

Summary Information

Module Code	7122PHASCI
Formal Module Title	Approaches to Drug Design
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	18
Practical	16
Workshop	6

Module Offering(s)

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

Aims and Outcomes

Aims	To develop an integrated understanding of the principles underpinning drug discovery process and of the approaches and rationale of drug optimisation.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Display a systematic understanding of the processes and technologies employed in the discovery and the selection of hits and leads.
MLO2	2	Critically evaluate the principles and rationale underpinning lead optimisation.
MLO3	3	Synthesise and communicate the impact of experimental findings on the life and fate of a drug candidate.
MLO4	4	Integrate and communicate the approaches for drug candidate selection in the context of successful drug development cases.

Module Content

Outline Syllabus	Drug discovery process (including target identification, hit/lead identification, hit-to-lead development step). Compound screening (including experimental and virtual techniques and considering compounds with synthetic and natural sources). Drug design principles (Physical properties, structure-activity relationship). Computer-aided Drug Design. Chemoinformatics including QSAR. Lead optimisation (including synthetic strategies, computational techniques). The discovery of biopharmaceutical drugs Successful drug design case studies (examples could include, but are not limited to, antimicrobials and opioids).
Module Overview	This module aims to enable you to develop an integrated understanding of the principles underpinning drug discovery process and the approaches and rationale of drug optimisation.
Additional Information	Practical sessions will involve the synthesis of a library of antimicrobial drugs, their testing and the elaboration of structure activity relationships. Exam will assess students understanding of the principles through data interpretation/problem solving questions

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Exam	60	2	MLO1, MLO4
Report	Mini project	40	0	MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Mark Wainwright	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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