2026 Queensland Quantum Challenge - Curriculum Alignment to Australian Curriculum V9 – Digital Technologies (Years 9 and 10)

The Rationale and Aims for the Digital Technologies curriculum have been provided, with bolded text signifying alignment to the 2026 Queensland Quantum Challenge.

https://www.australiancurriculum.edu.au/curriculum-information/understand-this-learning-area/technologies#digital-technologies

Rationale

In a world that is increasingly digitised and automated, it is critical to the strength and sustainability of the economy, the environment and society that digital solutions are purposefully designed to include user empowerment, autonomy and accountability. With this, emerging technologies also present transformative opportunities to address the circular economy through the reduce, re-use, recycle process. This requires deep knowledge and understanding of digital systems (a component of an information system) and how to manage risks. Digital systems such as mobile and desktop devices and networks are transforming learning, recreational activities, home life and work. Digital systems support new ways of collaborating and communicating and require skills such as computational and systems thinking. These technologies are an essential problem-solving toolset in our knowledge-based society.

Digital Technologies empowers students to shape change by influencing how contemporary and emerging information systems and practices are applied to meet current and future needs. A deep knowledge and understanding of information systems enables students to be safe, respectful, creative and discerning decision-makers when they select, use and manage data, information, processes and digital systems to meet needs and shape preferred futures.

Digital Technologies provides students with practical opportunities to use design thinking and to be innovative developers of digital solutions within an ethical framework, considering Safety by Design principles. Digital Technologies can also play an important role in responding to the diversity of learners and in ensuring the participation of all students in the learning process. The subject helps students to become innovative creators of digital solutions, effective users of digital systems and critical consumers of information conveyed by digital systems.

Digital Technologies gives students authentic learning challenges that foster curiosity, confidence, persistence, innovation, creativity, respect and cooperation. These are all necessary when using and developing information systems to make sense

of complex ideas and relationships in all areas of learning. **Digital Technologies helps students to be safe, respectful, creative and innovative learners, who are active, ethical citizens capable of being informed members of the community.**

Aims

Technologies aims to develop the knowledge, understanding and skills to ensure that, individually and collaboratively, students:

- **investigate, design, plan, manage, create and evaluate solutions**
- **are creative, innovative and enterprising when using traditional, contemporary and emerging technologies, and understand how technologies have developed over time**
- **make informed and ethical decisions about the role, impact and use of technologies in their own lives, the economy, environment and society for a sustainable future**
- engage confidently with and responsibly select and manipulate appropriate technologies – tools, equipment, processes, materials, data, systems and components – when designing and creating solutions
- **analyse and evaluate needs, opportunities or problems to identify and create solutions.**

Achievement Standard Aspects and Content Descriptions

The Achievement Standard Aspects and Content Descriptions included provide connections to domains where applications of quantum and advanced technologies are being harnessed to solve problems.

Years 9 and 10 Digital Technologies	
Achievement Standard Aspect	**Content Descriptions**
Processes and Production Skills	
develop and modify innovative digital solutions, decompose real-world problems, and critically evaluate alternative solutions against stakeholder elicited user stories.	define and decompose real-world problems with design criteria and by interviewing stakeholders to create user stories (AC9TDI10P04) evaluate existing and student solutions against the design criteria, user stories, possible future impact and opportunities for enterprise (AC9TDI10P10)

explain how digital systems manage, control and secure access to data; and model cyber security threats and explore a vulnerability.	investigate how hardware and software manage, control and secure access to data in networked digital systems (AC9TDI10K01)
	develop cyber security threat models, and explore a software, user or software supply chain vulnerability (AC9TDI10P13)