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	SCI548
Module title	Blood Sciences
Level	5
Credit value	20
Faculty	FSLS
Module Leader	tbc
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	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	21 April 2021
With effect from date	September 2022
Date and details of revision	
Version number	1

Module aims

The module aims to focus on clinical and current research topics in haematology and clinical biochemistry (Blood Sciences).

Specifically, the module will allow students to develop an understanding of transfusion science and various clinical haematological and biochemical (blood sciences) disorders, and to develop an in-depth knowledge of the laboratory investigations performed in the diagnosis and management of such diseases.

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

1	Explain the clinical relevance of anaemia, haemostasis and blood malignancies/disorders.
2	Differentiate the major blood grouping systems and critically evaluate pre-transfusion testing guidelines; blood products and their clinical significance.
3	Appraise a range of biochemical tests in terms of their diagnostic limitations and identify diagnostically-useful changes which occur in the body chemistry in response to particular diseases.
4	Select with justification biochemical tests which might aid the management of selected diseases.

Assessment

Indicative Assessment Tasks:
Coursework (100%)
Assessment 1: Case Study (50%, 2000 word equivalent), assessing learning outcomes 3-4.

Assessment 2: Examination – 2 hours (50%, 2000 word equivalent), assessing learning outcomes 1-2.

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 number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	3-4	Written Assignment	50%
2	1-2	Examination	50%

Derogations

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 both lectures and seminars. Appropriate use will be made of text and electronic resources (VLE).

Formative assessment will be provided in dedicated seminar sessions focussing on data interpretation and relevant case studies.

Indicative Syllabus Outline

- Classification of anaemia (e.g. microcytic, macrocytic and haemolytic)
- Haemostasis and bleeding disorders
- Haematological malignancies and myeloproliferative disorders
- Blood group systems (e.g. ABO, Rh, Kidd, Duffy, Kell etc.)
- Hazards of Transfusion
- Blood products and components (e.g. fresh frozen plasma, cryoprecipitate, etc.)
- Pre-transfusion testing (e.g. antibody screening/identification)
- Biochemical tests for selected disorders of organ function and human biochemistry (e.g. liver function tests)
- Clinical enzymology and biomarkers
- Electrolytes and acid-base balance
- Calcium and bone disease
- Common drugs and poisons (toxicology)
- Current research and clinical case studies relevant to the blood sciences

Indicative Bibliography:

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

Essential Reads

Blann, B., & Ahmed, N. (2014). *Blood sciences.* Chichester, United Kingdom: Wiley-Blackwell.

Other indicative reading

Ahmed, N. (Ed.). (2016). *Clinical biochemistry (2nd ed.)*. Oxford, United Kingdom: Oxford University Press.

Avent, N. (Eds.). (2018). *Transfusion & transplantation science.(2nd. ed.)* Oxford, United Kingdom: Oxford University Press.

Hoffbrand, A. V., & Steensma, D.P. (2019). *Essential haematology (8th ed.).* Oxford, United Kingdom: Wiley-Blackwell.

Marshall, W. J., Lapsley, M., & Day, A. (2016). *Clinical chemistry*. (8th ed.). Elsevier

Rifai, N., Horvath, A.R., & Wittwer, C.T. (2019). *Tietz fundamentals of clinical chemistry and molecular diagnostics*. (8th ed.). Philadelphia, PA: Elsevier Saunders.

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