1. **Title of the module**

BIOS6000 (BI600) - Research Project

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**

30 credits (15 ECTS)

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

Autumn and Spring

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

None

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

Biochemistry and related programmes

Biology and related programmes

Biomedical science and related programmes

1. **The intended subject specific learning outcomes.
On successfully completing the module students will be able to:**
	1. Demonstrate an in-depth understanding of an advanced research topic within the fields of Biochemistry, Biology, or Biomedical Science through study of the peer-reviewed primary scientific literature.
	2. Appreciate how scientific knowledge advances through research e.g. the timescales, challenges, limitations, impact of technological advances.

Students taking **wet/dry (computing-based) laboratory** projects will be able to:

* 1. Understand how to design and execute a sequence of experiments to address a research question and how to record data.
	2. Enhance their existing and acquire new experimental skills.
	3. Identify and solve practical and theoretical problems.
	4. Show an awareness of the safety implications of laboratory work and knowledge of good laboratory practice (wet lab projects only).

Students taking **dissertation/business/communications** projects will be able to:

* 1. Develop critical analysis skills, design novel experiments to address specific questions within the chosen topic and to appreciate the limitations and the practicability of the experimental process.

Students undertaking **business** projects will be able to::

* 1. Appreciate how scientific research may be translated into business ideas.
	2. Understand the factors that are important in planning and preparing a businessplan.

Students taking **communication** projects will be able to:

* 1. Demonstrate an ability to simplify complex scientific information and to adapt it to suit the audience.
	2. Present current scientific research to a general audience making it accessible and interesting.
1. **The intended generic learning outcomes.
On successfully completing the module students will be able to:**

9.1. Appreciate how research leads to knowledge.

9.2. Demonstrate a clear and concise style of scientific writing that is both informative and lucid.

9.3. Demonstrate skills in the retrieval of scientific information from journals and through electronic searches.

9.4. Acquire an understanding of how technologies may be applied/adapted to address a research question.

9.5. Develop their abilities to work independently and as part of a team - self-motivation, diplomacy, planning and organisational skills and time management.

9.6. Exhibit skills in appraising critically and integrating information.

9.7. Show skills in communicating science (oral, written or web formats) and in making and defending scientific arguments.

1. **A synopsis of the curriculum**

Projects are designed by individual members of staff in keeping with their research interests and fall into one of four categories:

* Wet/Dry Laboratory and Computing: practical research undertaken in the teaching laboratories, or on computers followed by preparation of a written report
* Dissertation: library-based research leading to production of a report in the style of a scientific review
* Business: development of a biotechnology business plan
* Communication: similar to dissertation projects but with an emphasis on presenting the scientific topic to a general, non-scientist audience
1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

Reading is entirely project-specific, to be discussed with academic supervisor.

1. **Learning and teaching methods**

Total contact hours: 192

Private study hours: 108

Total study hours: 300

1. **Assessment methods**

Main assessment methods

For each project type the project write and performance comprise 90% of the assessment (with different splits depending on the type of the project), with the final 10% assessed by a presentation.

Laboratory reports:

Written Project report – 6000 words maximum 70%

Project Performance – 20%

Presentation (15 minutes) – 10%

Non-laboratory reports (Dissertation and Business):

Written Project report – 11,000 words maximum 80%

Project performance – 10%

Presentation (15 minutes)– 10%

Communication Project:

Written Project report – 6,000 words maximum 60%

Communication element of report – 20%

Project performance – 10%

Presentation (15 minutes)– 10%

13.2 Reassessment methods

100% project

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* | *8.6* | *8.7* | *8.8* | *8.9* | *8.10* | *8.11* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |
| Laboratory  | **X** | **X** | **X**  | **X**  | **X**  | **X**  |  |  |  |  |  |
| Dissertation  | **X** | **X** |  |  |  |  | **X** |  |  |  |  |
| Business  | **X** | **X** |  |  |  |  | **X** | **X** | **X** |  |  |
| Communication  | **X** | **X** |  |  |  |  |  |  |  | **X** | **X** |
| **Private Study** |  |  |  |  |  |  |  |  |  |  |  |
| *Laboratory* | **X** |  |  |  | **X** |  |  |  |  |  |  |
| *Dissertation* | **X** |  |  |  |  |  | **X** |  |  |  |  |
| *Business* | **X** |  |  |  |  |  | **X** | **X** | **X** |  |  |
| *Communication* | **X** |  |  |  |  |  | **X** |  |  | **X** | **X** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |
| **Written report**  |  |  |  |  |  |  |  |  |  |  |  |
| *Laboratory* | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |  |
| *Dissertation* | **X** |  |  |  |  |  | **X** |  |  |  |  |
| *Business* | **X** |  |  |  |  |  | **X** | **X** | **X** |  |  |
| *Communication* | **X** |  |  |  |  |  | **X** |  |  | **X** | **X** |
| **Presentation** |  |  |  |  |  |  |  |  |  |  |  |
| *Laboratory* | **X** |  |  |  | **X** |  |  |  |  |  |  |
| *Dissertation* | **X** |  |  |  |  |  | **X** |  |  |  |  |
| *Business* | **X** |  |  |  |  |  | **X** | **X** | **X** |  |  |
| *Communication* | **X** |  |  |  |  |  | **X** |  |  | **X** | **X** |
| **Performance** |  |  |  |  |  |  |  |  |  |  |  |
| *Laboratory* | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |
| *Dissertation* | **X** |  |  |  |  |  | **X** |  |  |  |  |
| *Business* | **X** |  |  |  |  |  | **X** | **X** | **X** |  |  |
| *Communication* | **X** |  |  |  |  |  | **X** |  |  | **X** | **X** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* | *9.7* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |
| Private Study | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| Laboratory time if relevant | **X** |  |  | **X** | **X** | **X** |  |
| **Assessment method** |  |  |  |  |  |  |  |
| Written report | **X** | **X** | **X** | **X** |  | **X** | **X** |
| Presentation | **X** |  | **X** | **X** |  | **X** | **X** |
| Performance | **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**

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) |
| 19 Feb 19 | Minor |  | 8, 9, 13.2 |  |
| 20/01/20 | Minor | Sep 2020 | 13 | No |

Revised FSO Feb 2020