

MODULE DESCRIPTOR

Module Title

Biological Science

Reference	PL1003	Version	1
Created	March 2022	SCQF Level	SCQF 7
Approved	July 2022	SCQF Points	30
Amended	August 2021	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 include: biomolecules (structures and functions of nucleic acids, proteins, carbohydrates and lipids); microbiology (microbial growth, infection, spread of disease, antimicrobial agents, public health microbiology, sources of contamination); cell biology (organelle structure and function, 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, G-proteins, nerve cells, cardiac muscle cells, vascular smooth muscle cells.

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
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

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

Component 1

Type:	Coursework	Weighting:	40%	Outcomes Assessed:	1, 2
Description:	Coursework assessment comprising objective short answer questions				

Component 2

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

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

Component 1 (CW1) comprises 40% of the module grade. A minimum of a Grade D or better is required to pass this assessment. Component 2 (EX1) comprises 60% of the module grade. 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.

		Coursework:						
		A	B	C	D	E	F	NS
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>