Tutorial system, Placement Year
D8	Undertake self-appraisal skills in the area of workplace skills.	Tutorial system, Placement Year
D9	Demonstrate personal achievement by preparation of a portfolio of evidence.	Tutorial system, Placement Year
D10	Produce a development plan to help overcome identified skills weaknesses.	Tutorial system, Placement Year