



MATERIALS DESIGN AND TECHNOLOGY

General course

Year 12 syllabus – What’s changing: General capabilities

For teaching in 2027

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

Background

As part of the Western Australian Certificate of Education (WACE) Refreshment to investigate the assessment and reporting of the general capabilities on the Western Australian Statement of Student Achievement (WASSA), the Authority has updated the statements about the general capabilities in each syllabus.

The Authority has mapped the general capabilities through the unit content and assessment types for each of the WACE courses. Students will have the opportunity to develop the general capabilities identified in the course through the teaching, learning and assessment programs. These general capabilities will be reflected on the WASSA.

Important information

WACE Refreshment: Investigating the assessment and reporting of the general capabilities on the Western Australian Statement of Student Achievement (WASSA)

This document contains information that will be included in the syllabus effective from 1 January 2027.

Users of the syllabus are responsible for checking its currency.

Syllabuses are formally reviewed by the Authority on a cyclical basis, typically every five years.

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Representation of the general capabilities

The general capabilities encompass the knowledge, skills, behaviours and dispositions that will support students to live and work successfully now and into the future. Teachers should find opportunities to incorporate the following capabilities into the teaching and learning program for the Materials Design and Technology General course. The general capabilities are not assessed unless they are identified within the specified unit content.

Critical and creative thinking

Through the Materials, Design and Technology course, students are engaged with practical and creative pursuits that encourage innovation, critical thinking and problem-solving skills. These are transferable skills that can support pathways towards further education, vocational studies, apprenticeships or future employment. Through an iterative design thinking process, students learn to investigate and use strategies/tools such as brainstorming, rapid concept development and technical drawings to evaluate and communicate ideas and issues graphically.

Students use a collaborative design process to generate innovative solutions and assess the feasibility of designs, considering factors like material properties, sustainability and production methods. The application of design thinking, ongoing reflection and problem-solving through an integrated approach prepares students to navigate ethical and social factors, and restrictions, such as cost and resourcing, of complex design with creativity and critical insight.

Ethical understanding

Students develop an understanding of ethics, values and beliefs to inform their design and choices within Materials, Design and Technology. Students apply this understanding, when responding to a brief or design problem. They examine how decisions made regarding materials and technologies affect communities and the environment. Students consider factors, such as resource availability and depletion, sourcing of sustainable materials, recycling, end-of-life strategies and waste management.

Through this process, students develop the skills to make informed decisions and reflect on the consequences of their actions. They learn to appreciate how resources, technology and emerging trends have evolved and impact industry, and how materials can be used to achieve design solutions with ethical considerations.

Literacy

The course integrates literacy through engagement in reading, viewing and writing activities. Students access design, materials and technological content through various forms, including texts, images and written technical materials. They learn to investigate, interpret and apply design and technology principles to devise solutions for tasks. A focus on literacy equips students with the skills to effectively communicate ideas, processes and evaluations in relation to design activities and the development of functional products.

Addressing the other general capabilities

Although the following general capabilities have not been identified as a focus in the Materials Design and Technologies General Year 12 syllabus, teachers may find opportunities to incorporate these capabilities into the teaching and learning program.

- Digital literacy
- Intercultural understanding
- Numeracy
- Personal and social capabilities

Such opportunities may occur through the application of different contexts, pedagogical practices and/or assessment strategies that relate to the syllabus as part of the teaching and learning program.

Summary representation of the General Capabilities in the Materials Design and Technology General course

A representation of the general capabilities for the two years is summarised in the table below.

Year	Course	Course Type	General capabilities						
			CCT	DL	EU	IU	L	N	PSC
Year 11	Materials Design and Technology (Metals) GEMDTM, G1MDTM, G2MDTM Materials Design and Technology (Textiles) GEMDTT, G1MDTT, G2MDTT Materials Design and Technology (Wood) GEMDTW, G1MDTW, G2MDTW	General	✓		✓		✓		
Year 12	Materials Design and Technology (Metals) GTMDTM Materials Design and Technology (Textiles) GTMDTT Materials Design and Technology (Wood) GTMDTW	General	✓		✓		✓		

Key

CCT: Critical and creative thinking, DL: Digital literacy, EU: Ethical understanding, IU: Intercultural understanding, L: Literacy, N: Numeracy, PSC: Personal and social capability