Abertay University

<https://www.abertay.ac.uk/>

Module details for Human Physiology

Module Details

SCQF Level:

07

Module Code:

LSC102

Credit Value:

20

Year:

2020/1

Term:

Term 2

School:

School of Applied Sciences

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Description

This module provides students with fundamental knowledge of the main physiological processes necessary for life and for maintaining whole body homeostasis.

Aims

The aim of this Module is to provide students with an understanding of the structure and function of a number of key physiological systems and their role in body homeostasis.

Learning Outcomes

By the end of this module the student should be able to:

1. Describe the anatomy, physiology and control of a number of key physiological systems critical for the functioning of the human body.
2. Demonstrate an understanding of levels of organisation of key physiological systems from cells to function.
3. Relate knowledge of physiological systems above to selected homeostatic mechanisms and their control.
4. Recognise both the biomedical and forensic applications of a detailed physiological understanding of key physiological systems.

Indicative Content

1 Cardiovascular physiology

Structure and function of the heart and blood vessels from single cell to whole system. Cardiac electrical activity and its measurement. Perfusion and its control. Blood pressure regulation. Embeds a variety of pathophysiological examples with reference to both biomedical and forensic applications throughout e.g. coronary heart disease.

2 Respiratory physiology

Structure and function of the respiratory tract from single cell to whole system. Lung mechanics and ventilation. Oxygen and carbon dioxide transport. Central and peripheral control of respiration. Embeds a variety of pathophysiological examples with reference to both biomedical and forensic applications throughout e,g, asthma

3 Reproductive physiology

Structure and functions of the reproductive systems from single cell to whole system. Normal body control of the female reproductive system and hormonal cycles. Embeds a variety of pathophysiological examples with reference to both biomedical and forensic applications throughout e.g. infertility.

4 Neuro and sensory physiology

Basic structures and divisions of the peripheral and central nervous system from single cell to whole system. Structure and function of nerves and the cells in the nervous system. How nerves communicate. Higher CNS functions and the ANS. Structure and function of key sensory organs. Embeds a variety of pathophysiological examples with reference to both biomedical and forensic applications throughout e.g. dementia

5 Skeletomuscular system

Skeletal muscle structure and ultrastructure. Muscle and fibre types. Functions of tendons, joints, bones, muscle ligaments and fascia. The neuromuscular junction. Excitation - contraction coupling. The sliding filament theory. Muscle spindles. Golgi tendon organs. Reflex arcs. Embeds a variety of pathophysiological examples with reference to both biomedical and forensic applications throughout e.g. muscular dystrophy.

Teaching and Learning Work Loads

For session 2020/21 the expectation is that the teaching and learning hours stated in this descriptor will form a mix of synchronous and asynchronous student/staff activity, with the majority of this being online. The exact pattern of this activity is likely to vary from the standard face-to-face hours listed below but the overall student effort remains the same. Up-to-date information on the delivery of the module can be found on the relevant module MLS site and on your student timetable.

TEACHING AND LEARNING METHOD	HOURS
Lecture	24
Tutorial/Seminar	12
Practical Activity	18
Assessment	50
Independent	96
Total	200

Guidance notes

SCQF Level - The Scottish Credit and Qualifications Framework provides an indication of the complexity of award qualifications and associated learning and operates on an ascending numeric scale from Levels 1-12 with SCQF Level 10 equating to a Scottish undergraduate Honours degree.

Credit Value – The total value of SCQF credits for the module. 20 credits are the equivalent of 10 ECTS credits. A full-time student should normally register for 60 SCQF credits per semester.

Disclaimer

We make every effort to ensure that the information on our website is accurate but it is possible that some changes may occur prior to the academic year of entry. The modules listed in this catalogue are offered subject to availability during academic year 2020/21 , and may be subject to change for future years.

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