Advanced Higher Unit Specification

# Researching Chemistry (Advanced Higher) Unit

**SCQF:** level 7 (8 SCQF credit points)

**Unit code:** H7XR 77

## Unit outline

The general aim of this Unit is to develop skills of scientific inquiry, investigation, analytical thinking, independent working, and knowledge and understanding of researching chemistry. This can be done using a variety of approaches, including investigation and problem solving.

The Unit offers opportunities for independent learning set within the context of experimental chemistry. Learners will develop skills of planning, experimental design and analysis of recorded data.

This Unit can be integrated across the other Units of the Course. The Unit covers the key areas of gravimetric analysis, volumetric analysis, practical skills and techniques and stoichiometric calculations.

Learners will research issues and apply scientific skills, which will develop skills of scientific literacy.

Learners who complete this Unit will be able to:

1 Apply skills of scientific inquiry and draw on knowledge and understanding to research, plan and carry out investigative practical work on a chosen chemistry topic

2 Draw on knowledge and understanding of the key areas of this Unit and apply scientific skills

This Unit is a mandatory Unit of the Advanced Higher Chemistry Course and is also available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Unit Support Notes*, which provide advice and guidance on delivery,

assessment approaches and development of skills for learning, skills for life and skills for work.

Exemplification of the standards in this Unit is given in *Unit Assessment Support.*

The *Course Assessment Specification* for the Advanced Higher Chemistry Course gives further mandatory information on Course coverage for learners taking this Unit as part of the Advanced Higher Chemistry Course.

## Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- Higher Chemistry Course or relevant component Units

## Equality and inclusion

This Unit Specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. For further information, please refer to the *Unit Support Notes.*

# Standards

## Outcomes and Assessment Standards

### Outcome 1

The learner will:

**1 Apply skills of scientific inquiry and draw on knowledge and understanding to research, plan and carry out investigative practical work on a chosen chemistry topic by:**

1.1 Gathering and recording information from sources
1.2 Planning/designing the practical investigation, including assessment of risk and safety measures
1.3 Carrying out the practical work safely, recording results/data appropriately

### Outcome 2

The learner will:

**2 Draw on knowledge and understanding of the key areas of this Unit and apply scientific skills by:**

2.1 Making accurate statements and giving clear descriptions/explanations

# Evidence Requirements for the Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence can be drawn from a variety of sources and presented in a variety of formats. Evidence may be presented for individual Outcomes or gathered for the Unit as a whole through combining assessment holistically in a single activity. If the latter approach is used, it must be clear how the evidence covers each Outcome.

Evidence for Assessment Standard 2.1:
Candidates must be provided with the opportunity to make responses related to each key area. The number of responses should be appropriate to the size of the key area. More than half of the responses should be correct across the key areas.

Transfer of evidence:

- Outcome 1 in this Unit of this Course can be used as evidence of the achievement of Outcome 1 in the *Inorganic and Physical Chemistry* and *Organic Chemistry and Instrumental Analysis* Units of this Course.

Exemplification of assessment is provided in *Unit Assessment Support*. Advice and guidance on possible approaches to assessment is provided in the *Unit Support Notes.*

# Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

**1 Literacy**

1.1 Reading
1.2 Writing

**2 Numeracy**

2.1 Number processes
2.2 Money, time and measurement
2.3 Information handling

**5 Thinking skills**

5.3 Applying
5.4 Analysing and evaluating
5.5 Creating

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work.* The level of these skills should be at the same SCQF level as the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes.*

# Administrative information

**Published:** April 2015 (version 2.0)

**Superclass:** RD

## History of changes

| Version | Description of change | Authorised by | Date |
|---|---|---|---|
| 2.0 | Outcome numbering changed.<br>Changes to Evidence Requirements (Transfer of evidence). | Qualifications Development Manager | April 2015 |
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