

Module Specification

Module Title Module Code
Credit Value Level Mode of Delivery Semester A & B

Pre-requisite modules	Co-requisite modules	Overlapping modules
CHE101 Fundamentals of Practical Chemistry		

1) Content Description

Provide a description of the module, as it will appear in the Module Directory and on the Student Information System (approx. 70-80 words).

This module is designed for second-year students undertaking degree programmes in the chemical sciences. It provides training at an intermediate-level in the principles and application of techniques of practical chemistry, and spans the traditional disciplines of organic, inorganic and physical chemistry. Students will gain experience in a range of analytical methods, synthetic procedures, instrumental techniques and computational techniques. The module also includes training in the preparation of laboratory reports and data analysis techniques, as well as aspects relating to health and safety in the laboratory.

2) Module Aims

Specify the aims of the module, i.e. the broad educational purposes for offering this module.

This module aims to broaden the scope and further develop the existing skills of students in the techniques of practical chemistry, by providing additional training in practical skills and experience of a wider range of laboratory techniques. The pre-laboratory exercises also aim to develop an understanding of the underlying principles of, and theory behind, the various practical techniques.

3) Learning Outcomes

Identify the learning outcomes for this module, i.e. knowledge, skills and attributes to be developed through completion of this module. Outcomes should be referenced to the relevant [QAA benchmark statements](#) and the [Framework for Higher Education Qualifications in England, Wales and Northern Ireland \(2008\)](#). The [SEEC Credit Level Descriptors for Further and Higher Education 2003](#) and [Queen Mary Statement of Graduate Attributes](#) should also be used as a guiding framework for curriculum design.

Academic Content:	
A1	Knowledge of methods for the synthesis, isolation and purification of a wide variety of chemical compounds, with appreciation of the suitability and limitations of different laboratory procedures.
A2	Understanding of the principles relating to a wide range of analytical techniques, including instrumental techniques and various forms of spectroscopy.

Disciplinary skills - able to:	
B1	Conduct chemical reactions and synthetic procedures, of a more technically-demanding nature than those previously encountered in the degree programme, by following detailed written instructions and physical properties of the system
B2	Conduct investigations of molecular structure, molecular properties and the physico-chemical characteristics of materials, using a range of practical and computational approaches.

B3	Conduct detailed analyses of chemical compounds and mixtures to determine their structure, composition and concentrations.
B4	Evaluate and analyze quantitative data obtained from experiments, and derive suitable conclusions from such analysis.

Attributes:	
C1	Gain in-depth knowledge and understanding of the principles and practices of practical chemistry
C2	Produce analyses which are grounded in experimental evidence
C3	Communicate scientific observations clearly and concisely

4) Reading List

Provide an indicative reading list for the module. This should include key texts and/or journals but **should not** be an exhaustive list of materials.

Practical Skills in Chemistry, by J.R. Dean et al. (Prentice-Hall)
 Experimental Organic Chemistry, by L.M. Harwood et al. (Blackwell Sci, 2nd edn)
 Spectroscopic Methods in Organic Chemistry, by D. Williams et al. (Mc-Graw-Hill)

5) Teaching and Learning Profile

Provide details of the method of delivery (lectures, seminars, fieldwork, practical classes, etc.) used to enable the achievement of learning outcomes and an indicative number of hours for each activity to give an overall picture of the workload a student taking the module would be expected to undertake. This information will form the Key Information Set for each undergraduate programme and will be used to populate the KIS widget found on the QMUL programme information pages. More information can be found [online](#) about KIS. You may also wish to refer to the [QAA guidance on contact hours](#) when completing this section.

Activity Type	KIS Category	Time Spent (in hours)
Practical Classes and Workshops	Scheduled	100
Guided Independent Study	Independent	50
Total		150

Specify the total module notional study hours. This should be a total of the hours given for each activity. The notional study hours for each academic credit point is 10. A 15 credit point module therefore represents 150 notional study hours.

Activity Type	Total Time Spent (in hours)	Percentage of Time Spent
Scheduled learning and teaching	100	67
Placement	0	0
Independent Study	50	33
Total	150	100

Use the information provided in the box above to specify the total time spent and the percentage time spent in each category of teaching and learning activity.

6) Assessment Profile

Provide details of the assessment methods used to assess the achievement of learning outcomes.

Description of Assessment	Assessment Type	KIS Category	Duration/Length	Percentage Weighting	Final element of assessment	Qualifying Mark
Coursework	Written Assignment	Coursework		100%	Yes	

Final element of assessment: The assessment that takes place last. There should normally be only one element of assessment marked as final unless two assessment or submission dates occur on the same day.

Qualifying mark: A specified minimum mark that must be obtained in one or more elements of assessment in order to pass a module. This is in addition to, and distinct from, the requirement to achieve a pass in the module mark to pass the module.

Reassessment

Provide details of the reassessment methods used, specifying whether reassessment is either standard reassessment or synoptic reassessment.

- Standard Reassessment Synoptic Reassessment

Synoptic reassessment details (if you have indicated synoptic reassessment above, please give details)

Brief Description of Assessment	Assessment Type	Duration/Length of Examination/ Coursework
Resit Examination	Practical Skills Assessment	1 Day