Properties of Molecules

Module Information

2022.01, Approved

Summary Information

Module Code	4004APCHEM
Formal Module Title	Properties of Molecules
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	40
Tutorial	5
Workshop	15

Module Offering(s)

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

Aims and Outcomes

Aims	Building on the first semester modules, this will cover more complex organic molecules and their physical attributes and reactivity resulting from molecular structure - for example the way a molecule might dissolve in one solvent, but not in another. The idea of multiple-step reactions and interconversions of molecules are also covered, as an important factor in the industrial production and use of chemicals. Career and employability self-awareness will also be assessed.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Show how target molecules can be synthesised using multiple steps.
MLO2	2	Demonstrate simple relationships between molecular structure and physical properties.
MLO3	3	Relate the principles of kinetics and thermodynamics to simple organic reactions.
MLO4	4	Reflect upon their personal development during the completion of identified tasks, including their ability to work with others.

Module Content

Outline Syllabus	Functional groups and reactions in organic molecules. The use of thermodynamics and kinetics to describe the nature and process of chemical reactions and phase changes. The use of phase diagrams to describe phase changes.
Module Overview	Building on first semester modules, this module will cover more complex organic molecules and their physical attributes and reactivity resulting from molecular structure â€“ for example, why does a molecule dissolve in one solvent, but not in another? You will develop your understanding of multiple-step reactions and interconversions of molecules, as this is an important factor in the industrial production and use of chemicals. In this module you will also be assessed on your employability self-awareness.
Additional Information	This second semester module will cover more complex organic molecules and their physical attributes and reactivity resulting from molecular structure - for example, why does a molecule dissolve in one solvent, but not in another? Can we predict this? How does Physical Chemistry help us to understand this? The idea of multiple-step reactions and interconversions of molecules will also be covered, as this is also an important factor in the industrial production and use of chemicals. Students will also use this module for their employability self-awareness assessment

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Examination	50	2	MLO1, MLO2, MLO3
Report	Report	40	0	MLO1, MLO2, MLO3, MLO4
Future Focus e-learning task	Self Awareness Statement	10	0	MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Philip Denton	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings