

ADVANCED PHARMACOLOGY - SELECTED TOPICS IN DRUG ACTION - 2024/5

Module code: BMS3055

Module Overview

The purpose of this module is for students to propose potential pharmacotherapeutic targets for conditions of their choice. Here the academic staff introduce a signaling pathway, group of receptors, channels, enzymes, they also provide some case studies of areas of targeting. Students then take this knowledge and build on it and through their own research propose a target.

Module provider

School of Biosciences

Module Leader

TRINDER Sarah (Biosciences)

Number of Credits: 15

ECTS Credits: 7.5

Framework: FHEQ Level 6

Module cap (Maximum number of students): N/A

Overall student workload

Workshop Hours: 3

Independent Learning Hours: 82

Lecture Hours: 7

Tutorial Hours: 12

Guided Learning: 9

Captured Content: 37

Module Availability

Semester 1

Prerequisites / Co-requisites

BMS2047 Pharmacology: Introduction to Drug Action

Module content

Indicative content includes:

- Purines as neurotransmitters and mediators
- NO as a neurotransmitter and mediator
- Superoxide
- Ion channels
- Lipid-derived mediators
- Mediators and inflammation
- Biologics as therapeutics
- Phase 1 & 2 Drug metabolism Factors affecting drug metabolism

Assessment pattern

Assessment type	Unit of assessment	Weighting
Coursework	COURSEWORK ESSAY 1	33
Coursework	COURSEWORK ESSAY 2	33
Coursework	COURSEWORK ESSAY 3	34

Alternative Assessment

N/A

Assessment Strategy

The [assessment strategy](#) is designed to provide students with the opportunity to demonstrate:

Captured video content and supporting tutorials as the majority of this module is delivered in a flipped-classroom format. This is to enable students to attend face-to-face sessions with knowledge of the area and enable greater exploration of depth of the subject and concrete students’ understanding. This method of teaching is particularly useful for such an applied subject as Pharmacology.

Writing workshops to support the writing assessments in this module.

Thus, the summative assessment for this module consists of:

Three coursework essays.

Essays to be submitted at three separate points in semester. These assess learning outcomes 1, 2, 3 & 4.

Formative assessment and feedback

The students will have opportunity to take part in writing workshops where exemplar essays will be provided for students to discuss in small groups, given feedback and use the grade descriptors to provided a mark.

Students will be able to use feedback provided from their previous submission(s) to feed-forward into the next. Tutorials and discussion boards also provide the space for student engagement and lecturer feedback.

Students will have an opportunity to submit a 200-word section of their essay or a plan (as stated by the lecturer) for each essay to Aropa, for peer feedback.

Module aims

- To provide a selective understanding of neurotransmitters and mediators in the periphery and the CNS
- To provide an understanding of the enzymology, molecular biology, regulation and chemistry of drug metabolism
- To provide a theoretical understanding of the kinetic disposition of drugs
- To focus on systems of current interest as active research areas and areas of potential drug development

Learning outcomes

		Attributes Developed
001	To understand how neurotransmitters and mediators are involved in physiological functions	KC
002	To understand how neurotransmitters and mediators are altered in disease and can be targets for drugs	KC
003	To consider how metabolism influences drug action	KC
004	To understand the basic concepts of chemistry, biochemistry and physiology integrate in drug metabolism	KC
005	Refine and reflect on personal communication skills in relation to learning outcomes 1-4	PT

Attributes Developed

C - Cognitive/analytical

K - Subject knowledge

T - Transferable skills

P - Professional/Practical skills

Methods of Teaching / Learning

The learning and teaching strategy is designed to:

- Enable students to propose and explain the mechanism of action of a pharmatherapeutic target in a condition of their choice. Students are expected to critically appraise their proposal. They will build on their knowledge derived from BMS2047 where they take that fundamental knowledge and move from explaining known mechanisms to proposing mechanisms via manipulation of a target

Indicated Lecture Hours (which may also include seminars, tutorials, workshops and other contact time) are approximate and may include in-class tests where one or more of these are an assessment on the module. In-class tests are scheduled/organised separately to taught content and will be published on to student personal timetables, where they apply to taken modules, as soon as they are finalised by central administration. This will usually be after the initial publication of the teaching timetable for the relevant semester.

Reading list

<https://readinglists.surrey.ac.uk>

Upon accessing the reading list, please search for the module using the module code: **BMS3055**

Other information

Resourcefulness & resilience

The module requires students to perform their own research in order to 1) identify targetable aspects of a taught pathway in a disease of their choice, and 2) discuss the discrepancy in clinical outcomes between different biologic treatments.

Sustainability

In line with OneHealth approach the module works towards relevant Sustainable Development Goals (SDGs) like SDG3 (health).

Reducing cost of disease burden across the life course by understanding molecular and cellular pharmacological processes in health and disease, leading to interventions to promote health and prevent or treat disease.

Consider the requirement, appropriateness and reliability of animal models of disease.

Digital capabilities

This module requires a high level of research which will include the use of various online databases. Use of various programmes such as Zoom, Surreylearn and Panopto for online interaction and review of content.

Employability

The module models early stages of target identification. The module will enhance employability through knowledge of subject area, problem solving and critical analysis skills - key to employment and success in the professional workplace.

Programmes this module appears in

Programme	Semester	Classification	Qualifying conditions
Biochemistry BSc (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Biochemistry MSci (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Biological Sciences (Cellular and Molecular Sciences) BSc (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Biological Sciences (Infection and Immunity) BSc (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Biological Sciences BSc (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Biomedical Science BSc (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Biomedical Science MSci (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module
Medicinal Chemistry BSc (Hons).	1	Optional	A weighted aggregate mark of 40% is required to pass the module

Please note that the information detailed within this record is accurate at the time of publishing and may be subject to change. This record contains information for the most up to date version of the programme / module for the 2024/5 academic year.