

CH3F9-15 Molecular Pharmacology

24/25

Department

Chemistry

Level

Undergraduate Level 3

Module leader

Tim Bugg

Credit value

15

Module duration

10 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

N/A

[Module web page](#)

Module aims

The aim of the module is to describe current developments, methods and techniques in drug design and drug discovery in the pharmaceutical industry. The module is given by representatives of major pharmaceutical companies, who present case studies and techniques in modern drug discovery and drug development. The module also aims to develop transferable skills. This module is assessed by 100% assessed work via team presentation of an assigned topic in medicinal chemistry, an oral presentation, and an individual written assignment.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Lectures will be presented by senior scientists from the pharmaceutical industry. Each visiting

lecturer will present 1-2 lectures describing case studies in modern drug design and drug discovery. The precise content lectures will vary according to the areas of research & development of the visiting lecturers. Current lecturers and syllabus as follows: Dr. Peter North (GSK) Discovery of sumatriptan for treatment of migraine.

Dr. David Fox (Functional Therapeutics). Discovery of chemokine receptor antagonists

Dr. Paul Davis (Mologic). The human immune system, therapeutic & technological applications of antibodies.

Dr. John Pollard (Vertex) Enzyme inhibition, inhibitors of protein kinases.

Dr. Andrew Merritt (LifeArc) Combinatorial chemistry & high-throughput screening.

Dr. Nigel Ramsden (RXelerate) Protein kinase inhibitors for treatment of inflammation.

Learning outcomes

By the end of the module, students should be able to:

- Describe and present current advances in drug design, drug discovery and drug development.
- Work effectively in a team in order to research and present a report in the area of current drug discovery.
- Make an effective written presentation on a topic in current drug discovery.
- Make an effective oral presentation on a topic in current drug discovery.

Indicative reading list

Medicinal Chemistry, G.L. Patrick, OUP, Oxford, 2013

The Organic Chemistry of Drug Design and Drug Action, R.B. Silverman, Academic Press, 1992.

Research element

e.g. essay, dissertation, individual or group research, research skills activity, etc.

Interdisciplinary

e.g. co taught with another department or with an industry perspective, bridges two or more disciplinary concepts, ideas, etc.

Subject specific skills

Written communication

Teamwork

Information literacy and research skills

Transferable skills

Written communication

Teamwork

Study

Study time

Type	Required
Lectures	12 sessions of 1 hour (8%)
Other activity	18 hours (12%)
Private study	120 hours (80%)
Total	150 hours

Private study description

60 hr student self-study for group project

60 hr student self-study for individual assignment

Other activity description

3 hr oral presentation session

15 hr student group meetings for group project

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group A2

	Weighting	Study time	Eligible for self-certification
Team-based assignment (12500 words)	40%		Yes (extension)
Individual Lecture Summary (3000 words)	40%		Yes (extension)
Group Project Oral Presentation	16%		Yes (extension)
Team Assignment - Group Management Report	4%		Yes (extension)

Feedback on assessment

Individual assignment, group project written report and oral presentation are double-marked by two members of academic staff, written feedback within 20 days.

Availability

Pre-requisites

To take this module, you must have passed:

- All of
 - [CH271-15 Mechanistic and Biological Chemistry](#)

Courses

This module is Core for:

- Year 4 of UCHA-4 Undergraduate Chemistry (with Intercalated Year) Variants
- Year 3 of UCHA-3 Undergraduate Chemistry 3 Year Variants
- Year 3 of UCHA-F109 Undergraduate Master of Chemistry (with International Placement)
- UCHA-4M Undergraduate Master of Chemistry Variants
 - Year 3 of F126 MChem Chemistry with Med Chem (with Prof Exp)
 - Year 3 of F125 MChem Chemistry with Medicinal Chemistry
- Year 4 of UCHA-F127 Undergraduate Master of Chemistry with Medicinal Chemistry (with Intercalated Year)

This module is Core optional for:

- Year 4 of UCHA-4 Undergraduate Chemistry (with Intercalated Year) Variants
- Year 3 of UCHA-3 Undergraduate Chemistry 3 Year Variants