VCE Chemistry Units 1&2 Study Design Changes

Please note, this is based on our analysis of the new Study Design - we encourage you to also review the changes for yourself.

Summary

Around 80% of the content is the same as the previous study design. VCAA has made minimal changes to the study design, with most changes having occurred at a Key Knowledge and Key Skill level, rather than changes to assessment or purpose of units.

Aims of the Study Design 2023-2027

This study enables students to:

- develop knowledge and understanding of matter and its interaction with energy, as well as key factors that affect chemical systems, to explain the properties, structures, reactions and related applications of materials in society
- understand and use the language and methodologies of chemistry to solve qualitative and quantitative problems in familiar and unfamiliar contexts
- develop knowledge and understanding of how chemical systems can be controlled to develop greener and more sustainable processes for the production of chemicals and energy while minimising any adverse effects on

human health and the environment, with consideration of wastes as underutilised resources and/or feedstock for another process or product

Assessment

Student Assessed Coursework (SAC's) are now worth 50% (up 10%) and the Examination is now worth 50% (down 10%). The written examination will still be 2 1/2 hours and 120 marks (30 MC and 90 SA).

Year 11

Suitable tasks for assessment in this unit may be selected from the following:

Outcome 1 and Outcome 2

For each outcome, at least one task selected from:

- a report of a laboratory or fieldwork activity, including the generation of primary data
- comparison and evaluation of chemical concepts, methodologies and methods, and findings from at least two student practical activities
- reflective annotations of one or more practical activities from a logbook
- a summary report of selected practical investigations
- critique of an experimental design, chemical process or apparatus
- analysis and evaluation of generated primary and/or collated secondary data
- a modelling or simulation activity
- a media analysis/response
- problem-solving involving chemical concepts, skills and/or issues
- a report of an application of chemical concepts to a real-life context
- analysis and evaluation of a chemical innovation, research study, case study, socio-scientific issue, secondary data or a media communication, with reference to sustainability (green chemistry principles, sustainable development and/or the transition to a circular economy)

- an infographic
- a scientific poster.

If multiple tasks are selected for Outcome 1 and/or Outcome 2, they must be different. The same task cannot be selected more than once across Outcomes 1 and 2. Where teachers allow students to choose between tasks, teachers must ensure that the tasks they set are of comparable scope and demand.

Outcome 3

- a response to a question involving the production or use of selected material, including reference to sustainability

Main structural changes to the study design

Unit 1 AOS 1 has some content (Gases) taken from Year 12. The number of options for Unit 1 AOS has reduced in options from 12 to 4 and now includes some First Nations peoples' chemistry.

Changes we've made to address the new study design and improve our resource

- Key science skills embedded throughout every lesson
- Make all questions more specific and connected to the study design requirements for investigations and SAC's
- Increase the number of downloadable and editable activities (practicals, simulations, modelling, lab tech notes and risk assessments - at least one per lesson)
- Add essential prior knowledge dot points and questions to prevent barriers for students to learn new material

- Assign all questions a spiciness rating (difficulty) that is visible and scaffold all questions in order of increasing spiciness
- Incorporate a broader range of graphics to support learning of content (flow charts, diagrams, models, examples, tables, images)
- Add real-world extension learning opportunities in a ‘keen to investigate’ box
- More real-life applications
- More visible misconceptions, strategy and useful tips boxes