

Chemistry



This update focuses on the development of Advanced Higher, with information relevant to your subject and details of the support available to you.

Updates regarding National 3 to National 5 and Higher can be found in the 'Updates and Announcements' section of the relevant [subject pages](#). I would encourage you to make regular use of our subject pages, where you will find support documents, answers to common questions, and links to other areas of interest. You can also sign up for 'My Alerts', SQA's e-mail update service, that notifies you whenever content you are interested in is added or updated on SQA's website. Visit www.sqa.org.uk/myalerts to register.

I hope you find the following update helpful, and please contact me if you have any questions.

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Assessment support

Package 1 of Unit assessment support for Advanced Higher is available now from SQA's secure website. You can arrange access to secure materials through your SQA Co-ordinator; these must be stored securely and treated as confidential.

Over the coming year, we will publish the following assessment support materials for Advanced Higher Courses:

January 2015	Course Comparison document Guidance on the use of past papers
February 2015	Specimen Question Paper and Marking Instructions Unit assessment support package 2
March 2015	Coursework information
April 2015	Unit assessment support package 3
December 2015	Exemplar Question Paper and Marking Instructions

Updates to documents

We will make planned updates to the Advanced Higher documents, following the publication of Advanced Higher Specimen Question Papers, Coursework information and Unit assessment support packs. We will also finalise package 1 of Unit assessment support, following the publication of packages 2 and 3.

The schedule for publishing the updated documents is as follows:

April 2015	Mandatory documents (Unit Specifications, Course Specifications and Course Assessment Specifications)
May 2015	Advice and guidance documents (Course and Unit Support Notes) and Unit assessment support packs

These updates are to ensure consistency between the assessment support materials, advice and guidance documents and the documents containing mandatory information.

The Notification of Changes spreadsheet will be updated for Advanced Higher following the publication of any revised documents.

Planned changes to Advanced Higher Chemistry documents:

Course Specification	Minor changes to wording for consistency with other documents.
Course Assessment Specification	<ul style="list-style-type: none"> In the Question Paper, the mark allocation for the two sections will change: <ul style="list-style-type: none"> Section 1: 30 marks Section 2: 70 marks The Project will be 30 marks and the mark criteria are currently being finalised. Minor additions to skills list will be made. Minor amendments to Key areas and mandatory content will be made (see <i>Course and Unit Support Notes</i> below).
Unit Specifications: <i>Inorganic and Physical Chemistry</i> <i>Organic Chemistry and Instrumental Analysis</i>	<p>Outcome 1 Minor changes to wording of Assessment Standards will be made.</p> <p>Outcome 2</p> <ul style="list-style-type: none"> Assessment Standard 2.1 will be reworded to 'Making accurate statements and giving clear descriptions/explanations'. Assessment Standards 2.2 and 2.3 will be removed. Assessment Standard 2.4 will therefore become 2.2. New Assessment Standard 2.2 — 'selecting information' will be removed from problem solving types.
Unit Specification: <i>Researching Chemistry</i>	<ul style="list-style-type: none"> The two Outcomes will be swapped around. The Outcomes order will be: <ul style="list-style-type: none"> Outcome 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. Outcome 2: Draw on knowledge and understanding of the key areas of this Unit and apply scientific skills. Assessment Standard 2.1 will be reworded to 'Making accurate statements and giving clear descriptions/explanations'.
Transfer of Evidence — all Units	<ul style="list-style-type: none"> Both Outcome 1 and Assessment Standard 2.2 will only need to be achieved once in any of the following Units of this Course: <i>Inorganic and Physical Chemistry, Organic Chemistry and Instrumental Analysis</i>. Outcome 1 in the <i>Researching Chemistry</i> Unit of this Course will be able to be used as evidence of the achievement of Outcome 1 in the <i>Inorganic and Physical Chemistry</i> or <i>Organic Chemistry and Instrumental Analysis</i> Units of this Course.
Course and Unit Support Notes (CUSN)	<p><i>Inorganic and Physical Chemistry</i></p> <p>The following changes will be made: Key Area: Transition metals</p> <ul style="list-style-type: none"> Added — Dative covalent (bonding of ligands) <p>Key Area: Reaction feasibility</p> <ul style="list-style-type: none"> Minor change — deletion of subscript f $\Delta H^{\circ} = \sum \Delta H^{\circ}_f$ (products) — $\sum \Delta H^{\circ}_f$ (reactants). <p><i>Organic Chemistry and Instrumental Analysis</i></p> <p>Adsorption of visible light and chromophores will be moved from Key Area: Experimental determination of structure to Key Area: Molecular orbitals.</p>

	<p>Key Area: Experimental determination of structure</p> <ul style="list-style-type: none"> Hydrogen nuclei behave like tiny magnets and in a strong magnetic field some are aligned with the field (lower energy) whilst the rest are aligned against it (higher energy). Absorption of radiation in the radio-frequency region of the electromagnetic spectrum will cause the hydrogen nuclei to 'flip' from the lower to the higher energy alignment. As they fall back from the higher to the lower level, the emitted radiation is detected. The standard reference substance used in NMR spectroscopy is tetramethylsilane (TMS) which is assigned a chemical shift value equal to zero. (Will be moved from second to third column in CUSN). <p>Key Area: Pharmaceutical Chemistry</p> <ul style="list-style-type: none"> ◆ Removal — Lipinski rule of five ◆ Additions: <ul style="list-style-type: none"> — recognise the active structural fragment in drug molecules which confer pharmacological activity — % solution by mass, % solution by volume and ppm calculations
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It is important that staff delivering the new Advanced Higher Courses in session 2015-16 read the full suite of documents for their subjects, as well as those relating to assessment. We also advise staff attending the Advanced Higher support events to read these documents in preparation.

For more information on documents and assessment support materials, visit www.sqa.org.uk/supportdocuments

Support and guidance

Unit assessment support package 2 for all Units, similar to package 1, will take a Unit-by-Unit approach and provide an additional set of questions and guidance for candidates and assessors for relevant Outcomes.

Looking ahead to 2015–16

The new Advanced Higher Courses go live from August 2015. SQA will continue to work closely with centres throughout the implementation of these Courses to ensure you have the support you need to prepare your learners for assessment.

We will also work closely with centres during the verification process to identify exemplar materials for Advanced Higher that can be shared with you, to help enhance your understanding of the standards required.

A series of implementation events for Chemistry will take place on the following dates:

- 4 March 2015 (Glasgow)
- 11 March 2015 (Stirling)
- 18 March 2015 (Inverness)
- 25 March 2015 (Aberdeen)
- 31 March 2015 (Edinburgh)

If you wish to attend any of these events, please follow this [link](#).

Contact SQA

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