Biologically Active Molecules

Module Information

2022.01, Approved

Summary Information

Module Code	4006PHASCI
Formal Module Title	Biologically Active Molecules
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	34
Practical	16
Workshop	16

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To emphasise those chemical properties which are significant with respect to the involvement of drugs in biochemical transformations. To develop an ability to gather, evaluate and communicate scientific information. To facilitate the application of information presented in this module to the solution of problems.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Identify the essential similarities between chemical and biochemical transformations and demonstrate a basic knowledge of the properties of biologically significant molecules
MLO2	2	Demonstrate knowledge of functional groups as applied to biochemical molecules
MLO3	3	Describe the structure and function of proteins including the kinetics of enzyme action and types of enzyme inhibition
MLO4	4	Demonstrate a knowledge of the genetic basis of disease and the potential for gene therapy, including the processes involved in DNA replication and transcription
MLO5	5	Demonstrate an ability to gather, evaluate and communicate information relevant to the module and apply that information to the solution of problems

Module Content

Outline Syllabus	Biomolecules: review of functional groups with particular reference to biologically significant molecules; natural products; structure, synthesis and function of proteins and enzymes; nucleic acids; genes; antibodies; DNA; mRNA translation; micronutrients; vitaminsBiochemistry: the kinetics of enzyme action and types of enzyme inhibition; normal and abnormal metabolism with an overview of metabolic pathways and physiological use of energy sources; DNA replication and transcription.Genetics: introduction; molecular genetics; genetic basis of disease and an introduction to the concept of gene therapyBioassays: protein concentration; enzyme activityPractical: enzyme kinetics of PNP, presence/absence of inhibitorPractical: protein bioassay, scenario-based
Module Overview	The aim of this module is to develop your ability to gather, evaluate and communicate scientific information in order to facilitate the application of information presented to solve problems.
Additional Information	Formative assessment in the form of an online quiz covering exam style MCQ questionsPractical sessions will involve students gaining experience of basic enzyme and protein bioassays; developing data analysis and reporting skills.Exam will assess students understanding of biologically active molecules

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Practical Reports	40	0	MLO1, MLO3, MLO5
Centralised Exam	Exam	60	2	MLO2, MLO1, MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Melissa Russell	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings