

Module code: MOD006295	Version: 2 Date Amended: 14/May/2024
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1. Module Title
Applied Pharmacology

2a. Module Leader
Ibrahim Tolaymat

2b. School
School of Allied Health and Social Care

2c. Faculty
Faculty of Health, Medicine and Social Care

3a. Level
6

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:			

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

Delve into the therapeutic application of drugs for specific conditions. We'll explore the principles of drug action on major organ systems including the cardiovascular, central and peripheral nervous system, respiratory, gastrointestinal, and the endocrine system. We'll address major disease processes in each system and the mechanisms by which drugs exert their pharmacological/therapeutic effects, including a thorough grounding on intrinsic and extrinsic factors influencing physiological function, incorporating mechanisms at the integrated systemic. We'll explore changes in structure and function in different physiological conditions (including ageing) and disease states and to pharmacological control of homeostasis and we'll explain the basis of the incidence of undesirable side-effects brought about by combinations of drugs to introduce you to the importance of pharmaco-economics and pharmacovigilance in clinical pharmacology and the regulatory aspects of the pharmaceutical industry.

We'll study aspects of genetic factors that affect the metabolism of foreign compounds and drug-receptor interactions whilst address current views on the relationship between pharmacogenetic polymorphisms and disease susceptibility and potential approaches to drug design using pharmacogenomics.

6b. Outline Content

- The beneficial and undesirable actions of drugs in different disease states is described. Examples are drawn from drugs acting on various systems
- Polypharmacy is very common in clinical practice. Many combinations of drugs produce undesirable side effects. The basis for drug interactions in clinical practise is considered
- The onset and duration of pharmacological actions of drugs depends on their pharmacokinetics, and this depends on age, sex and ethnic background. This will determine the dose and frequency of administration of drugs.
- To introduce the importance of pharmaco-economics and pharmacovigilance in clinical pharmacology and the regulatory aspects of the pharmaceutical industry.
- It is a common observation that the same dose of a drug on similar patients produces markedly different effects. The basis for this is differences in individual genomes. Pharmacogenetics promises a future where a therapeutic regimen is tailored to individual patients (i.e. personalised medicine).

6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

6d. Specialist Learning Resources

Laboratory; Canvas

7. Learning Outcomes (threshold standards)		
No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Critically evaluate the clinical applications of drugs in specific conditions
2	Knowledge and Understanding	Discuss the mechanism of adverse and side-effects of drugs
3	Knowledge and Understanding	Discuss the importance of advances in pharmacovigilance, polypharmacy, personalised medicine and their applications
4	Intellectual, practical, affective and transferrable skills	Propose suitable drug regimens considering relevant medical history
5	Intellectual, practical, affective and transferrable skills	Interpret and communicate relevant scientific information effectively

8a. Module Occurrence to which this MDF Refers				
Year	Occurrence	Period	Location	Mode of Delivery
2026/7	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	22	1-5	2 h (11 weeks)
Other teacher managed learning	18	1-5	3 x 3h workshops 2 x 3h laboratory sessions 3 x 1h tutorials
Student managed learning	260	1-5	Self-directed study
TOTAL:	300		

9. Assessment for the above Module Occurrence

The assessment for some modules includes a presentation (see below for details on how this particular module is assessed). We recognise that presenting, especially to a large group, can cause significant anxiety or distress for some students. If this may affect you, please contact your Module Leader or the Disability and Neurodiversity Service as early as possible. We will work with you to consider appropriate reasonable adjustments. Depending on your individual needs, these might include, for example, presenting to a smaller group or presenting only to a member of academic staff.

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1-5	70 (%)	Fine Grade	30 (%)

Portfolio including case studies and pharmacological data analysis (4000 words equivalent)

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Examination Chelmsford	1-5	30 (%)	Fine Grade	30 (%)

2 h examination (2000 words equivalent)

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above
- (b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]