



## Draft Australian Curriculum: Technologies Foundation to Year 10

The Australian Curriculum: Technologies Foundation to Year 10 (F–10) will enable all students to learn about and work with traditional, contemporary and emerging technologies that shape the world we live in.

### How is the Draft Australian Curriculum: Technologies F–10 structured?

The Technologies learning area draws together the distinct but related subjects of:

- Design and Technologies
- Digital Technologies.

The Draft Australian Curriculum: Technologies F–10 is written on the assumption that all students from Foundation to Year 8 will study both subjects. For Years 9 to 10, school authorities will decide whether students can choose to continue in one or both subjects and/or whether technologies specialisations that are not provided for in these subjects will be offered.

Content in each subject is presented through two related strands: Knowledge and understanding; and Processes and production skills. It is written in bands of year levels: Foundation to Year 2; Years 3 and 4; Years 5 and 6; Years 7 and 8; and Years 9 and 10.

### Why is learning Design and Technologies and Digital Technologies important for Australian students?

Australia needs enterprising individuals who can make discerning decisions about the development and use of technologies. It needs people who can independently and collaboratively develop innovative solutions to complex problems in a knowledge economy and contribute to sustainable patterns of living.

A comprehensive education in Technologies provides opportunities for students to progress from creative and directed play through to the consolidation of Technologies knowledge, understanding and skills that can be applied to create innovative solutions. In creating solutions, as well as learning about technologies, they will contribute to sustainable futures for themselves and others.

### What are the key ideas of the Technologies learning area?

The Draft Australian Curriculum: Technologies F–10 will provide opportunities for students to apply practical skills and processes when using technologies to create innovative solutions that meet current and future needs.

The Technologies curriculum asks students to consider creating futures that they envisage as desirable and sustainable for themselves and future generations as they work through technologies processes and production – these are described as preferred futures. Students will apply computational, design and systems thinking and consider ethical, economic, environmental and social sustainability factors when they design and produce solutions to problems. They will predict outcomes and impacts of technological decisions for current and future generations and consider probable futures.

The Technologies curriculum also focuses on project management. Students are explicitly taught how to manage projects and apply this knowledge in their projects.

### What is the timeline for development and implementation?

The Draft Australian Curriculum: Technologies F–10 will be available for national consultation until 10 May 2013. Following analysis of consultation feedback the draft curriculum will be revised. This revised draft will be available for public viewing from September while the curriculum is finalised for ACARA Board approval. Subject to Ministerial endorsement the final Technologies curriculum will be published on the Australian Curriculum website in late 2013.

States and territories will make decisions about how and when the curriculum will be implemented in their state or territory.

The Draft Australian Curriculum: Technologies is available for consultation at <http://consultation.australiancurriculum.edu.au/>

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### What national and international curricula and research was drawn on to develop the Draft Australian Curriculum: Technologies?

Development of the Draft Australian Curriculum: Technologies F–10 has drawn on the curricula from Australian states and territories and quality international curricula including England, the Netherlands and New Zealand for Design and Technologies; and the United States of America, England and Singapore for Digital Technologies.

The Technologies curriculum has been informed by research including recent international reports on computer science from International Society for Technology in Education (ISTE) and The Royal Society, London; and research presented at the Biennial International Technology Education Research Conferences exploring best practice in Technology, Design and Engineering education.

A full range of references used in developing the Draft Australian Curriculum: Technologies can be found on the ACARA website  
<http://www.acara.edu.au/curriculum/technologies.html>.

### How is agriculture or primary industries addressed in the Australian Curriculum?

The Australian Curriculum addresses agriculture in two ways: across a number of learning areas, where it is identified in content descriptions such as Science and Geography, or in content elaborations (in these two learning areas and others such as Mathematics or History); and as a context (food and fibre production) and a body of knowledge, understanding and skill in the Draft Australian Curriculum: Design and Technologies.

