

University of the West of Scotland

Module Descriptor

Session: 2022/23

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Status: Published

Title of Module: Pharmacology, drugs & behaviour.

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|-----------------------------|--|--------------------------|--|
| Code: CHEM08015 | SCQF Level: 8 (Scottish Credit and Qualifications Framework) | Credit Points: 20 | ECTS: 10 (European Credit Transfer Scheme) |
| School: | School of Computing, Engineering and Physical Sciences | | |
| Module Co-ordinator: | Mostafa Rateb | | |

Summary of Module

The aim of this module is to provide an understanding of the means by which exogenously administered agents produce effects at both the level of the cell and the physiological system (including their central action). It explores the actions of substances both prescribed and non-prescribed which alter mental state.

The module introduces some basic pharmacological terms and examines the classes and sources of drugs. Cellular targets of drug action are explored with a focus on receptors, enzymes and ion channels as target proteins with the effects of drugs on peripheral and central neurotransmission and investigation of the effects some drugs can have on behaviour and health. Both clinical uses of centrally acting drugs as well as non-medical use of psychoactive drugs are studied. Health issues related to drug usage for society are examined. Students will be introduced to basic terms used in chemical kinetics (rate, rate law, order of reaction), and to the simple one compartment model used in pharmacokinetics.

Lectures and tutorials are used to deliver the major contents of this module in particular the targets of drug action preparing students for further study of this area of biotechnology. This is supported by the module's Moodle site incorporating lecture handouts, assignments and links to other websites.

This module will develop the following UWS graduate attributes: critical thinking, team work, numeracy, in depth knowledge and a reflective awareness of ethical dimensions

Module Delivery Method

| Face-To-Face | Blended | Fully Online |
|--|---------|--------------|
| | ✓ | |
| <p>Face-To-Face Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.</p> <p>Fully Online Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.</p> <p>Blended A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations</p> | | |

Campus(es) for Module Delivery

The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)

| | | | | | | |
|----------|------|-----------|--------------|---------|-----------------|--------|
| Paisley: | Ayr: | Dumfries: | Lanarkshire: | London: | Distance/Online | Other: |
|----------|------|-----------|--------------|---------|-----------------|--------|

Learning:

**Term(s) for Module Delivery**

(Provided viable student numbers permit).

Term 1

Term 2



Term 3

Learning Outcomes: (maximum of 5 statements)

On successful completion of this module the student will be able to:

L1. Display basic understanding of the general principle of Pharmacology, and discuss the three phases of drug action: pharmaceutical, pharmacokinetic and pharmacodynamic with specific drugs.

L2. Examine the implications of drug usage and their impact on the field of health.

L3. Demonstrate a broad and integrated knowledge of the applications of relevant reaction kinetics, and of the simple one compartment model used in pharmacokinetics.

Employability Skills and Personal Development Planning (PDP) Skills

| SCQF Headings | During completion of this module, there will be an opportunity to achieve core skills in: |
|--|--|
| Knowledge and Understanding (K and U) | <p>SCQF Level 8.</p> <p>Demonstration of knowledge of sources and classification of drugs.</p> <p>Demonstration of detailed knowledge of the cellular targets of drug action.</p> <p>Development of understanding of the factors affecting drug action in vivo.</p> <p>Development of understanding of the implications of drug usage both on the individual and on society.</p> |
| Practice: Applied Knowledge and Understanding | <p>SCQF Level 8.</p> <p>Obtaining and interpreting experimentally derived data from computer simulations of pharmacological experiments; explaining the pharmacological basis of these measurements.</p> <p>Using and referencing literature appropriately; conducting detailed independent research to support the physiological findings of experimental work.</p> |
| Generic Cognitive skills | <p>SCQF Level 8.</p> <p>Acquisition of detailed information from a range of sources.</p> <p>Critical analysis and evaluation of the relevance of such acquired information.</p> |
| Communication, ICT and Numeracy Skills | <p>SCQF Level 8.</p> <p>Communicating effectively and appropriately in speech or writing, the results of pharmacological studies and associated analytical work.</p> <p>Making effective use of information retrieval systems and use information technology applications to analyse and evaluate associated information.</p> |
| Autonomy, Accountability and Working with others | <p>SCQF Level 8.</p> <p>Working effectively, together with others in groups or teams, and occasionally taking on team leadership roles.</p> |

Exercise autonomy and initiative in identifying aims of projects, experiments and reports.

