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# Module specification

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|---|---|
| Module Code | NAD506 |
| Module Title | Metabolism |
| Level | 5 |
| 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 | 22 hrs |
| Placement tutor support | 0 hrs |
| Supervised learning e.g. practical classes, workshops | 8 hrs |
| Project supervision (level 6 projects and dissertation modules only) | 0 hrs |
| **Total active learning and teaching hours** | **30** hrs |
| Placement / work based learning | 0 hrs |
| Guided independent study | 170 hrs |
| **Module duration (total hours)** | **200 hrs** |

| **For office use only** | |
|---|---|
| Initial approval date | 31/8/22 |
| With effect from date | September 2023 |

| For office use only | |
|---|---|
| Date and details of revision | June 2024 – AM2 to update learning and teaching hours, alterations to LO's, extend duration of In-class Test from Sept 2024 onwards. |
| Version number | 2 |

## Module aims

- Introduce students to human metabolism, including general concepts and key principles.
- Develop understanding of metabolic regulation at a cellular level
- Develop understanding of how different metabolic pathways integrate to meet overall needs
- Develop critical awareness of the impact metabolic abnormalities on health and disease
- Gain experience in interpreting and evaluating clinical data in the diagnosis and management of disease.

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

| | |
|---|---|
| 1 | Explain the key mechanisms & pathways of metabolic regulation. |
| 2 | Analyse the key principles of homeostatic control of metabolism. |
| 3 | Explain the key metabolic abnormalities and in-born errors of metabolism. |
| 4 | Critically discuss the impact of metabolic abnormalities on health and disease. |

## 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:** In-class Test (2 hours)

| Assessment number | Learning Outcomes to be met | Type of assessment | Weighting (%) |
|---|---|---|---|
| 1 | 1 - 4 | In-class test | 100 |

## Derogations

A minimum grade of 40% must be achieved in all assessment components in order to pass the module and progress to level 6.

## 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, practical demonstrations and activities. Practical sessions provide the opportunity to gain experience with different population groups across a range of settings and will support lectures, enabling 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:

Major metabolic pathways; carbohydrate, fat and protein metabolism; fed and fasted state; metabolism in disease (infection, cancer, liver disease, metabolic syndrome); Long term metabolic adaptation to both starvation and over-nutrition; inborn metabolic errors (e.g PKU, MCADD; galactosemia); alcohol metabolism; one carbon metabolism; factors affecting biochemical measurements and reference standards.

## Indicative Bibliography:

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

### Essential Reads

Evans, R & Frayn, K. (2019) *Human Metabolism: A regulatory Perspective* (4th ed.). Wiley Blackwell.

### Other indicative reading

Berg, J.M, Tymoczko, J., Gatto, G.J., and Stryer, L. (2015) *Biochemistry*, (9th ed). New York, Macmillan.

Lanham-New, S., Macdonald, I. & and Roche, H (eds) (2010). *Nutrition & Metabolism* (2nd ed). Nutrition Society. Wiley-Blackwell.

Journals: Metabolism; Journal of Human Nutrition and Dietetics.