1. **Title of the module**

CHEM1133 (Greenwich Code: BIOC 1034) Introduction to Biochemistry

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

Medway School of Pharmacy.

1. **The level of the module**

Level 3

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 (12 weeks) and Spring (12 weeks)

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

None

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

BSc (Hons) in Pharmacology and Physiology

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to the following:**
2. Develop a basic knowledge and understanding of the structure of the four principal biological molecules: amino-acids, proteins, carbohydrates, lipids and nucleic acids.
3. Develop a fundamental understanding of the principal functions of principal biological molecules in biological systems
4. Develop a knowledge and understanding of basic functions of enzyme activity
5. Develop a basic knowledge about enzyme function and how it is controlled by pH, substrate and inhibitors
6. Develop a understanding and give examples of the of the various types of metabolism and describe how metabolism is controlled in the cell
7. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to the following:**
8. Develop practical laboratory based skills.
9. Develop an ability to analyse, evaluate and correctly interpret data.
10. Develop an ability to present and communicate data.
11. Develop an ability to obtain and use information from a variety of sources as part of self-directed learning.
12. Develop time-management and organisational skills within the context of self-directed learning.
13. **A synopsis of the curriculum**

The aim of this module is to teach the fundamental biochemistry principles and acquire basic biochemistry laboratory skills. This covers the following elements:

a) Introduction to biochemistry, including basic understanding of the importance of amino-acids, proteins, carbohydrates, lipids and nucleic acids in biology. The emphasis will be on the chemical properties and three-dimensional structure of these molecules in relationship to their biological function

b) Protein structure and stability

b) Methods for purifying and studying proteins.

c) Protein Function

d) Introduction to basic functions and types of metabolism and how it is controlled in cells.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Author | Date | Title | Publisher |
| Garrett RH & Grisham CM | 2012 | Biochemistry | Brookes/Cole |

1. **Learning and teaching methods**

The following teaching methods will be utilized. Lectures, laboratory practicals, seminars and private study.

The primary mode of delivery will be 2 hour lectures ( over 2terms). Additionally there will be five 3 hour laboratories and two 3 hour seminars.

*Lectures* serve to deliver the core material directly related to themes shown in the curriculum synopsis and help the students achieve the subject specific learning outcomes.

The *laboratory practicals* serve to reinforce concepts introduced in the lectures and also serve to help the students achieve both the subject specific learning outcomes and the generic learning outcomes.

*Seminars* serve to consolidate the material and help the students achieve the subject specific learning objectives.

*Private study* (revision) is student driven and serves to consolidate understanding and help students achieve both subject selective learning outcomes and generic learning outcomes.

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

This module will be assessed by 50% laboratory report (1000 words) and 50% exam.

The passmark for this module is 40% (note that the progression mark is 50% in each module to progress onto the BSc (Hons) in Pharmacology and Physiology).

13.2 Reassessment methods

Normally, 1 resit examination in accordance with the regulations which pertain to the BSc (Hons) in Pharmacology and Physiology (2017).

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* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* |
| **Learning/ teaching method** | **Hours allocated** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | 258 | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  | **X** | **X** |
| **Lectures** | 26 | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |
| **Laboratory** | 18 | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  | **X** |
| **Seminar** | 6 | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Laboratory*  *Report* |  | **X** | **X** | **X** |  |  |  |  | **X** | **X** | **X** | **X** | **X** |
| *Formative*  *MCQ assessment* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Written Examination* |  | **X** | **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**

**Medway**.

1. **Internationalisation**

Staff directly teaching on this module have a significant amount of scientific training from institutions all over the world.

**If the module is part of a programme in a Partner College or Validated Institution, please complete sections 18 and 19. If the module is not part of a programme in a Partner College or Validated Institution these sections can be deleted.**

1. **Partner College/Validated Institution**

N/A

1. **University School responsible for the programme**

Medway School of Pharmacy

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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) |
| 31/10/18 | New module |  |  |  |
|  |  |  |  |  |