Respecting the views of other team members.

| | | |
|------------------------|--|----------------------|
| Pre-requisites: | Before undertaking this module the student should have undertaken the following: | |
| | Module Code: | Module Title: |
| | Other: | |
| Co-requisites | Module Code: | Module Title: |

* Indicates that module descriptor is not published.

Learning and Teaching

The overall teaching approach will focus on developing the ability of the students to demonstrate an understanding of the general principle of pharmacology, and be able to discuss the three phases of drug action: pharmaceutical, pharmacokinetic and pharmacodynamic with specific drugs.

There are supporting lectures on basic pharmacology and the actions of drugs, both prescribed and non-prescribed.

Complementing this formal presentation of materials to the students, there are elements of independent research where student centred learning will be developed further. Students may be asked to prepare material for tutorials and assignments and will be encouraged to use a variety of resources for this purpose including journals and websites. These assignments will be used to assess the coursework element of the module.

Discussion sessions which may utilise short films presentations will help explore aspects drug abuse.

There will be a 2 hour examination at the end of the trimester.

| Learning Activities | Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities) |
|--|--|
| During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below: | |
| Lecture/Core Content Delivery | 22 |
| Laboratory/Practical Demonstration/Workshop | 24 |
| Tutorial/Synchronous Support Activity | 2 |
| Independent Study | 152 |
| | 200 Hours Total |

**Indicative Resources: (eg. Core text, journals, internet access)

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Textbooks

*Rang, H.P. et al (2012) Pharmacology (7th Edn) Churchill Livingstone ISBN 978 0 7020 3471 8

Galbraith,A., Bullock, S., Manias, Eo, Hunt, B. & Richards, A. [1999] Fundamentals of Pharmacology, Chichester: Addison Wesley Longman.ISBN 0 582 40467 3

Saeb-Parsy, K. et al, (1999) Instant Pharmacology (Wiley)ISBN 0 471 97639 3

Parrot, A, Morinan, A. Moss, M & Scholey, A. (2004) Understanding Drugs affecting behaviour. Wiley. ISBN 0 471 98640 2

Websites as supporting resources:

Moodle site

The student will in addition be referred to contemporary web-based material:

British Pharmacological Society site:

<http://www.bps.ac.uk>

Pharmiweb site:

<http://www.pharmiweb.com>

NHS Education For Scotland:

<http://www.nes.scot.nhs.uk/>

Medicines and healthcare products regulatory agency:

<http://www.mhra.gov.uk>

British National Formulary:

<http://bnf.org/bnf/>

Department of Health:

<http://www.dh.gov.uk>

Department of Health:

<http://www.dh.gov.uk>

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Engagement Requirements

Students are academically engaged if they are regularly engaged with timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. Please refer to the Academic Engagement and Attendance Procedure at the following link: [Academic Engagement and Attendance Procedure](#)

Supplemental Information

| | |
|---------------------------------------|-------------------|
| Programme Board | Physical Sciences |
| Assessment Results (Pass/Fail) | No |
| Subject Panel | Physical Sciences |
| Moderator | Dr Carrie Mullen |
| External Examiner | I Turner |
| Accreditation Details | N/A |
| Changes/Version Number | 1.09 New MC |

Assessment: (also refer to Assessment Outcomes Grids below)

Adapted Assessment - 50%

Coursework - 50%

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.

(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

Assessment Outcome Grids (Footnote A.)

| Component 1 | | | | | |
|--|---------------------------------|---------------------------------|---------------------------------|--|---|
| Assessment Type (Footnote B.) | Learning Outcome (1) | Learning Outcome (2) | Learning Outcome (3) | Weighting (%) of Assessment Element | Timetabled Contact Hours |
| Unseen open book | ✓ | ✓ | ✓ | 50 | 2 |

| Component 2 | | | | | |
|--|---------------------------------|---------------------------------|---------------------------------|--|---|
| Assessment Type (Footnote B.) | Learning Outcome (1) | Learning Outcome (2) | Learning Outcome (3) | Weighting (%) of Assessment Element | Timetabled Contact Hours |
| Portfolio of written work | ✓ | ✓ | ✓ | 50 | 0 |
| Combined Total For All Components | | | | 100% | 2 hours |

Footnotes

A. Referred to within Assessment Section above

B. Identified in the Learning Outcome Section above

Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).
This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity

This module is appropriate for any student. Extra time will be allowed for those students identified as having special needs.

[UWS Equality and Diversity Policy](#)

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)