1. **Title of the module**

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 (e.g. 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 credits)

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

Autumn Term lectures and practical, Spring Term workshops

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

Prerequisites BI300 Introduction to Biochemistry and BI308 Skills for Bioscientists

Co-requisite BI532 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 demonstrate:**

8.1 An understanding of the working practices in the United Kingdom National Health Service and the role of a Biomedical Scientist

8.2 Knowledge and understanding of the general techniques used in Clinical Biochemistry and their use in the assessment of disease

8.3 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.

1. Microscopic methods used in cellular pathology
2. Quality control and quality assurance

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

###### Gaw, A., Cowan, R.A et al (2013) Clinical Biochemistry, Fifth Edition, Churchill Livingstone, London

Ahmed, N., (2011) Clinical Biochemistry , Fundamentals of Biomedical Science series, Oxford University Press

Shambyati, B., (2011) Cytopathology, Fundamentals of Biomedical Science series, Oxford University Press

Orchard, G. And Nation, B., (2011) Histopathology, Fundamentals of Biomedical Science series, Oxford University Press

**12. Learning and Teaching methods**

**Contact Hours: 33h**

Lectures: 24h

 Practicals: 5h

 Workshops: 2 x 2h

 **Self Study: 117h**

 Practical write-up: 24h

 Reading notes, outside reading for case studies: 24h

 Reading, revision: 69h

The module material will be delivered in lectures and will focus on the techniques in clinical biochemistry and cellular pathology used in NHS laboratories and their applications in the investigation of disease.

Skills in understanding the information generated through clinical biochemistry testing will be developed through the case study workshops and assignment.

Skills in understanding the techniques used in cellular pathology and the interpretation of results will be developed in the practical class.

**13. Assessment methods.**

This module will be assessed by 40% coursework and 60% examination

Coursework 40%

1. Clinical biochemistry case studies (20%),

Students will be introduced to analysing case study data in a formative workshop which will build on the information given in lectures. Students will work in small groups to answer the question and informally present their findings to the group. A second workshop will introduce the questions for assessment with students able to discuss the data as above before writing up the work individually for hand in at a later date.

2. Cellular Pathology practical (20%)

Students will carry out a practical based on procedures used in the clinical setting, the assessment will assess observational and recording skills related to the practical in addition to assessing understanding through answers to related questions.

Examination (2h; 60%)

The examination will assess student knowledge and understanding of the investigation of disease

through the use of techniques used in the Clinical Biochemistry and Cellular Pathology laboratories

of the NHS.

***14. 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** | **Hours allocated** |  |  |  |  |  |  |
| **Lecture** | 24 | **X** | **X** | **X** |  |  | **X** |
| Practical | 5 | **X** |  | **X** |  | **X** |  |
| Workshop | 4 | **X** | **X** |  | **X** |  |  |
| Self Study |  |  |  |  |  |  |  |
| Practical report | 24 | **X** |  | **X** |  |  |  |
| Case studies | 24 | **X** | **X** |  | **X** |  |  |
| Reading and revision | 69 | **X** | **X** | **X** |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |
| Practical report |  | **X** |  | **X** |  | **X** | **X** |
| Case Studies |  | **X** | **X** |  | **X** |  | **X** |
| Examination |  | **X** | **X** | **X** |  |  | **X** |

**15. The School recognises and has embedded the expectations of current disability equality legislation, and supports students with a declared disability or special educational need in its teaching. Within this module we will make reasonable adjustments wherever necessary, including additional or substitute materials, teaching modes or assessment methods for students who have declared and discussed their learning support needs. Arrangements for students with declared disabilities will be made on an individual basis, in consultation with the University’s disability/dyslexia student support service, and specialist support will be provided where needed.**

**16. Campus(es) or Centre(s) where module will be delivered:**

Canterbury

**FACULTIES SUPPORT OFFICE USE ONLY**

**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) |
| 05/11/15 | Major | Sept 2015 | 8, 9, 10, 12,13, 14 | No  |
|  |  |  |  |  |