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Title: UNDERSTANDING MOLECULES
Status: Definitive
Code: **5002APCHEM** (121130)
Version Start Date: 01-08-2021

Owning School/Faculty: Pharmacy & Biomolecular Sciences
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
Simon-Dieter Brandt	Y
Francesca Giuntini	
Mark Wainwright	

Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 63

Total Learning Hours: 200 **Private Study:** 137

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	55
Tutorial	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Examination	60	2
Test	Test	Interpretative test	40	2

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.

Learning Outcomes

After completing the module the student should be able to:

- 1 Apply the principles and practice of organic chemistry to the synthesis of heterocyclic and aromatic molecules.
- 2 Demonstrate knowledge and application of the principles of spectroscopic and chromatographic techniques.
- 3 Utilise the principles of structure elucidation of unknown organic molecules for the interpretation of spectral data.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Exam	1	2	3
Interpretative test	1	2	3

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).

Learning Activities

Lectures and workshops

Notes

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.