1. **Title of the module**

PHAM1004 - Medicinal Products: Chemistry and Pharmaceutics for Pharmacy

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 4, Level 5, Level 6 or Level 7)**

Level 4

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 and Spring

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

Co-requisites MPharm:

PHAM1054 - Molecules, Cells and Body Systems: Cell Biology and Biochemistry

PHAM1005 - Introduction to Pharmacy: Professional Skills, Law and Ethics

PHAM1003 - Molecules, Cells and Body Systems: Physiology and Pharmacology

 Co-requisites BSc:

PHAM1054 - Molecules, Cells and Body Systems: Cell Biology and Biochemistry

 PHAM1003 - Molecules, Cells and Body Systems: Physiology and Pharmacology

 PHAR1033 - Basic Laboratory Skills

 PHAR1032 - Analytical Techniques in Pharmacology

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

BSc (Hons) Pharmacology and Physiology

MPharm (Master of Pharmacy)

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

1. Have a basic understanding of bonding, functional group chemistry and fundamental reaction mechanisms in organic chemistry and relate this to the interactions between drugs and biomolecules

2. Understand the importance of drug stereochemistry and apply the principles of chirality to the activity and metabolism of drugs

3. Have knowledge and understanding of selected theories and applications of physical chemistry such as thermodynamics, kinetics and spectroscopic and basic analytical methods

4. Understand the physicochemical properties and behaviour of drug molecules and relate this to the structure of simple organic molecules

5. Explain the principles and practice of preformulation concepts in pharmaceutical formulation design and describe the main types of dosage forms and routes of drug administration

6. Have practical laboratory skills and an ability to present, evaluate and interpret data derived from these sessions

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

1. Work and communicate effectively with others

2. Problem-solve relative to quantitative data, calculations and numeracy including correct use of units and modes of data presentation

3. Obtain, transform and critically evaluate quantitative data

4. Accurately retrieve and understand information

5. Have time management and organisational skills

6. Understand the accepted ethical principles involved in the collection, use and interpretation of scientific data

1. **A synopsis of the curriculum**

Organic Pharmaceutical Chemistry

* Atomic structure, bonding and molecular structure
* Introduction to mechanistic principles
* Organic functional groups and their physicochemical properties
* Drug stereochemistry
* Introduction to spectroscopic and chromatographic methods in drug analysis

Physical Pharmaceutical Chemistry

* Acids and bases
* Elementary chemical kinetics
* Basic thermodynamics

Pharmaceutics

* Preformulation
* Routes of drug administration and introduction to dosage form design
* Hard and soft gelatine capsules
1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

The reading list for the module will be updated annually.

The current reading is available to students on the module Moodle page.

1. **Learning and teaching methods**

Total contact hours: 94

Private study hours: 206

Total study hours: 300

1. **Assessment methods**
	1. Main assessment methods
2. Coursework (40% of module mark):
3. Written Lab Report (50% of Coursework mark)
4. MCQ Assessment (50% of Coursework mark)
5. Written Examination, 3 hours (60% of module mark)
6. Professional Competency (Pass/Fail)
7. Attendance (P/F) \*

The pass mark for this module is 40%. Students must pass both the coursework overall and the examination element in order to satisfactorily complete the module.

Students must pass the professional competency assessment in order to satisfactorily complete the module and to progress to the next stage of the programme:

\* Students who fail to meet the 80% threshold attendance at all scheduled coursework sessions (i.e. workshops, laboratory sessions and seminars) will have their coursework capped to the pass mark. Students who fail to meet the 60% threshold will be deemed not to have met the learning outcomes and will fail the module.

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* | *8.5* | *8.6* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |
| *Private Study* | X | X | X | X | X |  | X | X | X | X | X | X |
| *Lecture* | X | X | X | X | X |  |  | X |  | X |  | X |
| *Laboratory* | X | X | X | X | X | X | X | X | X | X | X | X |
| *Workshop* | X | X | X | X | X | X | X | X | X | X | X | X |
| *Seminar* | X | X | X | X | X |  | X | X | X | X | X | X |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |
| *MCQ Assessment* | X | X | X | X | X | X |  | X |  |  | X |  |
| *Written Lab Report* | X | X | X | X | X | X | X | X | X | X | X | X |
| Written Examination | X | X | X | X | X |  | X | X | X | X | X | X |
| *Attendance* | X | X | X | X | X | 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**

The staff involved in teaching this module have had substantial training abroad and this will further the international nature of the delivery of this module.

One of the goals of the MPharm degree programme is to produce graduates who will eventually become registered pharmacists in the United Kingdom. However, many of our MPharm graduates have become successful pharmacists in the Republic of Ireland, Canada and other nations.

**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.**

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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