ZBIO H1102: Cell Biology

Module Title:	Cell Biology
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	No Programmes

Teaching & Learning Strategies:	This module will be taught in three theory classes of one hour and one two hour practical session per week for fifteen weeks. Relevant class notes, diagrams and self assessment tools will be available to the students. Online resources will also be accessed as appropriate. Class will be subjected to regular informal testing and peer teaching and learning during class time. Emphasis will be given to case studies linking concepts to realistic situations.

Module Aim:	The aim of this module is to impart knowledge of basic cell biology and microbiology with special emphasis on (a) association between cell structure and function and human disease and (b) microbial growth and disease transmission and prevention.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Describe the structure and functions of cellular macromolecules, organelles, cells and tissues.
LO2	Explain basic concepts of microbiology and carry out basic histological and microbiological techniques

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Cell Biology Introduction to the animal cell, cell theory and homeostasis. Overview of cell chemistry. The cell membrane: structure and function. Other cellular components: overview and function. Introduction to methods of cell communication. Cellular genetic processes with emphasis on genetic disease. Introduction to basic concepts of immunology and overview of cells involved in the immune response. Tissues: epithelial, connective, muscle and nervous.
Microbiology Introduction to micro-organisms: bacteria, fungi, protozoans, viruses. Environmental factors affecting microbial growth. Introduction to mechanisms by which microbes overcome host defences. Sources and modes of infection. Prevention procedures: methods of sterilization and disinfection
Practical Practicals will develop skills in the use of the light microscope and the application of simple histological and anatomical techniques. In addition practicals will include application of the fundamental principles of Microbiology, with special reference to the transmission and the prevention of disease, and the utilisation of basic microbiological techniques and methodologies.

Assessment Breakdown	%
Continuous Assessment	10.00%
Practical	40.00%
End of Module Formal Examination	50.00%

Special Regulation
Students must achieve a minimum grade (35%) in both the practical/CA and final examination.

Continuous Assessment				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Examination	One continuous assessment examination	1	10.00	n/a

No Project

Practical				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	A practical log book and by observing student performance and behaviour in practical classes	1,2	40.00	Sem 1 End

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	A final examination of two hour duration.	1,2	50.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	30 Weeks per Stage	1.50
Laboratory	30 Weeks per Stage	1.00
Estimated Learner Hours	30 Weeks per Stage	0.83
	Total Hours	100.00