

# Senior Assessment

## Comparison of requirements of Physics, Chemistry and Mathematics

Across Australia, each state and territory education authority determines the assessment requirements for certification of senior secondary school students. This comparison outlines the assessment requirements of three states: Queensland, New South Wales and Victoria. Students in New South Wales, Victoria, South Australia and the Northern Territory are required to complete state-wide external examinations at the completion of the course.

### Physics

	Queensland (2007; amended 2014)	New South Wales (2011)	Victoria (2013)	SACE/NT (2012)
<b>Year 11 assessment techniques and conditions</b>	<p>Assessment techniques include:</p> <ul style="list-style-type: none"> <li>extended experimental investigations (EEI), 800-1000 words</li> <li>supervised assessment, 1–1.5hrs, including short items, practical exercises, paragraph responses of 50–150 words, responses to seen or unseen stimulus materials of 500–600 words</li> <li>extended response tasks, 800–1000 words, including written – report, assignment, article and non-written (spoken 3–4 minutes; multi-modal – 3–5 minutes).</li> </ul>	<p>Non-examination tasks include:</p> <ul style="list-style-type: none"> <li>question(s) or stimulus material provided in advance with the task completed in class or unseen stimulus material</li> <li>first-hand practical tasks performed and assessed in the laboratory</li> <li>fieldwork studies and presentation of reports</li> <li>an open-ended research task using secondary sources with information gathered, processed and analysed over an extended period of time</li> <li>open-ended investigation including the gathering of first-hand data by planning and performing the investigation, processing and analysing the data and communicating the outcomes of the investigation</li> <li>preparation of teaching/seminar notes for teaching a topic to an audience</li> <li>oral presentations with visuals/audio.</li> </ul>	<p>Assessment techniques for Units 1 and 2 include:</p> <ul style="list-style-type: none"> <li>practical investigation (student designed or adapted) and a selection from the following: <ul style="list-style-type: none"> <li>an annotated folio of practical activities</li> <li>a data analysis</li> <li>a multimedia or web page presentation</li> <li>a response to a media article</li> <li>a summary report of selected practical investigations including maintenance of a logbook</li> <li>a written report</li> <li>a test (short answer and extended response).</li> </ul> </li> </ul>	<p>Stage 1: For a 10-credit subject, 4–5 assessments, including:</p> <ul style="list-style-type: none"> <li>at least one practical investigation</li> <li>at least one issues investigation for the folio</li> <li>at least one skills and applications task.</li> </ul> <p>For a 20-credit subject, 8–10 assessments, including:</p> <ul style="list-style-type: none"> <li>at least two practical investigations</li> <li>at least two issues investigations for the folio</li> <li>at least two skills and applications tasks.</li> </ul>

