

# CH155-30 Practical and Professional Chemistry Skills I

**24/25**

**Department**

Chemistry

**Level**

Undergraduate Level 1

**Module leader**

Dani Pearson

**Credit value**

30

**Module duration**

20 weeks

**Assessment**

86% coursework, 14% exam

**Study location**

University of Warwick main campus, Coventry

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## 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 and spoken communication.
- The student should understand how to collect and process data and use this to inform conclusions about experiments.
- The student should be able to work competently and safely in a chemistry laboratory.

## 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  
Spoken communication  
Reasoning  
Information literacy and research skills

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## **Study**

### **Study time**

<b>Type</b>	<b>Required</b>
Lectures	16 sessions of 1 hour (5%)
Seminars	2 sessions of 1 hour (1%)
Practical classes	15 sessions of 6 hours 30 minutes (32%)
Supervised practical classes	8 sessions of 2 hours 30 minutes (7%)
Private study	164 hours 30 minutes (55%)
Total	300 hours

### **Private study description**

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

### **Costs**

No further costs have been identified for this module.

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### **Assessment**

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

### **Assessment group D3**

	<b>Weighting</b>	<b>Study time</b>	<b>Eligible for self-certification</b>
<b>Assessment component</b>			
Laboratory work and/or associated submissions	59%		Yes (extension)
<b>Reassessment component is the same</b>			
<b>Assessment component</b>			
Individual presentation	3%		No
<b>Reassessment component is the same</b>			
<b>Assessment component</b>			
Introduction Report	7%		No
<b>Reassessment component is the same</b>			
<b>Assessment component</b>			
Experimental Results Report	7%		No
<b>Reassessment component is the same</b>			
<b>Assessment component</b>			
Laboratory Report	10%		No
<b>Reassessment component is the same</b>			
<b>Assessment component</b>			
Results Discussions	14%		No

**Weighting**   **Study  
time**

**Eligible for self-  
certification**

Reassessment component is the same

## 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](#)

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## Availability

### Post-requisite modules

If you pass this module, you can take:

- CH222-30 Practical and Professional Chemistry Skills II
- CH275-15 Molecular Structure and Spectroscopy

## 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 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)