

Module specification

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Module code	SCI645
Module title	Advances in Medicine: Diagnostics & Therapeutics
Level	6
Credit value	20
Faculty	FSLS
HECoS Code	100265
Cost Code	GANG

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Biomedical Science	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	24 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	24 hrs
Placement / work based learning	0 hrs
Guided independent study	176 hrs
Module duration (total hours)	200 hrs

For office use only	
Initial approval date	21 April 2021
With effect from date	September 2023
Date and details of revision	Derogation update
Version number	2

Module aims

The module aims to provide an insight to current diagnostics and therapeutics in a clinical setting.

Specifically, the module will allow students to develop an understanding of major diagnostic methods, therapeutic interventions and treatment strategies (medical and surgical) in the management of major diseases and disorders.

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

1	Discuss clinical assessment, diagnosis and treatment interventions (medical and surgical) in the management of major diseases and disorders.
2	Critically evaluate the integration of physiological systems and their impact on disease progression and management, including monitoring of measurable outcomes, Patient-reported outcome measures (PROMs) and Patient-reported experience measures (PREMs), Artificial Intelligence and Wearable Biosensors.
3	Discuss the role of modern pathology (automation and 24/7 working) and 21 st century diagnostic systems (e.g. molecular, nanotechnology, mass-spectrophotometers, etc.).
4	Critically evaluate specific therapeutics (i.e. biological, drug, surgical, radiation, etc.) and demonstrate an understanding of introductory pharmacology and bioinformatics.
5	Critically analyse current research and innovation in diagnostics and therapeutics relevant to clinical medicine.

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: Coursework (50%, 2000 word equivalent), assessing learning outcomes 1-3.

Assessment 2: Presentation (PowerPoint etc. or Poster) – (50%, 2000 word equivalent), assessing learning outcomes 4-5.

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

Derogations

All elements of assessment for this module must be passed at or above 40%.

Compensation for failure is not permitted for this module and other “core” biomedical science modules across the programme.

Learning and Teaching Strategies

The module will comprise lectures, seminars, self-directed and case-based learning. Appropriate use will be made of text and electronic resources (VLE).

Indicative Syllabus Outline

- Clinical assessment, diagnosis and treatment interventions (medical and surgical) in the management of major diseases and disorders.
- Integration of physiological systems and their impact on disease progression and management, including monitoring of measurable outcomes.
- Patient-reported outcome measures (PROMs) and Patient-reported experience measures (PREMs).
- Artificial Intelligence and Wearable Biosensors in clinical medicine
- Modern Pathology (automation and 24/7 working) and 21st century diagnostic systems (e.g. molecular, nanotechnology, mass-spectrophotometers, etc.)
- Specific therapeutics (i.e. biological, drug, surgical, radiation, etc.).
- Introductory pharmacology and bioinformatics.

Indicative Bibliography:

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

Essential Reads

Kumar, P., & Clark, M. (2017). Clinical medicine. (9th ed.). Edinburgh, United Kingdom: Elsevier Saunders Ltd

Other indicative reading

Brown, M. J., Sharma, P., Mir, F. A. & Bennett, P. N. (2018). Clinical Pharmacology (12th ed.). Edinburgh: Elsevier.

Ehrlich, A., & Schroeder, C. L. (2012). Medical terminology for health professionals. (7th ed.). New York, NY: Delmar Cengage Learning.

https://www.mdpi.com/journal/ijms/sections/Pathology_Diagnostics_Therapeutics)

British Journal of Biomedical Science: (<http://www.bjbs-online.org/>)

British Journal of Inflammation: (<http://www.journal-inflammation.com/>)

European Journal of Medical Research: (<http://www.eurjmedres.com/>)

PLOS Medicine (www.plosmedicine.org/)

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
Enterprising
Creative
Ethical

Key Attitudes

Commitment
Curiosity
Resilience
Confidence
Adaptability

Practical Skillsets

Digital Fluency
Organisation
Leadership and Team working
Critical Thinking
Emotional Intelligence
Communication