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MODULE DESCRIPTOR

Module Title

Fundamentals of Organic Chemistry

Reference	AS2232	Version	3
Created	August 2021	SCQF Level	SCQF 8
Approved	May 2011	SCQF Points	15
Amended	August 2021	ECTS Points	7.5

Aims of Module

To enable the student to apply mechanistic principles to the interpretation of organic reactions and explain the reactions and properties of aromatic compounds.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Predict aromatic character and behaviour and explain conjugation/delocalization in aromatic structures.
- 2 Illustrate, through the use of mechanistic curly arrows, how organic reactions proceed and propose synthetic routes for given organic reactions.
- 3 Demonstrate practical synthetic chemistry skills and present and interpret experimental results.

Indicative Module Content

Review of mechanistic concepts as applied to organic reactions: aromaticity, aromatic electrophilic substitution reactions, orientation effects, activating and deactivating groups, aromatic nucleophilic substitution, diazonium salts and use in synthesis. Aromatic heterocyclic compounds: classification and reactivity of pi-equivalent and pi-excessive systems, pyrrole, furan, thiophene, imidazole, pyridine, pyrimidine, purine. The properties and identification of drugs e.g. amphetamine (Ecstasy), aspirin, barbiturates, cocaine, LSD, morphine, codeine, heroin, paracetamol.

Module Delivery

This is a lecture/tutorial based module supplemented with laboratory exercises and guided reading.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	34	N/A
Non-Contact Hours	116	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type: Examination Weighting: 70% Outcomes Assessed: 1, 2
 Description: Closed book written examination

Component 2

Type: Coursework Weighting: 30% Outcomes Assessed: 3
 Description: An individual written laboratory report

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The first grade represents Component 1 (EX1) weighted as major and the second, Component 2 (CW1), weighted as minor. A minimum module grade of D is required for a pass, with compensation of grade E in Component 1 or Component 2 permitted. Non-submission of either component will result in an NS grade.

Module Grade	Minimum Requirements to achieve Module Grade:
A	AA, AB
B	AC, AD, AE, BA, BB, BC, CA
C	BD, BE, CB, CC, CD, DA, DB
D	CE, DC, DD, DE, EA, EB, EC
E	AF, BF, CF, DF, ED, EE, EF, FA, FB, FC, FD
F	FE, FF
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	Successful completion of Stage 1 Forensic and Analytical Science or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 McMURRY, J. *Organic Chemistry*. Current Edition. Brooks/Cole
- 2 BROWN, W.H., FOOTE, C.S., IVERSON, B.L. and ANSLYN, E.V. *Organic Chemistry*. Current Edition. Brooks/Cole.
- 3 LOUDON, G. M. *Organic Chemistry*. Current Edition. Oxford University Press.
- 4 PATRICK, G. *Introduction to Medicinal Chemistry*. Current Edition. Oxford University Press.