1. **Title of the module**

LABS404 Applied Chemistry

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

Digital and Lifelong Learning

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 4

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)**

Flexible delivery model

Autumn and/or Spring and/or Summer

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

N/A

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

FdSc and BSc (Hons) in Applied Bioscience

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

8.1 Demonstrate a basic understanding of atomic structure, bonding and basic understanding of reaction mechanisms.

8.2 Describe the physicochemical properties of major organic functional groups and the concept of aromaticity.

8.3 Develop an understanding of stereochemistry and an ability to apply the principles of chirality to the activity and metabolism of drugs.

8.4 Explain selected theories and applications of chemistry such as ions in solution, acids, bases and buffers.

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

9.1 Demonstrate the development of practical/technical skills

9.2 Analyse, evaluate and correctly interpret data

9.3 Communicate and present data effectively

9.4 Obtain and use information from a variety of sources as part of self-directed learning.

9.5 Manage the time and use organisation skills within the context of self-directed learning.

1. **A synopsis of the curriculum**

Atomic structure, bonding and molecular structure

Introduction to mechanistic principles

Organic functional groups and their physicochemical properties

Drug stereochemistry

Ions in solution

Physicochemical properties of drugs in solution

Buffers, acids and bases

COSHH in the work place

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

Paula Bruice (2016) Essential Organic Chemistry. Pearson.

Darren Ebbing (2006) General Chemistry. H Mifflin.

Dewick, PM. (2012) [Essentials of organic chemistry : for students of pharmacy, medicinal chemistry and biological chemistry](https://librarysearch.kent.ac.uk/client/en_GB/kent/search/results?qu=chemistry+and+pharmacy&qf=FORMAT%09Format%09ER%09Ebooks&ir=Library&isd=true). Wiley.

L. G. Wade (2014) Organic Chemistry. Pearson

1. **Learning and teaching methods**

Blended Distance learning:

Contact Hours: 120

Private Study Hours: 30

Total Study Hours: 150

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

Essay assignment/s (70%) - 1600 words.

Moodle Quiz (30%) .

The pass mark for this module is 40%. The aim of the assessment is that there should be an equal balance between ‘application’ (i.e. reflection related to practical/work experience) and ‘theory’ (i.e. examination), but that neither should enable the student to obtain a pass grade independently and in its entirety.

13.2 Reassessment methods

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 | 8.4 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |
| **Teaching** | **x** | **x** | **x** | **x** |  | **x** | **x** |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Work-based experience |  |  |  |  | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Assignment/s | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Moodle Quiz | **x** | **x** | **x** | **x** |  |  |  |  | **x** |

1. **Inclusive module design**

The division *)* 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**

Blended distance learning – delivered from Medway and Canterbury campus

1. **Internationalisation**

International vocation is an important part of Applied Bioscience. The intended learning outcomes 8.1, 8.2, 8.3, and 8.4, for this module cover key universal principles and concepts of applied chemistry and therefore are core components the pharmaceutical R&D industry worldwide. Thus, this module reflects international aspects.

DIVISIONAL  **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 delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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