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Core 4a: Molecules in Action - CHE00016I

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- **Department:** Chemistry
- **Module co-ordinator:** Dr. Moray Stark
- **Credit value:** 20 credits
- **Credit level:** I
- **Academic year of delivery:** 2020-21
 - See module specification for other years: [2018-19](#) [2019-20](#)

Module will run

Occurrence

A

Teaching cycle

Autumn Term 2020-21

Module aims

The purpose of this module is to introduce more advanced concepts in chemistry through a blend of lectures, tutorials and workshops. The subject matter explored in this module is covered at a more advanced level compared to the foundations courses delivered as part of stage 1 and serves to signal to the students how their understanding of chemistry will be expected to develop in its sophistication throughout the course. In addition to the below, *Safety in Chemistry labs assessment for Core 4a: Molecules in Action* is a non credit weighted assessment task for this module. It must be passed in order for students to progress to Stage 3

Module learning outcomes

At the end of this module students will have:

- an understanding of organic and physical chemistry at an intermediate level.
- developed written and verbal communication skills in small group tutorials and workshops.
- applied the principles taught in the module to solve unseen problems in small group tutorials and workshops
- developed new laboratory skills in synthetic Inorganic and Organic chemistry.
- performed data analysis through the use of specialist laboratory software.
- developed skills to effectively report data obtained in a synthetic chemistry experiment in a written fashion.
- an increased understanding of safety in chemistry laboratories.

Module content

Module content:

- Safety in chemistry labs (MSS, 6 lectures)
- Biomolecules in Action (KSW/AJW, 10 lectures, college tutorial)
- Retrosynthetic analysis (AFP, 6 lectures, college workshop)
- Solutions and mixtures (SS, 6 lectures, college tutorial)
- Organic synthesis with enolate equivalents (AR, 6 lectures, college tutorial)
- Advanced Synthesis Practical (NDL/PAC, 4 days)

Assessment

Task	Length	% of module mark
24 hour open exam Core 4a: Molecules in Action	N/A	80
Practical Advanced Synthesis Practical	N/A	20

Special assessment rules

Non-reassessable

Additional assessment information

Additional assessment info for:

Advanced Synthesis Practical:

- 4 practical reports
 - Submission deadline typically week after practical

Core 4a Closed Exam: Molecules in Action

- Answer the question in Section A and two questions (out of four) from Section B

In addition to the practical and the closed examination, students must complete a Health and Safety assessment. This is a non-weighted component of this module but it must be passed in order for students to progress. This Health and Safety assessment task is recorded under the module catalogue entry *Safety in Chemistry labs assessment for Core 4a: Molecules in Action*.

Reassessment

Task	Length	% of module mark
24 hour open exam Core 4a: Molecules in Action	N/A	80

Module feedback

- Tutorials/workshops: written feedback will be given for tutorial work within a week. Written and/or oral feedback for workshops will be given either during the sessions or within a week.
- Practicals: written feedback will be provided on all summative practical work within 20 working days.
- Exams: closed exam results with per-question breakdown are returned to the students via supervisors within 5 weeks. Outline answers are made available via the Chemistry web pages when the students receive their marks, so that they can assess their own detailed progress/achievement. The examiners' reports for each question are made available to the students via the Chemistry web pages.

Indicative reading

Atkins, Overton, Rourke, Weller and Armstrong, "Shriver and Atkin's Inorganic Chemistry", Oxford University Press.

Clayden, Greeves, Warren and Wothers, "Organic Chemistry", Oxford University Press.

Atkins, de Paula, "Atkins' Physical Chemistry", Oxford University Press.

Skoog, West, Holler and Crouch, "Fundamentals of Analytical Chemistry", Thomson/Brooks/Cole.

The information on this page is indicative of the module that is currently on offer. The University is constantly exploring ways to enhance and improve its degree programmes and therefore reserves the right to make variations to the content and method of delivery of modules, and to discontinue modules, if such action is reasonably considered to be necessary by the University. Where appropriate, the University will notify and consult with affected students in advance about any changes that are required in line with the University's policy on the [Approval of Modifications to Existing Taught Programmes of Study](#).

Coronavirus (COVID-19): changes to courses

The 2020/21 academic year will start in September. We aim to deliver as much face-to-face teaching as we can, supported by high quality online alternatives where we must.

Find details of the measures we're planning to protect our community.

[Course changes for new students](#)