Module Definition Form (MDF)

Module code: MOD002800	**Version:** 13 **Date Amended:** 23/Oct/2025

1. Module Title
Principles of Pathology (BMS)

2a. Module Leader
Joseph Bird

2b. School
School of Life Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions

Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	Biomedical Science, Bioscience, Life Sciences framework		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

Disease and injury cause detrimental changes in molecular and cellular processes, resulting in loss of cell and organ function. By understanding these processes and the roles that they play in disease, we are able to develop more effective diagnostic techniques and treatments. From this module, you will gain knowledge of the molecular mechanisms that underpin pathological processes. We will study how a range of pathogenic microorganisms and parasites exploit a host for nutrition and reproduction, and how the immune system and inflammatory processes protect against these pathogenic invaders. This is accompanied by a study of the processes of wound repair and cell injury/death. You will be introduced to the field of epidemiology which determines the incidence, distribution and attempted control of diseases, and we will also look at how the newly emerging field of bioinformatics (the study of “big data”) can analyse genomic mechanisms of disease. Finally, we will study the range of diagnostic techniques currently used in pathology laboratories.

You will learn through lectures, a laboratory practical and by working through case studies. In addition, you will learn data analysis through data handling exercises, acquiring important employability skills in literacy and data interpretation.

6b. Outline Content

- General pathology and the foundations of disease processes-
- Acute and chronic inflammation and diseases arising therein-
- Introduction to the immune response to injury and infection-
- Normal cellular growth and cellular injury and, by contrast, conditions of altered cellular growth including hyperplasia andneoplasia-
- The gross structure and ultrastructure of normal cells and tissues and the structural changes which may occur during disease-
- Characteristics, principles and classification of the disease state-
- Genetic, environmental and infective causes of disease including disease(s) arising from bacterial, viral or parasitic infection-
- The molecular, epidemiological and genetic principles of human disease including discussion of ethical underlying principles-
- Laboratory diagnostic techniques, including, but not limited to, cellular pathology, and case studies

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources

Appropriate Biological laboratory Technical support

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Discuss the underlying principles of pathology and disease processes.
2	Knowledge and Understanding	Integrate knowledge of the mechanisms of cell growth, cell cycle and cell death into your understanding of the processes of cell injury and tumourigenesis.
3	Intellectual, practical, affective and transferrable skills	Assess the role of the laboratory in the diagnosis and monitoring of specific diseases.
4	Intellectual, practical, affective and transferrable skills	Interpret and communicate detailed information on a case study.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2025/6	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	27	1-3	9 x 3 hrs lectures/active learning
Other teacher managed learning	9	1-4	1 x 3hr practical + 1 x 3 hr coursework + 1 x 3 hr revision
Student managed learning	114	1-4	Background reading, online activities, preparation for lectures and practicals, and completion of assessments
TOTAL:	150		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Coursework	1-4	50 (%)	Fine Grade	40 (%)
In-class test 1 hour (40% Qualifying Mark as stipulated by the IBMS)					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Examination Cambridge	1-3	50 (%)	Fine Grade	40 (%)
Exam (1 hour) (40% Qualifying Mark as stipulated by the IBMS)					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]