1. **Title of the module**

BIOS5250 (BI525) - Investigation of Disease

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 and Spring

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

Prerequisites:

BIOS3000 Introduction to Biochemistry

BIOS3080 Skills for Bioscientists

Co-requisite:

BIOS5320 Skills for Bioscientists 2

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

Biomedical Science 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 the working practices in the United Kingdom National Health Service and the role of a Biomedical Scientist.

8.2 Demonstrate knowledge and understanding of the general techniques used in Clinical Biochemistry and their use in the assessment of disease.

8.3 Demonstrate knowledge and understanding of the general techniques used in Cellular Pathology and application to the assessment of disease and potential treatment strategies.

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

9.1 Use problem solving skills to analyse case study data and clearly communicate their findings.

9.2 Use analytical and observation skills to interpret immunohistochemical data.

9.3 Demonstrate ability to function at an intermediate level in a NHS laboratory through their understanding of working practises in Biomedical Science.

1. **A synopsis of the curriculum**

This module will introduce the student to two of the four main branches of laboratory medicine, Clinical Biochemistry and Cellular Pathology, and begin to develop the skills students will require to work effectively and safely within a clinical setting.

**Clinical Biochemistry:**

1. The use of the laboratory, quality assurance and techniques (including Instrumentation and Automation, Clinical Applications, Antigen-Antibody Reactions, Separation techniques) will be introduced using the various screening and testing procedures as below.
2. Screening for disease – concepts, rationale and screening programmes, application of biochemical techniques to paediatrics and inborn errors of metabolism, tumour markers, liver function, iron and porphyrias, enzymes and their use in laboratory medicine, clinical applications of protein biochemistry, nutrition in health and disease, lipids and atherosclerosis.

**Cellular Pathology:**

1. Application of histological and cytological techniques in a clinical setting including cell and tissue sampling techniques for histological and cytological diagnosis.
2. Use histochemical and immunohistochemical stain techniques for diagnosis and selection of treatment.
3. Microscopic methods used in cellular pathology.
4. Quality control and quality assurance.
5. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**
* Murphy M.J, Srivastava R et al (2018) Clinical Biochemistry, Sixth Edition, Churchill Livingstone, London
* Ahmed, N., (2016) Clinical Biochemistry, Second Edition, Fundamentals of Biomedical Science series, Oxford University Press
* Shambyati, B., (2018), Second edition, Cytopathology, Fundamentals of Biomedical Science series, Oxford University Press
* Orchard, G. And Nation, B., (2017) Histopathology, Second Edition, Fundamentals of Biomedical Science series, Oxford University Press
1. **Learning and teaching methods**

Total contact hours: 31

Private study hours: 119

Total study hours: 150

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

Practical report (20%) (2000 words)

Case study (20%) (1500 words)

Exam (60%) (2 hour)

13.2 Reassessment methods

Reassessment Instrument: 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** |  |  |  |  |  |  |
| Lecture | **X** | **X** | **X** |  |  | **X** |
| Practical | **X** |  | **X** |  | **X** |  |
| Workshop | **X** | **X** |  | **X** |  |  |
| Self study | **X** | **X** | **X** |  |  |  |
| **Assessment method** |  |  |  |  |  |  |
| Practical report | **X** |  | **X** |  | **X** | **X** |
| Case study | **X** | **X** |  | **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) |
| 20/01/20 | Minor | Sep 20 | 11-13 | No |
|  |  |  |  |  |

Revised FSO Feb 2020