	Queensland (2007; amended 2014)	New South Wales (2011)	Victoria (2013)	SACE/NT (2012)
<b>Year 12 assessment techniques and conditions</b>	<p>Assessment techniques include:</p> <ul style="list-style-type: none"> <li>extended experimental investigations (EEI), 1000–1500 words</li> <li>supervised assessment, 1.5–2hrs, including short items, practical exercises, paragraph responses of 50–150 words, responses to seen or unseen stimulus materials of 600–800 words</li> <li>extended response tasks, 1000–1500 words, written – report, assignment, article, non-written (spoken 4–5 minutes; multi-modal – 5–7 minutes).</li> </ul>	<p>HSC examination.</p> <p>Non-examination tasks include:</p> <ul style="list-style-type: none"> <li>question(s) or stimulus material provided in advance with the task completed in class or unseen stimulus material</li> <li>first-hand practical tasks performed and assessed in the laboratory</li> <li>fieldwork studies and presentation of reports</li> <li>an open-ended research task using secondary sources with information gathered, processed and analysed over an extended period of time</li> <li>open-ended investigation including the gathering of first-hand data by planning and performing the investigation, processing and analysing the data and communicating the outcomes of the investigation</li> <li>preparation of teaching/seminar notes for teaching a topic to an audience</li> <li>oral presentations with visuals/audio.</li> </ul>	<p>VCE examination.</p> <p>In Unit 3, coursework contributes 16% of study score. In Unit 4, coursework contributes to 24% of study score.</p> <p>At least two different tasks are selected in Unit 3 and three different tasks in Unit 4 from the following:</p> <ul style="list-style-type: none"> <li>a student-designed extended practical</li> <li>a summary report of selected practical activities</li> <li>investigation</li> <li>a multimedia presentation</li> <li>a data analysis</li> <li>a report (written, oral, annotated visual)</li> <li>a test (short answer and extended response)</li> <li>a response to a media article.</li> </ul>	<p>SACE examination.</p> <p>Stage 2:</p> <ul style="list-style-type: none"> <li>Investigations Folio (40%)</li> <li>Skills and Applications Tasks (30%)</li> <li>External Assessment - Examination (30%).</li> </ul> <p>Students provide evidence of their learning through 8–10 assessments, including:</p> <ul style="list-style-type: none"> <li>at least three practical investigations and one issues investigation for the investigations folio</li> <li>at least three skills and applications tasks.</li> </ul>
<b>Year 12 requirements</b>	<p>For verification: 4–6 instruments. At least one, but no more than two, extended experimental investigations. At least one supervised assessment.</p> <hr/> <p>Post-verification: At least one instrument. It is desirable for the assessment instrument to include all criteria.</p>	<p>HSC examination – 3 hours. 3–5 non-examination tasks per two unit course including at least one open-ended investigation.</p>	<p>VCE examination – 2.5 hours. 5 tasks per two unit course including at least one extended practical investigation and at least one summary report of selected practical activities.</p>	<p>SACE examination – 3 hours. At least three practical investigations and one issues investigation. At least three skills and applications tasks.</p>

# Chemistry

	Queensland (2007; amended 2014)	New South Wales (2011)	Victoria (2013)	SACE/NT (2012)
<b>Year 11 assessment techniques and conditions</b>	<p>Assessment techniques include:</p> <ul style="list-style-type: none"> <li>extended experimental investigations (EEI), 800–1000 words</li> <li>supervised assessment, 1–1.5hrs, including short items: up to 50 words, practical exercises, paragraph responses of 50–150 words, responses to seen or unseen stimulus materials of 500–600 words</li> <li>extended response tasks, 800–1000 words, written – report, assignment, article, non-written (spoken 3–4 minutes; multi-modal – 3–5 minutes).</li> </ul>	<p>Non-examination tasks include:</p> <ul style="list-style-type: none"> <li>question(s) or stimulus material provided in advance with the task completed in class or unseen stimulus material</li> <li>first-hand practical tasks performed and assessed in the laboratory</li> <li>fieldwork studies and presentation of reports</li> <li>an open-ended research task using secondary sources with information gathered, processed and analysed over an extended period of time</li> <li>open-ended investigation including the gathering of first-hand data by planning and performing the investigation, processing and analysing the data and communicating the outcomes of the investigation</li> <li>preparation of teaching/seminar notes for teaching a topic to an audience</li> <li>oral presentations with visuals/audio.</li> </ul>	<p>Assessment techniques for Units 1 and 2 include:</p> <ul style="list-style-type: none"> <li>extended experimental investigation and a summary report including annotations of three practical activities and at least one of the following: <ul style="list-style-type: none"> <li>a response to stimulus material in written, oral, visual, or multimedia format</li> <li>an analysis of first and/or second-hand data using structured questions</li> <li>a written, oral, visual or multimedia presentation of a new material/s, or new use/s of an existing material.</li> </ul> </li> </ul>	<p>Stage 1:</p> <p>For a 10-credit subject, 4–5 assessments, including:</p> <ul style="list-style-type: none"> <li>at least one practical investigation</li> <li>at least one issues investigation for the folio</li> <li>at least one skills and applications task.</li> </ul> <p>For a 20-credit subject, 8–10 assessments, including:</p> <ul style="list-style-type: none"> <li>at least two practical investigations</li> <li>at least two issues investigations for the folio</li> <li>at least two skills and applications tasks.</li> </ul>
<b>Year 12 assessment techniques and conditions</b>	<p>Assessment techniques include:</p> <ul style="list-style-type: none"> <li>extended experimental investigations (EEI), 1000–1500 words</li> <li>supervised assessment, 1.5–2hrs, including short items of up to 50 words, practical exercises, paragraph responses of 50–150 words, responses to seen or unseen stimulus materials of</li> </ul>	<p>HSC examination.</p> <p>Non-examination tasks include:</p> <ul style="list-style-type: none"> <li>question(s) or stimulus material provided in advance with the task completed in class or unseen stimulus material</li> <li>first-hand practical tasks performed and assessed in the laboratory</li> <li>fieldwork studies and presentation of</li> </ul>	<p>VCE examination.</p> <p>In Unit 3, coursework contributes 20% of study score. In Unit 4, coursework contributes to 20% of study score.</p> <p>In Unit 3, students complete:</p> <ul style="list-style-type: none"> <li>an extended experimental investigation and a written report of one practical activity</li> </ul>	<p>SACE examination.</p> <p>Stage 2:</p> <ul style="list-style-type: none"> <li>Investigations Folio (40%)</li> <li>Skills and Applications Tasks (30%)</li> <li>External Assessment - Examination (30%).</li> </ul> <p>Students should provide</p>

