

Module Title:	Human Physiology
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	No Programmes
Teaching & Learning Strategies:	This module will be delivered by lectures. Students may be required to access the material via Blackboard in advance of the class to encourage active learning. To consolidate the material, students will normally be required to carry out assignments, formative quizzes and multiple choice questions (MCQs). Online demonstrations will illustrate the key concepts of the course and will be available through out the year. Digital Recourses such as YouTube, Reusable Learning Objects (RLOs) and the National Digital Learning Repository (NDLR) will be used as practicable
Module Aim:	To explain the fundamentals of human physiology.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Outline the hierarchy of organisation in the human body.
LO2	Outline the general features of metabolism and homeostasis.
LO3	Outline the function of the nervous, endocrine, circulatory and excretory systems and indicate their role in homeostasis including the metabolism and excretion of drugs and toxins.
LO4	Describe the structure and function of the human circulatory system and explain how blood pressure and cardiac function are controlled.
LO5	Explain the role of neurotransmitters, hormones and their receptors in the function of the nervous and endocrine systems.
LO6	Outline the principles of human reproduction, genetics and immunology.
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<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

Theory

Molecules and macro molecules important to life including nutrients and DNA. Eucaryotic cell structure compared to procaryotic and acellular forms . Organisation and characterisation of simple tissues and the major organ systems

Theory

General cellular metabolism. Respiration, cellular transport mechanisms, ligands, cellular receptors and signal transduction, neurotransmitters, hormones, agonists and antagonists. Metabolic diseases. DNA replication transcription and translation. Cell division , differentiation and cell death

Theory

The internal and external environments. Importance of homeostasis and its control.

Theory

General organisation and function of the respiratory digestive and excretory systems and their role in maintaining homeostasis. Role of the liver in detoxification. Examples of diseases that affect these systems. Obesity

Theory

General organisation, structure and function of the human nervous system including the peripheral nervous systems and central nervous system Role of the autonomic nervous system in the maintenance of homeostasis. Role of neurotransmitters and receptors. Overview of the somatic nervous system and muscle contraction. Overview of the afferent division of the peripheral nervous system. Pain. Structure and function of the central nervous system. Diseases affecting the nervous system.

Theory

Organisation and structure and function of the human circulatory system and its role in homeostasis. Structure of the heart and blood vessels. Electrical conduction in the heart. Blood pressure and its control. Cardiac function and its control. Role of the autonomic and endocrine system in the control of BP

Theory

General function and organisation of the endocrine system. General mechanisms of hormone control. Role of hormones, and receptors. Role of the hypothalamus pituitary unit in the maintenance of homeostasis Role of the endocrine system in reproduction, fertility, lactation and menopause

Theory

Over view of reproduction and the principles of human genetics. Genetic diseases, mutations and cancer.

Theory

Over view of innate and acquired immunity. Cellular and humoral components of the human immune system. Inflammation, allergies . Vaccines and the use of immunological techniques.

Assessment Breakdown

%

Continuous Assessment

40.00%

End of Module Formal Examination

60.00%

Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	MCQs, short answer in class tests, and assignments	1,2,3,4,5,6	40.00	n/a

No Project

No Practical

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	Exam	1,2,3,4,5,6	60.00	End-of-Semester

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

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	30 Weeks per Stage	2.00
Estimated Learner Hours	30 Weeks per Stage	2.00
Total Hours		120.00

