



Design & Technology - Automotive

What is Automotive?

Automotive involves the use of a range of manufacturing and mechanical technologies. This is combined with the development of a variety of problem solving, diagnostic and construction techniques, particular to the performance modification and tuning of internal combustion engines.

Why study Automotive?

Students investigate, analyse, and critique a range of products, processes and manufacturing techniques used in the automotive industry. This information can be used to create potential solutions through the design and production of models, prototypes, products, processes, and systems. Students identify conflicting demands on their design, taking cost, ethical, cultural, and environmental issues into account. They explain how their ideas address these demands and use this analysis to produce proposals for the present and the sustainable future.

Course content of Automotive?

Students develop design briefs that demonstrate their design and technological capability through activities in the automotive context. They use a range of materials and processes and examine, manipulate and modify automotive systems through practical project work and experience. Students use a variety of strategies to develop ideas, responding to known information. They make sound decisions about materials and engine components/ systems based on their understanding of the physical properties, mechanical characteristics and features of these automotive areas.

Students work with a range of tools, equipment, and components to a high degree of precision, while implementing safe working practices. They demonstrate an understanding of the needs and values of a range of users to design and manufacture products or prototypes that fit a chosen design brief. They produce outcomes that demonstrate the knowledge and skills associated with using materials, systems, and processes. They develop the ability to evaluate outcomes against the design brief.

Assessment Components

Assessment in Automotive consists of the following components, weighted as shown:

School Based Component: 70%

Assessment Component 1: Skills & Applications Tasks (20%)

Assessment Component 2: Product (50%)

Externally Moderated Component: 30%

Assessment Component 3: Folio

Learning Requirements of the Course

At the end of the program in Stage 2 Automotive students should be able to:

1. Investigate and critically analyse the purpose, design concepts, processes, and production techniques of existing products or systems
2. Create, test, validate, modify, and communicate design ideas for an identified need, problem, or challenge
3. Investigate, analyse, and use the differing characteristics and properties of materials, components, processes, and equipment to create products or systems safely
4. Use the design process to select materials, components, processes, techniques, and equipment, to develop and implement solutions and ideas for products or systems
5. Apply appropriate knowledge and understanding of skills, processes, procedures, and techniques to a range of technological activities
6. Evaluate product or system development and outcome, and reflect on technological ideas and procedures used, with reference to the design brief
7. Analyse the impact of technological practices, products, or systems on individuals, society, and/or the environment.

Design & Technology - Automotive continued

Future Pathways in Automotive?

Completion of the course provides excellent preparation for entry to a wide range of trades, post secondary, TAFE, and tertiary engineering courses.

Required Text(s) for Automotive?

All course notes are supplied.

What are the prerequisites?

There are no prerequisites but completion of Design & Technology subjects at Stage 1 is an advantage.



TRINITY COLLEGE
Senior

Contact Details

For more information about studying Year 12 at Trinity College Senior, please contact the Head of Year 12 on 8523 8705 or visit: www.trinity.sa.edu.au/curriculum/index.htm

Further Information

More information about SACE may be obtained from the SACE Board of South Australia webpage at: www.sace.sa.edu.au