	Queensland (2007; amended 2014)	New South Wales (2011)	Victoria (2013)	SACE/NT (2012)
	<p>600-800 words</p> <ul style="list-style-type: none"> <li>extended response tasks, 800-1000 words, written – report, assignment, article, non-written (spoken 4–5 minutes; multi-modal – 5–7 minutes).</li> </ul>	<p>reports</p> <ul style="list-style-type: none"> <li>an open-ended research task using secondary sources with information gathered, processed and analysed over an extended period of time</li> <li>open-ended investigation including the gathering of first-hand data by planning and performing the investigation, processing and analysing the data and communicating the outcomes of the investigation</li> <li>preparation of teaching/seminar notes for teaching a topic to an audience</li> <li>oral presentations with visuals/audio.</li> </ul>	<p>and one of the following:</p> <ul style="list-style-type: none"> <li>a response to stimulus material in written, oral or visual format</li> <li>an analysis of first or second-hand data using structured questions</li> <li>a report in written, oral, multimedia or visual format.</li> </ul> <p>In Unit 4, students complete:</p> <ul style="list-style-type: none"> <li>a written report of one practical activity and a summary report of three practical activities and one of the following: <ul style="list-style-type: none"> <li>a response to stimulus material in written, oral or visual format</li> <li>an analysis of first or second-hand data using structured questions</li> <li>a report in written, oral, multimedia or visual format.</li> </ul> </li> </ul>	<p>evidence of their learning through 8–10 assessments, including:</p> <ul style="list-style-type: none"> <li>at least three practical investigations and one issues investigation for the investigations folio</li> <li>at least three skills and applications tasks.</li> </ul>
<b>Year 12 requirements</b>	<p>For verification:</p> <ul style="list-style-type: none"> <li>4–6 instruments.</li> <li>At least one, but no more than two, extended experimental investigations.</li> <li>At least one supervised assessment.</li> </ul> <hr/> <p>Post-verification:</p> <ul style="list-style-type: none"> <li>At least one instrument.</li> </ul> <p>It is desirable for the assessment instrument to include all criteria.</p>	<p>HSC examination – 3 hours.</p> <ul style="list-style-type: none"> <li>3–5 tasks per two unit course.</li> <li>At least one open-ended investigation.</li> </ul>	<p>VCE examination – 2.5 hours. 5 tasks per two unit course.</p> <ul style="list-style-type: none"> <li>At least one extended practical investigation.</li> <li>At least one summary report of selected practical activities.</li> </ul>	<p>SACE examination – 3 hours.</p> <ul style="list-style-type: none"> <li>At least three practical investigations and one issues investigation.</li> <li>At least three skills and applications tasks.</li> </ul>

