1. **Title of the module**

BIOS6280 (BI628) - Microbial Physiology and Genetics 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 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:

BIOS5480 Microbial Physiology and Genetics I

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

Biology and related programmes (compulsory)

Biochemistry and related programmes (optional)

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

Have a knowledge and understanding of:

8.1 The structural and metabolic diversity of microorganisms.

8.2 Genetic and physiological regulation in microorganisms.

8.3 Experimental approaches used to investigate physiological and genetic control in microorganisms.

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

Have a knowledge and understanding of:

9.1 Written communication.

9.2 The ability to generate, analyse and report experimental data.

9.3 The ability to work collectively to analyse and present orally data reported in the scientific literature.

1. **A synopsis of the curriculum**
2. Outline of microbial physiology and genetics part II
3. Microbial taxonomy and phylogenetics
4. Microbial homeostasis - regulation of primary and secondary metabolism
5. Genomic regulation - Transcriptional and post-transcriptional regulation of gene expression
6. Experimental approaches used to study microbial physiology, microbial genomes and gene expression
7. Microbial biochemistry
8. Microbial biodiversity and complex signalling in the environment
9. Application of microbes in biotechnology

Practical on bacterialtranscriptional regulation using gene-expressionreporter fusions

Group presentation of a research paper relating to topic areas on "Microbial biodiversity at the physiological and biochemical level".

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

* Slonczewski J. and Foster J. Microbiology an Evolving Science. Third Edition. W.W. Norton & Co

1. **Learning and teaching methods**

Total contact hours: 33

Private study hours: 117

Total study hours: 150

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

Practical (20%) 1000 word limit

Presentation (20%) 15 minute group presentation

Exam, 2 hr (60%)

* 1. 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** |  |  |  |
| Laboratory |  |  | **X** |  | **X** | **X** |
| Symposium |  |  |  |  | **X** | **X** |
| Private Study |  |  |  |  |  |  |
| Symposium preparation |  |  |  |  | **X** | **X** |
| Exam revision | **X** | **X** | **X** |  |  |  |
| **Assessment method** |  |  |  |  |  |  |
| Practical |  |  | **X** | **X** | **X** |  |
| Presentation |  |  |  |  | **X** | **X** |
| Examination | **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.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 10 | No |
|  |  |  |  |  |

Revised FSO Jan 2018