Module Specification

Module Title | Drug Design for Pharmacologists | Module Code | BMD359

Credit Value | 15 | Level | 6 | Mode of Delivery | On Campus | Semester B

Pre-requisite modules	Co-requisite modules	Overlapping modules

1) Content Description

Provide a description of the module, as it will appear in the Module Directory and on the Student Information System (approx. 70-80 words).

Students will be given an introduction to the principles of drugs design. This will include an analysis of the principles of identification of new compounds with the potential to be drugs, and their development for therapeutic use, and quantification of drug efficacy. Students will develop the ability to critique the importance of drug-receptor affinity and selectivity. The economic, social and ethical aspects of drug discovery will be analysed and discussed.

Lectures in specialised areas will be given by experts in their field, providing a sense of the frontiers of their subject. In addition to formal lectures, the course will provide seminars and tutorials with opportunities to critically examine research papers.

2) Module Aims

Specify the aims of the module, i.e. the broad educational purposes for offering this module.

The module will aim to provide the critical knowledge and understanding of the principles and concepts that are involved in the discovery of new therapies, the principles of the screening cascade, and analysis of the principles of identifying new compounds with the potential to be drugs, and their development for therapeutic use

Provide knowledge of key principles of pharmacokinetics, pharmacodynamics, pharmacovigilance and rational drug use

3) Learning Outcomes

Identify the learning outcomes for this module, i.e. knowledge, skills and attributes to be developed through completion of this module. Outcomes should be referenced to the relevant QAA benchmark statements and the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008). The SEEC Credit Level Descriptors for Further and Higher Education 2003 and Queen Mary Statement of Graduate Attributes should also be used as a guiding framework for curriculum design.

Academic Content:

A1	Gain a critical understanding into how pharmaceutical industry develops new drugs, drug screening technologies
A2	Evaluate the nature of drug targets for both classical and biological agents.
A3	Analysis of the computational methods for drug target discovery and validation: drug targets and their assessment of efficacy
A4	Critique the role of pharmacogenetics in drug discovery and development and the use of animals in drug discovery and development
A5	Evaluate and discuss drug-receptor interactions and the analysis and interpretation of those interactions

Disciplinary skills - able to:	
B1	Critically evaluate published research studies
B2	Present drug discovery scientific reports and present scientific data
B3	Validate targets for new drugs based on a range of criteria

Attributes:	
C1	Have the intellectual curiosity to learn continuously from diverse sources of information
C2	Be able to explain complex scientific concepts clearly and logically
C3	Make judgements based on evidence
C4	Effective time management and independent learning

4) Reading List

Provide an indicative reading list for the module. This should include key texts and/or journals but should not be an exhaustive list of materials.

* Textbook of drug design and discovery, Fourth Edition, Edited by Povl Krogsgaard-Larsen, Kristian Stromgaard and Ulf Madsen, CRC Press

5) Teaching and Learning Profile

Provide details of the method of delivery (lectures, seminars, fieldwork, practical classes, etc.) used to enable the achievement of learning outcomes and an indicative number of hours for each activity to give an overall picture of the workload a student taking the module would be expected to undertake. This information will form the Key Information Set for each undergraduate programme and will be used to populate the KIS widget found on the QMUL programme information pages. More information can be found online about KIS. You may also wish to refer to the QAA guidance on contact hours when completing this section.

Activity Type	KIS Category	Time Spent (in hours)
Lecture	Scheduled	20
Tutorial	Scheduled	4
Supervised time in studio / workshop	Scheduled	8
Guided independent study	Independent	118
Total		150

Specify the total module notional study hours. This should be a total of the hours given for each activity. The notional study hours for each academic credit point is 10. A 15 credit point module therefore represents 150 notional study hours.

Activity Type	Total Time Spent (in hours)	Percentage of Time Spent
Scheduled learning and teaching	32	21
Placement		
Independent Study	118	79
Total	150	100

Use the information provided in the box above to specify the total time spent and the percentage time spent in each category of teaching and learning activity.

6) Assessment Profile
Provide details of the assessment methods used to assess the achievement of learning outcomes.

Description of Assessment	Assessment Type	KIS Category	Duration/Length	Percentage Weighting	Final element of assessment	Qualifying Mark
Examination	Written Exam	Written	3 Hours	80	Yes	
Coursework	Report	Coursework	2000 Words	20%	No	

Final element of assessment: The assessment that takes place last. There should normally be only one element of assessment marked as final unless two assessment or submission dates occur on the same day.

Qualifying mark: A specified minimum mark that must be obtained in one or more elements of assessment in order to pass a module. This is in addition to, and distinct from, the requirement to achieve a pass in the module mark to pass the module.

Reassessment
Provide details of the reassessment methods used, specifying whether reassessment is either standard reassessment or synoptic reassessment.

○ Standard Reassessment   ⦿ Synoptic Reassessment

Synoptic reassessment details (if you have indicated synoptic reassessment above, please give details)		
Brief Description of Assessment	Assessment Type	Duration/Length of Examination/ Coursework
	Written Exam	3 hours