# Mathematics

	Queensland (Maths B, 2008; amended 2014)	New South Wales (2012)	Victoria (Mathematical Methods, 2006)	SACE/NT (Mathematical Studies, 2012)
<b>Year 11 assessment techniques and conditions</b>	<p>Assessment techniques include:</p> <ul style="list-style-type: none"> <li>extended modelling and problem-solving tasks</li> <li>supervised tests, including short items, practical exercises, paragraph responses of 50-150 words, responses to seen or unseen stimulus materials</li> <li>reports.</li> </ul>	<p>Non-examination type tasks include:</p> <ul style="list-style-type: none"> <li>project: 6–10 pages</li> <li>open-ended investigation</li> <li>assignment</li> <li>practical task.</li> </ul>	<p>Unit 1 and 2 techniques include:</p> <ul style="list-style-type: none"> <li>assignments</li> <li>tests</li> <li>summary or review notes</li> <li>projects</li> <li>short written responses</li> <li>problem-solving tasks</li> <li>modelling tasks.</li> </ul>	<p>Stage 1:</p> <p>10-credit subject, 4–5 assessments, including:</p> <ul style="list-style-type: none"> <li>at least two skills and applications</li> <li>at least two investigations for folio.</li> </ul> <p>20-credit subject, 8–10 assessments, including:</p> <ul style="list-style-type: none"> <li>at least four skills and applications</li> <li>at least four investigations for folio.</li> </ul>
<b>Year 12 assessment techniques and conditions</b>	<p>Assessment techniques include:</p> <ul style="list-style-type: none"> <li>extended modelling and problem-solving tasks</li> <li>supervised tests, including short items, practical exercises, paragraph responses of 50-150 words, responses to seen or unseen stimulus materials</li> <li>reports.</li> </ul>	<p>HSC examination.</p> <p>Non-examination type tasks include:</p> <ul style="list-style-type: none"> <li>project: 6–10 pages</li> <li>open-ended investigation</li> <li>assignment</li> <li>practical task.</li> </ul>	<p>VCE examination.</p> <p>In Unit 3, coursework contributes 20% of study score. In Unit 4, coursework contributes 14%.</p> <p>In Unit 3, students complete:</p> <ul style="list-style-type: none"> <li>one function and calculus application task and</li> <li>two equally weighted tests that consist of multiple-choice, short-answer and extended response.</li> </ul> <p>In Unit 4, students complete two analysis tasks, 2–4 hours duration over 1–2 days selected from:</p> <ul style="list-style-type: none"> <li>an assignment where</li> </ul>	<p>SACE examination.</p> <p>Stage 2:</p> <ul style="list-style-type: none"> <li>Skills and Applications Tasks (45%)</li> <li>Folio (25%)</li> <li>External Examination (30%)</li> </ul> <p>Students should provide evidence of their learning through 9–12 assessments, including:</p> <ul style="list-style-type: none"> <li>at least six skills and applications tasks</li> <li>at least two investigations for the folio</li> <li>one examination.</li> </ul>

	Queensland (Maths B, 2008; amended 2014)	New South Wales (2012)	Victoria (Mathematical Methods, 2006)	SACE/NT (Mathematical Studies, 2012)
			<p>students work on a range of problems in a given context</p> <ul style="list-style-type: none"> <li>• a short and focused investigation, challenging problem or task</li> <li>• a set of application questions requiring extended response analysis</li> <li>• item response for a collection of multiple choice questions.</li> </ul>	
<b>Year 12 requirements</b>	<p>For verification:</p> <ul style="list-style-type: none"> <li>• 4–10 instruments.</li> <li>• Minimum of 4 instruments from Year 12.</li> </ul> <hr/> <p>Post-verification:</p> <ul style="list-style-type: none"> <li>• At least one instrument.</li> <li>• It is desirable for the assessment instrument to include all criteria.</li> </ul>	<p>HSC examinations:</p> <ul style="list-style-type: none"> <li>• Mathematics – 3 hours</li> <li>• Mathematics I – 2 hours</li> <li>• Mathematics II – 3 hours.</li> </ul>	<p>Two VCE examinations – 3 hours.</p> <ul style="list-style-type: none"> <li>• 5 tasks per two unit course.</li> <li>• At least one extended practical investigation.</li> <li>• At least one summary report of selected practical activities.</li> </ul>	<p>SACE examination – 3 hours.</p> <ul style="list-style-type: none"> <li>• At least six skills and applications tasks.</li> <li>• At least two investigations</li> </ul>