1. **Title of the module**

BIOS6260 (BI626) - Integrated Endocrinology

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 6

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:

BIOS5130 Physiology

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

BSc (Hons) Biochemistry and related programmes (optional)

BSc (Hons) Biomedical Science and related programmes (optional)

BSc (Hons) Biology and related programmes (optional)

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

Have:

1. An understanding of the underlying principles of endocrinology at the cellular, biochemical and physiological level.
2. The ability to describe, using illustrative examples, the different control mechanisms at work within the endocrine system both in the maintenance of whole body homeostasis and in disease.
3. An understanding of the methods available for the diagnosis of specific endocrine diseases including the measurement of electrolyte and hormone levels, and the role of dynamic testing.
4. The ability to integrate clinical and biochemical data to evaluate the most probable cause of key endocrine disorders, including a rationale for the most appropriate treatment regimes.
5. **The intended generic learning outcomes.
On successfully completing the module students will be able to:**

Have a knowledge and understanding of:

1. Interpretation and retrieval of information (knowledge management).
2. Analysis and evaluation of data (problem solving).
3. Communication of understanding and analysis through a variety of approaches (group work, tests and written report).
4. **A synopsis of the curriculum**

This module focuses on the endocrine system, which in conjunction with the nervous system, is responsible for monitoring changes in an animal's internal and external environments, and directing the body to make any necessary adjustments to its activities so that it adapts itself to these environmental changes.

The emphasis will be on understanding the underlying principles of endocrinology, the mechanisms involved in regulating hormone levels within tight parameters in an integrated manner and the central importance of the hypothalamic-pituitary axis.

During the lectures each major endocrine gland or functional group of glands will be explored in turn and specific clinical disorders will be used to illustrate the role of the endocrine organs in the maintenance of whole body homeostasis. The systems studied will include the following: thyroid gland, parathyroid gland and bone metabolism, adrenal gland, renal hormones (water and salt balance), pancreatic hormones, gut hormones and multiple endocrine neoplasia, gonadal function and infertility.

Consideration will be given to the methods available for the diagnosis of specific endocrine diseases, including the measurement of electrolyte and hormone levels, and the role of dynamic testing.

The role of the endocrine system in integrating metabolic pathways will be emphasised throughout the module and particular scenarios such as infertility, diabetes mellitus.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**
* Clinical Biochemistry Gaw, A., Cowan, R.A., O’Reilly, D.St. J.,et al (2013)
* Clinical Biochemistry (2nd Edition) Churchill Livingstone. Ahmed, N (Ed) Clinical Biochemistry (2016) OUP
* Endocrinology. Essential Endocrinology and Diabetes (2012), Holt, R.I.G & Hanley, NA (6th Edition), Blackwell Science

General Physiology Core Physiology texts recommended for first and second year modules, for example, Silverthorn.

Integrated metabolism Core Biochemistry texts recommended for second year modules, for example, Lehninger.

1. **Learning and teaching methods**

Total contact hours*:* 27

Private study hours: 123

Total study hours: 150

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

Test (10.5%) (1h)

Case Study (24.5%) (2500 words maximum)

Exam (65%) (2 hr)

13.2 Reassessment methods

100% exam

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* | *8.4* | *8.5* | *9.1* | *9.2* | *9.3* | *9.4* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |
| Lectures | **X** | **X** | **X** | **X** |  | **X** | **X** |  |  |
| Workshop | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** |  |
| Private study | **X** | **X** | **X** | **X** |  | **X** | **X** |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |
| Test | **X** | **X** | **X** |  |  |  |  | **X** |  |
| Case Study  | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** |  |
| Examination | **X** | **X** | **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 compiling the reading list, consideration has been given to the range of texts that are available internationally and a selection has been identified to complement the delivery of the material. 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 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.**

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| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 10/12/18 | Minor | Sept-19 | 1 | No |
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Revised FSO Jan 2018