1. **Title of the module**

BIOS6280 (BI628) – Microbial Physiology and Genetics II

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

Division of Natural Sciences

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 course(s) of study to which the module contributes**

Compulsory for BSc Biology and related courses

Optional for BSc Biochemistry and related courses

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

8.1 Demonstrate comprehensive knowledge and understanding of the structural and metabolic diversity of microorganisms.

8.2 Demonstrate critical understanding of genetic and physiological regulation in microorganisms.

8.3 Demonstrate thorough knowledge and understanding of the experimental approaches used to investigate physiological and genetic control in microorganisms.

8.4 Demonstrate the ability to work individually to solve biological problems.

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

9.1 Demonstrate effective communication skills in a variety of ways.

9.2 Analyse and evaluate complex experimental data confidently.

1. **A synopsis of the curriculum**

This module will cover the following:

* Outline of microbial physiology and genetics
* Microbial metabolism and homeostasis
* Control of microbial physiology through gene expression regulation – Transcriptional and post-transcriptional regulation of gene expression
* Experimental approaches used to study microbial genomes and gene expression
* Microbial biodiversity and complex signalling in the environment

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

Milo, R. and Phillips, R. (2015). Cell Biology by the Numbers (First Edition). New York: Garland Science (Taylor & Francis Group).

Slonczewski J. and Foster J. (2020). *Microbiology an Evolving Science*. (Fifth Edition). New York and London: W.W. Norton & Co.

1. **Learning and teaching methods**

Total Contact Hours: 30

Total Private Study Hours: 120

Total Study Hours: 150

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

* Practical Assessment (10 questions) – 40%
* Examination (2 hours) – 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)***

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| --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *9.1* | *9.2* | *9.3* |
| **Learning/ teaching method** |  |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** |
| Lecture | **x** | **x** | **x** |  |  |  |
| Laboratory |  |  | **x** |  | **x** | **x** |
| Symposium |  |  |  |  | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |
| Practical Report |  |  | **x** | **x** | **x** | **x** |
| Examination | **x** | **x** | **x** | **x** |  | **x** |

1. **Inclusive module design**

The Division 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 Division of Natural Sciences 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.

**DIVISION USE ONLY**

**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 delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 10/12/18 | Minor | September 2019 | 10 | No |
| 17/12/20 | Major | September 2021 | 9-14 | No |

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| Revised FSO Jan 2018 |