

Summary Information

Module Code	5002APCHEM
Formal Module Title	Understanding Molecules
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Module Contacts
Module Leader

Contact Name	Applies to all offerings	Offerings
Simon-Dieter Brandt	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Alistair Fielding	Yes	N/A
Raymond Fox	Yes	N/A
Mark Wainwright	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	55
Tutorial	6

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	The module gives an introduction into key concepts of synthesis, properties and reactivity of organic molecules. This will be supplemented and contextualised by the introduction into the theory and application of analytical chemistry and spectral data interpretation applied to structure elucidation. Skills development in the area of data interpretation and reaction chemistry will be strengthened in workshops.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Apply the principles and practice of organic chemistry to the synthesis of heterocyclic and aromatic molecules.
MLO2	Demonstrate knowledge and application of the principles of spectroscopic and chromatographic techniques.
MLO3	Utilise the principles of structure elucidation of unknown organic molecules for the interpretation of spectral data.

Module Content

Outline Syllabus
Topics linked to organic chemistry include simple heterocycles, medicinal molecules and simple drug action; synthesis and reactions of multiply bonded carbon (e.g. alkenes/alkynes and carbonyls); simple organometallics and aromatic chemistry. Topics linked to analytical chemistry with respect to spectral interpretation include gas chromatography (GC), high performance liquid chromatography (HPLC), ultraviolet/visible spectroscopy (UV/Vis), infrared spectroscopy (IR) and mass spectrometry (MS).

Module Overview

This module introduces you to key concepts of synthesis, properties and reactivity in organic molecules. Every year on graduation we have many students gain employment with chemical and analytical sections in areas associated with forensic, pharmaceutical and chemical industries. With the help of workshops, this module is designed to introduce you to areas associated with chemical synthesis, analytical development and problem-solving via interpretation of chemical and analytical data.

Additional Information

Every year on graduation we have a large number of students gain employment within chemical and analytical sections in areas associated with forensic, pharmaceutical and chemical industries. With the help of workshops, this module is designed to provide an introduction to these areas associated with chemical synthesis, analytical development and problem-solving skills via interpretation of chemical and analytical data.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Centralised Exam	Exam	60	2	MLO2, MLO1, MLO3
Centralised Exam	Interpretative test	40	2	MLO2, MLO1, MLO3