1. **Title of the module**

BIOS8450 (BI845) - MSc 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 7

1. **The number of credits and the ECTS value which the module represents**

60 credits (30 ECTS)

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

Summer and Summer vacation

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

None

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

MSc Biomedicine

MSc Biotechnology and Bioengineering

MSc Cancer Biology

MSc Infectious Diseases

MSc Reproductive Medicine: Science and Ethics

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

Have a knowledge and understanding of:

1. How to design a project based around specific research questions and hypotheses.
2. How appropriate technologies may be applied/adapted to address specific research questions and hypotheses.
3. How to design and execute experimental and/or analytical approaches to address specific research questions and hypotheses.
4. How to record experimental and/or analytical procedures and data appropriately.
5. How to present research in an appropriate, concise, informative and lucid style in keeping with high impact factor scientific journals and conference poster presentations.
6. **The intended generic learning outcomes.
On successfully completing the module students will be able to:**
7. Interpret their own laboratory data and/or data from other sources, obtain and interpret information from published sources, critically evaluate their own research and that of others.
8. Organise information clearly, present information in oral and written form, and adapt their presentation for different audiences.
9. Use appropriate technology to retrieve, analyse and present scientific information.
10. Work both independently and as part of a research group.
11. Demonstrate self-motivation and independence, including time and workload management in order to meet personal targets and imposed deadlines.
12. **A synopsis of the curriculum**

Students will undertake an independent research project that will be designed by the student, in consultation with an academic supervisor, to address specific research questions. Students will be trained in key techniques relating to the project, and will work independently under the supervisor's guidance to design and execute experiments that will address the questions formulated earlier.

During the Spring term, students are assigned to supervisors by the project co-ordinators (members of academic staff, generally the co-ordinators of the individual MSc-T programmes). Students then meet with their project supervisor to discuss the general subject matter of the project and obtain guidance on background reading, following which the student and supervisor work together to design the project. Orientation sessions are provided covering laboratory health and safety and research ethics.

The research activities take place in the Summer term and vacation. Students are expected to dedicate 600 hours to their project work. Of this time, students taking “wet-lab” projects will spend at least 11 weeks working full time in a laboratory setting planning, carrying out and documenting experiments, with the remainder of the time allocated to background reading and report writing. There are informal opportunities to discuss the project work and relevant literature with the supervisor and other laboratory staff on an ongoing basis. Formal meetings may be arranged at the discretion of the student and supervisor.

Students undertaking “dry-lab” projects analyse published information (e.g. literature, databases) or unpublished data sets are expected to spend the same amount of time on their projects as “wet-lab” students. “Dry-lab” students are expected to meet with their supervisor at least once a week to discuss progress and ideas and to resolve problems.

At the end of the formal project time, students are allowed time to complete the final project report, although they are encouraged to start writing as early as possible during the Summer term. The supervisor provides feedback on content and style of a draft of the report, which should be in the style of a scientific report for publication in an appropriate scientific journal. In addition, students are expected to deliver their findings as a poster in a symposium organised by the School.

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

Required reading will be research project-dependent. Existing Templeman Library research journal provision will be sufficient for this module, with occasional Document Delivery service.

1. **Learning and teaching methods**

*Total contact hours:* 440 hours of laboratory time is available for students. The time used will depend on the nature of the project. In addition, there will be regular supervisory meetings and/or research group meetings.

*Private study hours:* Up to 600, depending on the balance of laboratory and non-laboratory work. This will depend on the project topic itself.

*Total study hours:* 600

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

Poster (20%)

Dissertation (6,000 words: 80%)

13.2 Reassessment methods

Reassessment Instrument: 100% project

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** | *8A* | *8B* | *8C* | *8D* | *8E* | *9A* | *9B* | *9C* | *9D* | *9E* |  |  |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private study** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |
| Laboratory work/“dry lab” analysis |  | **X** | **X** | **X** |  | **X** |  | **X** | **X** | **X** |  |  |
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| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |
| *Poster* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |
| *Dissertation* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |
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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 work 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) |
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Revised FSO Jan 2018