

## MODULE DESCRIPTOR

### Module Title

Biological Science

Reference	PL1003	Version	2
Created	August 2022	SCQF Level	SCQF 7
Approved	July 2022	SCQF Points	30
Amended	April 2024	ECTS Points	15

### Aims of Module

To provide a foundation for the study of biological pharmaceutical sciences and human physiology.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Demonstrate knowledge of the structures and functions of the main biomolecules.
- 2 Demonstrate an understanding of microorganisms, and the prevention and control of infectious disease.
- 3 Demonstrate an understanding of eukaryotic cell biology and human genetics, and explain how the immune system protects the host against infection and malignancies.
- 4 Explain cell signalling pathways, both generally and with reference to specific specialised cells.
- 5 Demonstrate an ability to solve biological problems.

### Indicative Module Content

Development of the fundamentals of cell and molecular biology necessary for understanding the physiology, pathology and therapeutics covered in successive modules. Topics may include: biomolecules; microbiology; cell biology, DNA replication, transcription and translation, mitosis and meiosis, genetics and variation, the immune response and immunotherapy; eukaryotic tissues: cell function, differentiation and specialisation, inter- and intracellular communication, transport, cell signalling, receptor regulation, cell function e.g. nerve cells, cardiac muscle cells, vascular smooth muscle cells. This module links to SDG 3 (good health and well-being), while making conscious decisions about the use and disposal of resources required to provide a quality learning experience with minimal environmental impact (SDG 12 responsible consumption and production).

### Module Delivery

Lectures and coursework sessions (consisting of practical exercises including laboratory work, data interpretation, computer-based exercises and tutorials). Directed study (consisting of paper and electronic based materials often incorporating self-assessment and directed reading).

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	40	N/A
Non-Contact Hours	260	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	N/A
Actual Placement hours for professional, statutory or regulatory body		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type:	Practical Exam	Weighting:	40%	Outcomes Assessed:	1, 2
Description:	Component 1 (PE1) is a written examination.				

**Component 2**

Type:	Examination	Weighting:	60%	Outcomes Assessed:	3, 4, 5
Description:	Component 2 (EX1) is a written examination.				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

Component 1 (PE1) is the minor component of the module. A minimum of a Grade D or better is required to pass this assessment. Component 2 (EX1) is the major component of the module. A minimum of a Grade D or better is required to pass this assessment. Overall Grade D or better is required to pass this module. Non-submission of either component will result in an NS grade for the module.

		Practical Exam:						NS
		A	B	C	D	E	F	
Examination:	A	A	A	B	B	E	E	
	B	B	B	B	C	E	E	
	C	B	C	C	C	E	E	
	D	C	C	D	D	E	E	
	E	E	E	E	E	E	F	
	F	E	E	E	F	F	F	
NS		Non-submission of work by published deadline or non-attendance for examination						

**Module Requirements**

Prerequisites for Module	None, in addition to course entry requirements.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 TORTORA, G.J and DERRICKSON, B.H. Principles of anatomy and physiology. Current edition. New York: J Wiley and Sons
- 2 BORON, W.F. and BOULPAEP, E.L. Medical Physiology. Current edition. Oxford: Saunders Elsevier Science.
- 3 TRC Pharmacology app. Available from: <https://coo.lumc.nl/TRC/redirect.aspx?lessonid=30>