1. **Title of the module**

BIOS5030 (BI503) - Cell Biology

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**

None

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

Biochemistry and related programmes

Biomedical Science and related programmes

Biology and related programmes

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

8.1 Demonstrate an understanding of cellular organisation and associated processes.

8.2 Demonstrate an understanding of modern procedures for investigating cellular components.

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

9.1 Access and evaluate scientific literature.

9.2 Present a concise digest of a research area both orally and in written form.

1. **A synopsis of the curriculum**

The cell is the fundamental structural unit in living organisms. Eukaryotic cells are compartmentalized structures that like prokaryotic cells, must perform several vital functions such as energy production, cell division and DNA replication and also must respond to extracellular environmental cues. In multicellular organisms, certain cells have developed modified structures, allowing them to fulfil highly specialised roles. This module reviews the experimental approaches that have been taken to investigate the biology of the cell and highlights the similarities and differences between cells of complex multicellular organisms and microbial cells. Initially the functions of the cytoskeleton and certain cellular compartments, particularly the nucleus, are considered. Later in the unit, the mechanisms by which newly synthesised proteins are secreted or shuttled to their appropriate cellular compartments are examined.

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

Core texts:

* Lodish HF, Berk A, Kaiser CA, Krieger M, Molecular cell biology, 8th Edition, W.H. Freeman, 2016

Optional texts:

* Alberts B, Molecular Biology of the Cell, 6th Edition, Garland Science Pub., 2015
* Alberts B, Essential Cell Biology, 4th Edition, Garland Science Pub., 2014
* Much of the module material is covered at some (usually more introductory) level in Biology and Biochemistry textbooks, as recommended in other modules - examples include Campbell’s Biology and Nelson & Cox’s (Lehninger’s) Principles of Biochemistry
1. **Learning and teaching methods**

Total contact hours: 30

Private study hours: 120

Total study hours: 150

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

Presentation on scientific literature, 8 min (10%)

Practical Report, 1000 word limit (25%)

Exam, 2 hr (65%)

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*** | ***9.1*** | ***9.2*** |
| **Learning/ teaching method** |  |  |  |  |
| Private Study | **X** | **X** | **X** | **X** |
| Lectures | **X** | **X** |  |  |
| Supervision | **X** |  | **X** | **X** |
| Practical | **X** | **X** |  |  |
| Presentation | **X** |  | **X** | **X** |
| **Assessment method** |  |  |  |  |
| Practical report | **X** | **X** |  |  |
| Presentation  | **X** |  | **X** | **X** |
| Examination | **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**

Bioscience 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.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 18 Dec 18 | Major |  | 8,9,13 |  |
| 20/01/20 | Minor | Sep 2020 | 13 |  |