



AUTOMOTIVE ENGINEERING AND TECHNOLOGY

General course

Year 12 syllabus – What’s changing: Rationale and Aims

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 for reviewing the nomenclature of courses, the Authority has updated the rationale and aims of each syllabus.

The revised rationale and aims are aligned with the mapping of the general capabilities to provide clear connections between the rationale, aims and syllabus content. The rationale outlines what the subject is about and why it is important. It describes what students can expect to study in the course, along with the knowledge, skills and understandings they will develop throughout the course. It also explains how these can be applied in everyday life and references potential future pathways, outlining how students might connect what they learn in the course to further education, training and employment opportunities.

Important information

WACE Refreshment: Reviewing the nomenclature of courses

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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Rationale

The Automotive Engineering and Technology General course introduces students to the component parts, accessories, systems and technologies of the automotive vehicle. They learn the principles underpinning the operation of vehicle systems and subsystems. They also develop the knowledge and skills needed to service, maintain and repair these systems. Workshop activities provide students with opportunities to learn about the range of components and materials used in the manufacture of automotive vehicles.

In the course students plan for and manage the repair, assembly and manipulation of vehicle systems using computer-assisted technology and adhere to work health and safety procedures. They also develop effective communication and teamwork skills when developing solutions to the planning and managing of automotive vehicle systems.

The course offers consumer guidance in the areas of car ownership, insurance, buying, financing, maintenance and running costs, as well as career and vocational information related to the automotive vehicle industry. Students develop an awareness of the social responsibilities associated with the use of vehicles and the impact of vehicles on individuals, society and the environment.

Students learn that vehicles have provided society with a form of personal mobility that a little over a century ago could only have been imagined. This has a dramatic influence on the day-to-day activities of individuals as well as the location and design of cities and towns. Students also examine the infrastructure and requirements for the safe operation of vehicles, including rules and regulations, traffic flow control systems and road design. They analyse repercussions of vehicle production and use, including the resulting pollution of the earth due to the myriad of chemicals used in the manufacture, upkeep and repair of vehicles.

Students develop the skills required to work in the automotive industry. The automotive industry offers a wide range of jobs in the design, production and maintenance of vehicles. These roles include mechanics and service technicians who repair and maintain vehicles at dealerships and auto repair shops; sales professionals who help customers select vehicles; and marketing teams that promote automotive brands and products.

Aims

The Automotive Engineering and Technology General course aims to develop students’:

- application of a structured process to develop or modify automotive systems by investigating, testing and evaluating solutions
- knowledge of automotive theory, system operations and component interactions in vehicle manufacturing
- application of technical and organisational skills to solve automotive challenges and use tools safely
- ability to assess the impact of automotive technology and explore safety and sustainability strategies.