

Recent Changes to the CIE A Level Chemistry Syllabus (9701)

Cambridge International A Level Chemistry (9701) underwent a significant syllabus revision for first examination in 2022, followed by minor updates for the syllabus starting in 2025. Below is a summary of the recent changes in syllabus content, structure, assessment objectives, practical components, and exam format – along with the implementation year and differences from the previous version.

Major Syllabus Revision for 2022 Exams (Syllabus 2022–2024)

Implementation: A thoroughly revised syllabus was introduced for examinations from 2022 onward (covering 2022, 2023, 2024). This overhaul replaced the previous syllabus (last used in 2019–2021) and brought several key changes:

Content & Structure: The subject content was restructured to clearly separate AS Level topics (1–22) from A Level topics (beyond 22). This made the AS vs. A2 content distinction much clearer than in the old syllabus. Small changes and updates were made to specific content areas to modernize and correct the material. For example, some chemical formulae and definitions were corrected (e.g. the formula for enthalpy change is now given as $\Delta H = -m \cdot c \cdot \Delta T / n$), and terminology was standardised (the term “Homologous series” is now used instead of “Class of compound” for organic families). Certain content was reallocated or trimmed – a few topics were removed or moved between AS and A Level to better balance the course, while keeping total content volume like before. (For instance, some organic reagents like NaBH_4 and H_2/Ni were deleted from the AS section on alcohols where they were not required.) Overall, the syllabus aims and “key concepts” were refined to emphasize overarching ideas in chemistry and reflect the latest educational research, though the core topics (physical, inorganic, organic chemistry, etc.) remain largely the same.

Assessment Objectives: The three assessment objectives – AO1 (Knowledge with understanding), AO2 (Handling, application and analysis of information), and AO3 (Experimental skills and investigations) – remain the basis of the exam. However, the wording of these objectives was updated for clarity and consistency across Cambridge Biology, Chemistry, and Physics syllabuses. (Notably, this was a wording alignment; what is tested by each AO did not fundamentally change.) The approximate weightings of the AOs in the qualification are now explicitly stated. AO1 and AO2 together dominate the theory papers, while AO3 is assessed through practical components. For example, about 40% of the A Level marks emphasize knowledge/understanding and ~40% application/analysis, with ~20% on practical skills (these percentages are approximate).

Practical Requirements: The revised syllabus continues to place a strong emphasis on practical skills, which are tested via two components: an actual laboratory exam at AS Level and a planning/analysis paper at A Level. Paper 3: Advanced Practical Skills is a timed lab exam (2 hours, 40 marks) where candidates perform experiments and record/analyze data first-hand

Paper 5: Planning, Analysis and Evaluation is a written practical paper (1 hour 15 minutes, 30 marks) taken at A2 that assesses experimental design, data handling and evaluation skills (In this paper, candidates answer questions about designing experiments and interpreting results, possibly in novel contexts beyond the syllabus content)

These practical components replaced any former practical coursework – all practical assessment is external and mandatory. The 2022 syllabus update did not change the existence of these papers, but clarified certain practical procedures. For example, the description of the thiosulfate titration in the qualitative analysis notes was updated for accuracy. Overall, schools

are expected to continue preparing students with hands-on labs; the list of skills and apparatus required is essentially the same, with minor improvements in how it's described.

Exam Format: The five-paper exam structure was retained, but there were some format adjustments in the 2022 syllabus. Candidates who take the full A Level sit all five papers, and AS-only candidates take the first three. The components are: Paper 1 (Multiple Choice), Paper 2 (AS Structured Questions), Paper 3 (Practical Skills), Paper 4 (A Level Structured Questions), and Paper 5 (Planning & Analysis). Each paper's format and weighting remains similar to before, with all components externally assessed

A notable change is that Paper 1 (multiple-choice) was extended to 1 hour 15 minutes for 40 questions (previously 1 hour), giving students a bit more time per question. Papers 2 and 5 are 1h15m written papers (60 marks and 30 marks respectively), Paper 4 is 2 hours (100 marks), and Paper 3 is a 2-hour practical (40 marks) – these durations and mark allocations remained consistent with the previous format. All questions are compulsory. The syllabus also explicitly states that AS content knowledge can be tested in A2 papers (Paper 4), and it maintains an approximate balance of 3:2:3 between physical, inorganic, and organic chemistry topics in the theory papers (same as the old syllabus)

