1. **Title of the module**

BIOS5130 (BI513) - Human Physiology and Disease II

1. **School or partner institution which will be responsible for management of the module**

Biosciences

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 5

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn

1. **Prerequisite and co-requisite modules**

Prerequisite: BIOS3020 Molecular and Cellular Biology and BIOS3070 Human Physiology and Disease I are strongly recommended.

1. **The programmes of study to which the module contributes**

Biomedical Science and related programmes

Biochemistry and related programmes

Biology and related programmes

Biomedical Engineering

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1 Describe the structural organization and function of specific physiological systems of the body and understand how the body systems act in an integrated manner to maintain homeostasis.

8.2 Describe how malfunction of physiological systems gives rise to disease, using specific examples.

8.3 Appreciate the relationship between physiology, anatomy and medicine.

1. **The intended generic learning outcomes.  
   On successfully completing the module students will have developed the following skills:**

9.1 Retrieval, interpretation and application of information

9.2 Data analysis and evaluation

9.3 Ability to communicate effectively using a variety of methods

1. **A synopsis of the curriculum**

Reproductive System: Male and female reproductive systems; Endocrine control of reproduction; Fertilisation; Early embryogenesis; Pregnancy and Parturition; Reproductive disorders.

Muscle: Muscle types: skeletal, smooth and cardiac; Structure of muscle; Molecular basis of contraction; Regulation of contraction including neural control; Energy requirements of muscle; Types of movement: reflex, voluntary, rhythmic; Muscle disorders.

Nervous System: Cells of the nervous system- neurons and glia; Electrical properties of neurons- action potential generation and conduction; Synaptic structure and function- transmitters and receptors; Structural organization of the central nervous system (CNS) and function of individual regions; Organization and function of the peripheral nervous system (PNS)- somatic motor, autonomic (sympathetic and parasympathetic) and sensory; Sensory systems- vision, hearing, taste, smell, pain. Disorders of the nervous system.

Endocrine System: Endocrine glands; Classes of hormones; Mechanisms of hormone action; Regulation of hormone release; Endocrine disorders.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

* Silverthorn, D.U. Human Physiology – An Integrated Approach, Pearson Education. Recent editions suitable; latest is 8th edition (2018)

1. **Learning and teaching methods**

Total contact hours: 24

Private study hours: 126

Total study hours: 150

1. **Assessment methods**
   1. Main assessment methods

In-course test, 1 hr (20%)

Problem solving/case study, In-course test, 80 mins (20%)

Exam, 2 hr (60%)

13.2 Reassessment methods

Like for like

1. **Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *9.1* | *9.2* | *9.3* |
| **Learning/ teaching method** |  |  |  |  |  |  |
| Lectures | **X** | **X** | **X** | **X** |  |  |
| Workshop |  | **X** | **X** | **X** | **X** | **X** |
| Self-study, Revision and reading | **X** | **X** | **X** | **X** | **X** | **X** |
| **Assessment method** |  |  |  |  |  |  |
| In-course test | **X** | **X** | **X** | **X** |  |  |
| Problem solving/case-study |  | **X** | **X** | **X** | **X** |  |
| Examination | **X** | **X** | **X** | **X** |  | **X** |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

Biosciences is an international discipline. This module presents subject-specific knowledge, research approaches and techniques, generated, developed and refined by scientists around the world. Mastery of the learning outcomes will equip students to apply the theories and techniques of the module in a wide range of international contexts. In identifying a suitable text to complement the delivery of the material, consideration has been given to the range of texts that are available internationally. The School of Biosciences is an international community of students and staff. Group activities e.g. in practicals, tutorials, workshops and self-study will naturally draw on the international make-up of the student body; the module teaching team includes members with international experience of teaching and/or research collaboration.

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**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 20/01/20 | Minor | Sep 2020 | 13 | No |
|  |  |  |  |  |

Revised FSO Feb 2020