

Module specification

When printed this becomes an uncontrolled document. Please access the **Module Directory** for the most up to date version by clicking on the following link: **Module directory**

Module code	NAD 506
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	30 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 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
Date and details of revision	
Version number	1

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	Critically discuss and explain the key mechanisms & pathways of metabolic regulation.
2	Consider and explain the key principles of homeostatic control of metabolism.
3	Consider and 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: MCQ test (1.5 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. & Roche, H (eds) (2010). *Nutrition & Metabolism* (2nd ed). Nutrition Society. Wiley-Blackwell.

Journals: Metabolism; Journal of Human Nutrition and Dietetics

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