UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Lifecycle Of A Medicine
Module Code	PHA4009-C
Academic Year	2020/1
Credits	30
School	School of Pharmacy and Medical Sciences
Subject Area	Pharmacy
FHEQ Level	FHEQ Level 4
Pre-requisites	N/A
Co-requisites	N/A

Contact Hours	
Type	Hours
Laboratories	11
Seminars	14
Practical Classes or Workshops	18
Directed Study	257

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

Module Aims

To introduce students to new concepts of drug discovery, design and synthesis, through the fundamental molecular structure and the chemistry of essential reactions to the drug molecules passage through the body. This is illustrated using the concepts of Absorption, Distribution, Metabolism and Excretion (ADME). To explore the drug development cycle and manufacturing regulations to ensure the safe and effective production, storage, packaging and environmentally appropriate disposal of medicines and drug delivery systems.

Outline Syllabus
To introduce and familiarise students with the processes and procedures of drug development from plant to patient by exploring the principles of: Origins of drugs, drug discovery process and drug synthesis.Molecular structure and functional groups and their interplay.Principles of drug design and structure-activity relationships.Different drug delivery systems.Drug packaging and safe storage.Theories of drug administration and absorption including physicochemical properties of drug molecules.Processes of drug distribution, metabolism and excretion including essential reactions.Medicines disposal and their effect on the environment.Clinical trials process and the regulatory framework around the testing of medicines to assure their quality, safety and efficacy including an introduction to the aseptic preparation of medicines.

Learning Outcomes	
Outcome Number	Description
1	Understand the origins of drugs, drug discovery, design and optimisation process and drug synthesis to explain the lifecycle of a medicine.
2	Apply and explain the concepts of molecular structure and functional groups, including structure-activity relationships.
3	Understand the principles of different drug delivery systems to optimise medicines utilisation.
4	Describe and explain the properties of medicine packaging and methods of storage.
5	Understand the concepts associated with ADME, including physicochemical properties of drug molecules, to explain the lifecycle of a medicine.
6	Familiarise and assess the principles of drug disposal and medicines and the environment to understand the lifecycle of a medicine.
7	Appreciate the development of the clinical trials process and the regulatory framework around the testing of medicines to assure their quality, safety and efficacy.
8	Apply the principles of aseptic preparation of medicines.
9	Understand their role within the team.

Learning, Teaching and Assessment Strategy
Students are assessed via a range of assessments, including both individual and team assessments. Students are assessed through a number of individual readiness assurance tests (iRAT) throughout the academic year. On completion of the iRAT assessment, students form their pre-assigned teams (5-7 students) and retake the assessment as a team (tRAT). Once all of the answers have been collated, students receive instant in-class feedback from the academic expert. In subsequent sessions, teams of students will apply their new knowledge to a number of formative and summative Application Exercises (AE), including role plays, problem solving and laboratory experiments and submission of reports. At the end of the academic year, summative assessment of learning outcomes is through an examination. To pass the module, students will need to demonstrate a pass standard of 40% in the module overall and must also achieve at least 40% in the exam.

Mode of Assessment				
Type	Method	Description	Length	Weighting
Summative	Examination - Open Book	Individual Canvas Quiz [MUST PASS at 40%]	2 hour	70%
Summative	Classroom test	iRATs 15%; tRATs 5%; Application Exercises 5%; Peer Review 5%. [Suppl assessment will be an individual summative reflect	3 hour 30 mins	30%
Formative	Examination - MCQ	Sample written exam	2 hours	N/A
Formative	Classroom test	Readiness Assurance Process (RAP)	3.5 hours	N/A
Formative	Classroom test	Application Exercises / laboratory reports	3.5 hours	N/A
Formative	Classroom test	Formative peer review	1 hour	N/A

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

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