### How is multimedia addressed in the Australian Curriculum?

Students will learn about multimedia across the Australian Curriculum. The production of images, animations, videos and audio using a range of software will be a focus in Media Arts, whereas the design and development of the interface, interaction, automation and digital system for these media are addressed in the draft Digital Technologies curriculum.

### Digital Technologies is a new subject – how will implementation be supported?

Digital Technologies is a new subject and includes some material that may be unfamiliar to teachers. ACARA is working with state and territory education authorities and professional organisations to identify such content and to discuss ways they could support teachers to implement the curriculum.

### Is Digital Technologies a computer science curriculum?

The curriculum does involve some computer science knowledge and skills and some digital solutions may involve programming and computer science concepts. However, the focus is on the strengthening of computational thinking, logic and problem-solving capability to build capacity for the future and to apply to a wide range of situations.

### What is the relationship between the Information and Communication Technology general capability and the Digital Technologies subject?

There is a clear relationship between the Digital Technologies curriculum and the ICT general capability. The capability assists students to become effective *users* of ICT across all subjects of the curriculum. The Digital Technologies curriculum assists students to become confident *developers* of digital solutions. While some specific ICT knowledge and skills are likely to develop only within Digital Technologies learning programs, key ICT concepts and skills are strengthened, made specific and extended across the learning areas.

### Given the speed with which technology changes, what features of the curriculum allow for change?

The Draft Australian Curriculum: Technologies includes an overarching idea of creating preferred futures with a focus on sustainable patterns of living. Students will learn about, and where appropriate, use traditional, contemporary and emerging technologies. The Digital Technologies curriculum is based on key concepts that are applicable now and in the long term as they are likely to underpin future digital systems.

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### How are traditional and contemporary materials addressed in the Australian Curriculum?

From Foundation to Year 8 the Draft Australian Curriculum: Design and Technologies includes content that applies to a range of materials and technologies specialisations. In each band of year levels students will design, produce and evaluate solutions in at least one material or technologies specialisation.

Materials that can be used as the focus for teaching include composites, metal, plastics, wood, smart technologies and textiles.

Technologies specialisations include architecture, electronics, graphics technologies and fashion to name a few. Teachers select the most appropriate materials and technologies specialisations for their situation. Engineering is addressed as a separate technologies context. In Years 9 and 10 students will design solutions using a range of materials and technologies specialisations selected by the student or teacher.

### How is this curriculum different from existing state and territory curriculum?

Technologies curriculum varies across states and territories, however the main difference is that two separate subjects have been developed from Foundation to Year 8: Design and Technologies and Digital Technologies.

This is the first time a separate subject has been developed for these years in Digital Technologies. Many states and territories have addressed Information and communication technology as a general capability but not as a discrete subject.

It is also the first time that engineering, food and fibre production, food technologies and materials and technologies specialisations have been specified as technologies contexts for Design and Technologies from Foundation to Year 8.

### How is food and nutrition addressed in the Australian Curriculum?

In the Australian Curriculum students will be taught about food and nutrition in Health and Physical Education (HPE) and in Design and Technologies from Foundation to Year 8.

The HPE curriculum focuses on the knowledge, understanding and skills to make healthy choices about food and nutrition. In Technologies students learn to apply nutrition knowledge through the design and preparation of food for specific purposes and users.

### What flexibility is there for schools when developing teaching and learning programs?

When developing teaching and learning programs, teachers are able to combine aspects of the two subjects in different ways to provide students with learning experiences that meet their needs and interests. There are also many opportunities for integration of learning between Technologies subjects and with other learning areas.

### Are there time allocations for the Australian Curriculum: Technologies?

ACARA provided indicative hours for each band of year levels in Technologies as a guide for curriculum writers in developing the curriculum.

This provision is not designed to establish time allocations for teaching and learning in schools. Schools and school authorities will make policy decisions regarding time allocations when implementing the curriculum.