Another update was the inclusion of a data booklet: the exam papers now provide a two-page data sheet (periodic table and relevant constants) for student reference, ensuring that required constants and atomic weights are available during the exam. Aside from these tweaks, the overall examination scheme and question styles are consistent with the previous version (e.g. Paper 1 still includes both direct-choice and multiple-completion style MCQs, and structured questions in Papers 2 & 4 cover short answers, calculations, and free-response items as before).

(In summary, the 2022 overhaul modernised the syllabus presentation and corrected various details without fundamentally altering the level or scope of chemistry content. Teachers and students familiar with the old 9701 syllabus found the core content recognisable, but organised in a more accessible way.)

Minor Updates for 2025 Syllabus (Syllabus 2025–2027)

Implementation: The latest syllabus (for examinations in 2025, 2026, 2027) was released as version 1, published September 2022, and took effect with first exams in 2025. In contrast to the major 2022 changes, the 2025–2027 syllabus introduced only very minimal revisions:

Content Tweaks: Cambridge made a minor update to the reagents specified in two organic chemistry subtopics. Specifically, the list of reagents/conditions in section 15.1(c) (preparation of halogenoalkanes) and section 16.2(b) (conversion of alcohols to halogenoalkanes) was revised. This likely involved slight clarifications or corrections to which reagents are required for those transformations (ensuring consistency and accuracy in the organic synthesis routes). No new topics were added and no major topics were removed – the change was a fine-tuning of content details. Cambridge International explicitly noted that textbooks endorsed for the 2022 syllabus remain suitable for 2025–2027, underscoring that the subject matter is essentially the same.

Structure, Objectives, and Format: Apart from the small content edit above, no structural or assessment changes were made in the 2025 syllabus update. The syllabus aims and assessment objectives are unchanged from the 2022 version, and the exam format (papers, durations, weightings) remains identical to the post-2022 model. In other words, the five-paper structure and practical requirements introduced in 2022 continue through 2025 with continuity. There were no changes to the assessment objectives or their weightings in the 2025 version, and the practical components (Paper 3 & 5) carry on as before. Teachers and students who have been following the 2022–2024 syllabus will find the 2025–2027 syllabus very familiar, with the only noticeable difference being the updated reagent details mentioned.

Overall, the Cambridge International A Level Chemistry syllabus has been kept up-to-date by the 2022 revision and the minor 2025 tweak. The 2022 changes brought a clearer structure and up-to-date terminology to the syllabus, as well as reaffirmed the emphasis on practical laboratory skills and application of concepts. The 2025 update then confirmed the stability of that syllabus with just a slight content refinement.

As of 2025, schools can plan with confidence that the syllabus content, practical skill requirements, and exam format outlined in the 2022 overhaul (and carried into the 2025 version) will continue to govern the Chemistry 9701 exams for the foreseeable future. All key information – from the topics students must learn, to how they will be assessed in written and practical components – is clearly detailed in the official Cambridge syllabus documents, and any recent changes have been intentionally incremental to ensure continuity and clarity in this advanced chemistry course.

Sources:

- Cambridge International AS & A Level Chemistry (9701) Syllabus 2022–2024, official syllabus document – Version 3, June 2021 (changes for first exam 2022).
- Cambridge International AS & A Level Chemistry (9701) Syllabus 2025–2027, official syllabus document – Version 1, Sept 2022 (minor updates for 2025)
- CAMBRIDGEINTERNATIONAL.ORG
- Cambridge International “Syllabus Changes” notice – confirmation of revisions and first assessment year.
- Cambridge AS/A Level Chemistry 9701 Assessment Details (exam paper structure, duration, marks, and objectives)
- Note: All information is derived from official Cambridge Assessment International Education materials, ensuring it is up to date as of the 2025 examination cycle.