CH3H0-15 Practical and Professional Chemistry Skills III

25/26

Department
Chemistry
Level
Undergraduate Level 3
Module leader
Paolo Coppo
Credit value
15
Module duration
6 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

N/A.

Module aims

Following on from the corresponding Year 1 and 2 laboratory modules, students will undertake a series of multi-day experiments designed to consolidate and advance chemistry-relevant practical skills in, and related-to, laboratory work. By undertaking this module, students will gain confidence and greater experience in many of the following:

- Planning experiments which are operationally relevant, safe and effective.
- Synthesis of ‘inorganic’ and ‘organic’ compounds.
- Using spectroscopy to support synthetic work (e.g. structural elucidation).
- Using contemporary methods and equipment in the area of physical chemistry.
- Presenting and communicating experimental progress and outcomes using relevant written and/or spoken formats.
  The tasks undertaken in this module exemplify chemistry concepts encountered in taught modules and, where possible, set practical work in an interdisciplinary context at interfaces

between related disciplines.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

A range of multi-day experiments are undertaken covering the broad scope of chemistry to highlight important areas covered in taught modules, and further develop practical and experimental skills.

Learning outcomes

By the end of the module, students should be able to:

- The student should be able to work collegially to effectively solve chemistry-centred problems.
- The student should be able to work competently and safely in a chemistry laboratory.
- The student should be able to recognise relevant hazards associated with practical work and plan approaches to minimise their risks.
- The student should be able to carry out multi-step syntheses to produce ‘organic’ and ‘inorganic’ compounds.
- The student should be able to isolate and purify compound(s) using a variety of techniques.
- The student should be able to set up and monitor instrumentation/computational software to record relevant data.
- The student should be able to process data (e.g. using Excel) in order to critically evaluate experimental findings and draw conclusions.
- The student should be able to communicate the progress and outcome of experiments through relevant spoken and written formats (e.g. useful experimental notes, appropriately structured written submissions, presentations etc).

Subject specific skills

Problem solving
Teamwork
Organisation and time management

Transferable skills

Problem solving
Teamwork
Organisation and time management

Study

Study time

Type	Required	Optional
Lectures	(0%)	1 session of 1 hour
Practical classes	12 sessions of 7 hours (56%)	
Private study	66 hours (44%)	
Total	150 hours	

Private study description

Pre-lab work, write up of experiments

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Laboratory work and/or associated submissions	100%		No

Students will present the results of their experimental work using a range of formats

Reassessment component is the same

Feedback on assessment

Feedback on in-lab practical work and associated written/spoken submissions

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Availability

Pre-requisites

To take this module, you must have passed:

- All of
  - CH155-30 Practical and Professional Chemistry Skills I
  - CH222-30 Practical and Professional Chemistry Skills II

Courses

This module is Core for:

- Year 3 of UCHA-3 Undergraduate Chemistry 3 Year Variants
- Year 3 of UCHA-F110 Undergraduate Master of Chemistry (with Industrial Placement)
- Year 4 of UCHA-F107 Undergraduate Master of Chemistry (with Intercalated Year)
- UCHA-4M Undergraduate Master of Chemistry Variants
  - Year 3 of F100 Chemistry
  - Year 3 of F105 Chemistry
  - Year 3 of F125 MChem Chemistry with Medicinal Chemistry
- Year 4 of UCHA-F127 Undergraduate Master of Chemistry with Medicinal Chemistry(with Intercalated Year)

This module is Core optional for:

- UCHA-4 Undergraduate Chemistry (with Intercalated Year) Variants
  - Year 4 of F101 Chemistry (with Intercalated Year)
  - Year 4 of F122 Chemistry with Medicinal Chemistry (with Intercalated Year)
- UCHA-3 Undergraduate Chemistry 3 Year Variants
  - Year 3 of F100 Chemistry
  - Year 3 of F121 Chemistry with Medicinal Chemistry
- Year 3 of UCHA-F110 Undergraduate Master of Chemistry (with Industrial Placement)
- Year 3 of UCHA-4M Undergraduate Master of Chemistry Variants