

Materials Design and Technology (Wood) General

Year 11 Course Code	GEMDT
Year 12 Course Code	GTMDT
Cost	To be determined

Year 11 and Year 12 Course Overview

The Materials Design and Technology General; course is a practical course. Students will design and manufacture products with a wood focus. Students have the opportunity to develop and practise skills that contribute to creating a physical product, while acquiring an appreciation of the application of a design process, and an understanding of the need for materials sustainability. Students will learn and practise manufacturing processes and technologies, including principles of design, planning and management.

Year 11 Course Structure

Unit 1 – Students develop an understanding of the elements and fundamentals of design and consider human factors involved in the design, production and use of their projects. They develop creative thinking strategies and work on design projects within specified constraints. Students learn about the classification, structure and properties of a variety of materials, making appropriate materials selection for design needs.

Unit 2 - Students learn about the nature of designing for a client, target audience or market. Students apply an understanding of the elements and fundamentals of design and consider human factors involved in their design projects. Students learn about the nature, properties and environmental impacts and issues related to a variety of materials and production techniques. They develop creative thinking strategies, and work on design projects within specified constraints as well as consider the environmental impacts and issues related to the sustainability and recycling of materials.

Students extend their understanding of safe working practices and contemporary manufacturing techniques, and develop the knowledge, understanding and skills required to manage the processes of designing and manufacturing.

Year 12 Course Structure

Unit 3 - Students extend their understanding of design aesthetics through the application of the elements and principles of design and the use of creative and critical thinking strategies. Students work with an open and self-directed design brief to manage a project to design products to meet needs. Students investigate a range of materials and analyse the molecular structure, relating material characteristics and properties, and methods of processing and finishing, appropriate to their application and use.

Students identify and manage risks, and select and use appropriate methods for communicating ideas and design development. Students develop competence with production processes and learn to manage projects to determine design specifications.

Unit 4 - Students investigate and analyse cultural and social factors which may have influenced historical and contemporary design. Students extend their understanding of design aesthetics by using creative and critical thinking strategies. They critically examine current products and explore how emerging materials and technologies may affect, and be incorporated into, the design and development of future products.

Students incorporate a wide range of design concepts and apply sophisticated conceptualisation skills and production processes to realising design ideas that reflect their personal influences in combination with the style and tastes of a target audience/market