CH155-30 Practical and Professional Chemistry Skills I

22/23

Department
Chemistry
Level
Undergraduate Level 1
Module leader
Dani Pearson
Credit value
30
Module duration
20 weeks
Assessment
80% coursework, 20% exam
Study location
University of Warwick main campus, Coventry

Description

Introductory description

This module gives students an introduction to practical skills and solving practical problems in the main branches of Chemistry. Students will develop these skills and their facility for processing their own data with the aim of achieving a professional standard. Where possible, tasks will complement theory covered in year 1 core modules. The professional skills component enables students to develop written and spoken communication skills.

Module web page

Module aims

This module aims to introduce and develop student's practical chemistry and professional skills, enabling students to solve problems in the main branches of Chemistry. Students will learn to work safely and effectively in a laboratory, gaining a deeper understanding of core techniques, safety procedures, data collection and analysis. Where possible, theory from Year 1 core modules will be linked to experiments to complement understanding across the Year 1 curriculum.

The professional skills component will introduce and develop student skills in scientific writing and spoken communication with the aim of reaching professional standard.

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 practical experiments are undertaken in the areas of organic, inorganic and physical Chemistry, including the use of computers for data analysis in Chemistry. The professional skills component contextualises relevant employability skills within the framework of presenting or addressing chemistry-focused problems.

Learning outcomes

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

- The student should have a good understanding of basic practical techniques relating to the core branches of Chemistry.
- The student should be able to use a range of chemical software, plus access relevant databases to support their practical chemistry.
- The student should have an understanding of basic research methodology and be able to solve a problem using practical methods.
- The student should understand how the theory of chemistry is developed from its practice.
- The student should develop intermediate, effective communication skills in scientific writing, oral presentations and 1:1 oral discussions
- The student should understand how to collect and process data and use this to inform conclusions about experiments.

Indicative reading list

Extensive on-line support materials, references and links on Moodle.

Research element

Research-based investigative experiments.

Interdisciplinary

Crosses into multiple other disciplines e.g. biology, physics, maths, computer science, engineering.

Subject specific skills

Practical chemistry
Theoretical chemistry
Problem solving
Written communication
Information literacy and research skills

Transferable skills

Problem solving
Written communication
Oral communication
Reasoning
Information literacy and research skills

Study

Study time

Type	Required	Optional
Lectures	8 sessions of 1 hour (3%)	4 sessions of 1 hour
Practical classes	15 sessions of 6 hours 30 minutes (32%)	
Supervised practical classes	6 sessions of 2 hours 30 minutes (5%)	
Other activity	4 hours (1%)	
Private study	175 hours 30 minutes (58%)	
Total	300 hours	

Private study description

Pre-lab work; write-up of associated professional skills submissions.

Other activity description

1.25h lab tour
2h professional skills activities
20min (x2) assessed results discussion sessions

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 D1

	Weighting	Study time
Laboratory work and/or associated submissions Laboratory Reports (part and full). Literature Searching and Referencing. In-lab practical assessment.	70%	
Non-chemistry individual presentation	10%	
Results Discussions 2 x Results Discussion mini vivas, each 20 mins	20%	

Feedback on assessment

Written feedback provided for each laboratory report submitted.
Verbal and/or written feedback for results-discussions and in-lab assessed practical work.

Past exam papers for CH155

Availability

Post-requisite modules

If you pass this module, you can take:

- CH222-30 Practical and Professional Chemistry Skills II
- CH222-15 Practical and Professional Chemistry Skills II

Courses

This module is Core for:

- UCHA-4 Undergraduate Chemistry (with Intercalated Year) Variants
  - Year 1 of F101 Chemistry (with Intercalated Year)
  - Year 1 of F122 Chemistry with Medicinal Chemistry (with Intercalated Year)
- UCHA-3 Undergraduate Chemistry 3 Year Variants
  - Year 1 of F100 Chemistry
  - Year 1 of F100 Chemistry
  - Year 1 of F121 Chemistry with Medicinal Chemistry
- UCHA-F110 Undergraduate Master of Chemistry (with Industrial Placement)
  - Year 1 of F100 Chemistry
  - Year 1 of F110 MChem Chemistry (with Industrial Placement)
  - Year 1 of F112 MChem Chemistry with Medicinal Chemistry with Industrial Placement
- Year 1 of UCHA-F107 Undergraduate Master of Chemistry (with Intercalated Year)
- UCHA-F109 Undergraduate Master of Chemistry (with International Placement)
  - Year 1 of F109 MChem Chemistry (with International Placement)

    - Year 1 of F111 MChem Chemistry with Medicinal Chemistry (with International Placement)
- UCHA-4M Undergraduate Master of Chemistry Variants
    - Year 1 of F100 Chemistry
    - Year 1 of F105 Chemistry
    - Year 1 of F110 MChem Chemistry (with Industrial Placement)
    - Year 1 of F109 MChem Chemistry (with International Placement)
    - Year 1 of F125 MChem Chemistry with Medicinal Chemistry
- Year 1 of UCHA-F127 Undergraduate Master of Chemistry with Medicinal Chemistry(with Intercalated Year)