

Module specification

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|--------------|--------------------------|
| Module code | NAD406 |
| Module title | Food Science |
| Level | 4 |
| Credit value | 20 |
| Faculty | Social and Life Sciences |
| HECoS Code | 100744 |
| Cost Code | GADT |

Programmes in which module to be offered

| | |
|------------------------------------|---|
| Programme title | Is the module core or option for this programme |
| BSc (Hons) Nutrition and Dietetics | Core |

Pre-requisites

N/A

Breakdown of module hours

| | |
|--|----------------|
| Learning and teaching hours | 18 hrs |
| Placement tutor support | 0 hrs |
| Supervised learning e.g. practical classes, workshops | 18 hrs |
| Project supervision (level 6 projects and dissertation modules only) | 0 hrs |
| Total active learning and teaching hours | 36 hrs |
| Placement / work based learning | 0 hrs |
| Guided Independent Study | 164 hrs |
| Module duration (total hours) | 200 hrs |

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|------------------------------|---------|
| For office use only | |
| Initial approval date | 31/8/22 |
| With effect from date | Sept 22 |
| Date and details of revision | |

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|----------------------------|---|
| For office use only | |
| Version number | 1 |

Module aims

This module aims to develop knowledge and practical skills in food science and technology, including methods of food or feed production, preparation, preservation, fortification, format and sustainability in relation to legislative and regulatory requirements. To introduce students to methods of assessment and interpretation of the chemical composition and nutritional quality of foods and implications for local, national and international food systems and procurement processes.

Module Learning Outcomes - at the end of this module, students will be able to:

| | |
|---|---|
| 1 | Demonstrate an understanding of key regulatory and legislative requirements within the food industry. |
| 2 | Describe systems, methods and technologies involved in the production, distribution and preparation of food and nutritional products. |
| 3 | Demonstrate an understanding of techniques for analysing the chemical and nutrient composition of foods, meals and recipes. |
| 4 | Explain the impact of dietary modifications on the nutrient content of foods and the implications for individual and public health. |
| 5 | Consider the standards of practice governing nutritional professionals working across a range of settings within the food industry. |

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Assessment 1: Practical assessment (1500 word equivalent)

Assessment 2: 1500 word coursework

| Assessment number | Learning Outcomes to be met | Type of assessment | Weighting (%) |
|-------------------|-----------------------------|--------------------|---------------|
| 1 | 3, 4 | Practical | 50% |
| 1 | 1, 2, 5 | Coursework | 50% |

Derogations

A minimum grade of 40% must be achieved in all assessment components in order to pass the module and progress to level 5

Learning and Teaching Strategies

The Active Learning Framework (ALF) will be utilised in the delivery of this module through synchronous and asynchronous content. It will consist of lectures, seminars, interactive online content, practice placement activities and laboratory-based practical sessions. The placements will provide practical experience in a range of settings, including the food industry and public sector or private industry catering services. Placements and laboratory-based practical sessions will support class lectures and enable students to develop applied skills and foster creativity and innovation through the sharing of ideas.

Indicative Syllabus Outline

The module will cover the following indicative content:

- The structural and chemical composition of foods, including an introduction to assessment methods, laboratory techniques and nutritional analysis software (including limitations)
- Determining the nutritional composition and quality of foods, feed and dietary products.
- Sources of nutrients, functional foods and bio-active substances.
- Introduction to portion sizes
- Nutrient exchange systems.
- Methods of food or feed production, preparation, preservation, fortification, modification and format (including financial aspects)
- Food legislation and regulatory requirements, including food safety, labelling and ethical practices.
- Catering systems and food services.
- Menu planning (including preparation and population needs/requirements)
- Local, national and international food systems and technologies involving sustainability of the food supply chain.
- Introduction to nutritional products (basic types, uses, sustainability and financial aspects)

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

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Essential Reads

Campbell-Platt, G. (2014), *Food Science and Technology*. 2nd Ed. Wiley, Blackwell.

Vaclavik, V.A., Christian, E.W. and Campbell, T. (2021), *Essentials of Food Science*. 5th ed. Switzerland: Springer Nature.

Other indicative reading

Coulter TP. (2016), *Food: The Chemistry of its Components*. 6th ed. Cambridge: Royal Society of Chemistry.

deMan. J.M., Finley, J.W., Hurst, W.J., Lee, C.Y. (2018), *Principles of Food Chemistry*. 4th ed. Switzerland: Springer Nature.

Department of Health (1991), *Dietary Reference Values for Food, Energy and Nutrients for the UK*. HMSO.

Food Standards Agency (2002), *Food Portion Sizes*. 3rd ed. London: TSO.

Food Standards Agency (2015), *McCance and Widdowson's The Composition of Foods*. 7th ed. Cambridge: Royal Society Chemistry.

Iakovou, E., Bochtis, D., Vlatos, D. and Aidonis, D. (2016), *Supply Chain Management for Sustainable Food Networks*. Chichester: John Wiley & Sons.

Jeanette, R., Croguennec, T., Schuck, P. and Brule, G. (2016), *Handbook of Food Science and Technology 1: Food Alteration and Food Quality*. Hoboken: Wiley.

Kontogiorgos, V. (2021), *Introduction to Food Chemistry*. Springer.

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas.

Core Attributes

Engaged

Creative

Ethical

Key Attitudes

Commitment
Curiosity
Resilience
Confidence
Adaptability

Practical Skillsets

Digital Fluency
Organisation
Critical Thinking
Emotional Intelligence
Communication