

<b>Module Title:</b>	Physiology and Cell Biology 2
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	<a href="#">6 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	Physiology will be delivered in three theory classes of one hour duration for 12 weeks. Lectures will include Power Point presentations, group discussions and quizzes. Any course-related issues or questions that may arise will be discussed at lectures. All lecture notes, and any supplementary reading, screen cast or video material will be available to students on Blackboard. Cell Biology in Semester 2 will be taught in one theory class of one hour, and one two hour practical session per week, for twelve weeks. Lectures will include Power Point presentations, and relevant class notes, diagrams and self assessment tools will be available to the students in Blackboard. 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.
<b>Module Aim:</b>	Physiology: To provide the student with an understanding of the functions and control of the Nervous, Urinary and Endocrine Systems. Cell Biology: 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.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Physiology: Describe the physiology of the Nervous, Urinary and Endocrine Systems of the Human body.
LO2	Cell Biology: Describe the structure and functions of cells and tissues.
LO3	Cell Biology: Explain basic concepts of microbiology and carry out basic histological and microbiological techniques.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

## Module Content & Assessment

### Indicative Content

#### Physiology System 1 - The Nervous System

Anatomical and functional divisions of the nervous system, Structure, function and classification of neurons and neuroglial cells. Neurotransmission, resting membrane and action potentials

#### Physiology System 2 - The Urinary System

Structure and function of the urinary system, detailed physiology of the processes involved in urine production and micturition.

#### Physiology System 3 - The Endocrine System

Classification of hormones, overview of the location of the major endocrine glands, major actions and feedback regulation of the hormones produced by the Hypothalamus, Pituitary, Thyroid, Adrenal Glands and Pancreas

#### Cell Biology

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	75.00%
Practical	25.00%

### Special Regulation

Learners must achieve a minimum of 35% in both the CA and practical components.

### Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	Physiology continuous assessment will account for a total of 50% of the module grade, and involve a maximum of 2-3 in class assignments such as MCQ, short answer, true or false type questions, and/or project or presentation type work. The Cell Biology continuous assessment will account for 25% of the module grade. It will involve a maximum of 2 in class assignments such as MCQ, short answer, true or false type questions, and/or project or presentation type work.	1,2,3	75.00	Ongoing

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 conduct in practical classes	3	25.00	Every Week

No End of Module Formal Examination

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

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Laboratory	12 Weeks per Stage	2.00
Lecture	12 Weeks per Stage	4.00
Estimated Learner Hours	15 Weeks per Stage	3.53
Total Hours		125.00

**Module Delivered In**

Programme Code	Programme	Semester	Delivery
CW_EEBEE_B	<a href="#">Bachelor of Engineering (Honours) in Biomedical Electronics</a>	2	Mandatory
CW_EEBEE_D	<a href="#">Bachelor of Engineering in Biomedical Electronics</a>	2	Mandatory
CW_SASPS_B	<a href="#">Bachelor of Science (Honours) in Sport and Exercise Science</a>	2	Mandatory
CW_SASRA_B	<a href="#">Bachelor of Science (Honours) in Sports Rehabilitation and Athletic Therapy</a>	2	Mandatory
CW_SASAC_B	<a href="#">Bachelor of Science (Honours) in Strength and Conditioning</a>	2	Mandatory
CW_SAPHS_C	<a href="#">Higher Certificate in Science in Physiology and Health Science</a>	2	Mandatory