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MODULE DESCRIPTOR

Module Title

Biomolecular Pharmacy

Reference	PH2131	Version	5
Created	September 2018	SCQF Level	SCQF 8
Approved	March 2013	SCQF Points	30
Amended	September 2018	ECTS Points	15

Aims of Module

To develop an understanding of the structure, properties and actions of proteins, lipids and nucleic acids in the context of metabolism, disease and therapeutic targets and to appreciate the origins, properties and actions of drugs.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Describe the structure, function and synthesis of cellular macromolecules including nucleic acids, proteins, lipids and carbohydrates; the processes of intermediate and xenobiotic metabolism and causes, symptoms and management strategies for selected inborn metabolic errors.
2	Discuss the origins, structures and properties of pharmacologically important compounds and apply the principles of rational drug design to selected classes of drugs.
3	Manipulate, interpret and evaluate experimental data.
4	Report procedures for the synthesis, extraction, isolation, characterisation and/or quantification of molecules of biological importance.

Indicative Module Content

Topics include: Structure, function, synthesis and metabolism of biomolecules including DNA, lipids and proteins. Enzymology: properties, mechanism of catalysis, regulation and kinetic analysis. Intermediate metabolism including glycolysis, tricarboxylic acid cycle and electron transport chain. Inborn errors of metabolism addressing causes and current and future therapeutic strategies. Drug discovery, drug targeting, mechanisms of drug action and the processes of xenobiotic metabolism.

Module Delivery

Lectures, coursework sessions (individual and group practicals, tutorials, PCCAL and online activities) and directed study activities (including participation in online forums discussing case studies, problem solving exercises, Articulate quizzes and directed reading).

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Indicative Student Workload	Full Time	Part Time
Contact Hours	178	178
Non-Contact Hours	122	122
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	300
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Examination	Weighting:	85%	Outcomes Assessed:	1, 2
Description:	A 2 hour paper comprising multiple choice and short-answer type questions.				

Component 2

Type:	Coursework	Weighting:	0%	Outcomes Assessed:	3
Description:	Competency test based on semester 1 coursework.				

Component 3

Type:	Coursework	Weighting:	15%	Outcomes Assessed:	4
Description:	A laboratory report.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

To pass this module, the student MUST achieve a module Grade of Grade D or better and a minimum mark of 40% in C1 and C3.

Module Grade	Minimum Requirements to achieve Module Grade:
A	When 85% of the mark for C1 added to 15% of the mark for C3 is 70% or more and a Pass in C2.
B	When 85% of the mark for C1 added to 15% of the mark for C3 is 60-69% and a Pass in C2.
C	When 85% of the mark for C1 added to 15% of the mark for C3 is 50-59% and a Pass in C2.
D	When 85% of the mark for C1 added to 15% of the mark for C3 is 40%-49% and a Pass in C2.
E	When 85% of the mark for C1 added to 15% of the mark for C3 is 35% or more but less than 40% in C1 and/or C3 and a Pass in C2.
F	When 85% of the mark for C1 added to 15% of the mark for C3 is less than 35% and/or an unsuccessful attempt at C2.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	Successful completion of MPharm stage 1 or equivalent.
Corequisites for module	None.
Precluded Modules	None.

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INDICATIVE BIBLIOGRAPHY

1	GIBSON, G.G. and SKETT, P. An Introduction to Drug Metabolism. Current edition. Cheltenham: Nelson Thornes, UK.
2	COLEMAN, M,D., Human Drug Metabolism: An Introduction. Electronic resource. Hoboken, NJ: John Wiley & Sons.
3	PEET, A. Marks' Basic Medical Biochemistry. Current edition. Philadelphia: Lippincott Williams and Wilkins.
4	PARTICK, G.L., An Introduction to Medicinal Chemistry. Current edition. Oxford: Oxford University Press.
5	BRUICE, P.Y., Essential Organic Chemistry. Current edition. London: Pearson Education Ltd.
6	McMURRY, J. Organic Chemistry. Current edition. Pacific Grove, Ca: Brookes and Cole.