

2026 Queensland Quantum Challenge - Curriculum Alignment to Australian Curriculum V9 – Senior Science (for Year 11)

The senior Science Rationale is bolded where there is alignment to the 2026 Queensland Quantum Challenge. The Syllabus Objectives included provide connections to domains where applications of quantum and advanced technologies are being harnessed to solve problems.

<https://www.qcaa.qld.edu.au/senior/senior-subjects/syllabuses/sciences>

2025 Science Syllabus Rationale

At the core of all scientific endeavour is the inquiry into the nature of the universe. Science uses a systematic way of thinking, involving creative and critical reasoning, in order to acquire better and more reliable knowledge. Scientists recognise that knowledge is not fixed, but is fallible and open to challenge. As such, scientific endeavour is never conducted in isolation, but builds on and challenges an existing body of knowledge in the pursuit of more reliable knowledge. This collaborative process, whereby new knowledge is gained, is essential to the cooperative advancement of science, technology, health and society in the 21st century.

Tertiary study in any field will be aided by the transferable skills developed in this senior Science subject. **It is expected that an appreciation of, and respect for, evidence-based conclusions and the processes required to gather, scrutinise and use evidence will be carried forward into all aspects of life beyond the classroom.**

The purpose of senior Science subjects in Queensland is to introduce students to a scientific discipline. **Students will be required to learn and apply aspects of the knowledge and skill of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society.**

Upon completion of the course, students will have an appreciation for a body of scientific knowledge and the process that is undertaken to acquire this knowledge. **They will be able to distinguish between claims and evidence, opinion and fact, and conjecture and conclusions.**

In each of the senior Science subjects, students will develop:

- **a deep understanding of a core body of discipline knowledge**
- **aspects of the skills used by scientists to develop new knowledge, as well as the opportunity to refine these skills through practical activities**

• the ability to coordinate their understandings of the knowledge and skills associated with the discipline to refine experiments, verify known scientific relationships, explain phenomena with justification and evaluate claims by finding evidence to support or refute the claims.

Science Syllabus Objectives

The following Science syllabus objectives align to the 2026 Queensland Quantum Challenge.

4. Interpret evidence.

Students use their understanding of scientific concepts, theories, models and systems and their limitations to draw conclusions and develop scientific arguments. They deduce, extrapolate, infer, justify and make predictions based on their analysis of data.

5. Evaluate conclusions, claims and processes.

Students critically reflect on the available evidence and make judgments about its application to research questions. They extrapolate findings to support or refute claims. They use the quality of the evidence to evaluate the validity and reliability of inquiry processes and suggest improvements and extensions for further investigation.

6. Investigate phenomena.

Students develop rationales and research questions for experiments and investigations. They modify methodologies to collect primary data and select secondary sources. They manage risks, environmental and ethical issues and acknowledge sources of information.

Sciences senior subjects alignment

For curriculum links aligned to specific Sciences senior subjects for the 2026 Queensland Quantum Challenge, select from the list below:

- [Agricultural Science](#)
- [Biology](#)
- [Chemistry](#)
- [Earth and Environmental Science](#)
- [Physics](#)
- [Psychology](#)