

ENGINEERING STUDIES

Engineering Studies Stage 6 is unique in that it develops knowledge and understanding of the profession of engineering. The syllabus provides opportunities and challenges to understand and apply engineering concepts.

Engineering Studies Stage 6 is directed towards the application and advancement of skills associated with mathematics, science and technology and is integrated with business and management. It will provide students with skills, knowledge and understanding associated with a study of engineering, its practices and associated methodologies. The subject promotes environmental, economic and global awareness, problem solving ability, engagement with information technology, self-directed learning, communication, management and skills in working as a team.

Engineering Studies course content

The following units are studied in the Engineering Studies course:

Preliminary course: Engineering Fundamentals; Engineered Products; Braking Systems; Biomedical Engineering;

HSC course: Civil Structures; Personal and Public Transport; Aeronautical Engineering; Telecommunications Engineering

Within these contexts students investigate:

Materials: Why do engineering materials have particular properties, and how can these properties be modified to suit a particular use?

Engineering Drawing: Learn computer based and traditional engineering drawing techniques,

Analysis of structures and mechanisms: Find out how to design and build structures so they don't collapse.

New and emerging technologies: Learn about new and emerging technologies (eg lasers, zero-G manufacturing) and the historical and cultural significance of past engineering milestones.

Technologies completed during the course include making an electric motor, designing building and testing a hydraulic powered 'robot arm', designing, building and testing a model bridge and designing, building and testing a device to lift a predetermined load.

Where does it take me?

Students undertaking Engineering Studies will have the opportunity to follow a number of pathways. These include tertiary, vocational education and training and the world of work.

Typical careers include engineering disciplines such as Aeronautical and Space, Civil, Nautical, Mechanical, Biomedical, Telecommunications and Automotive Engineering as well as disciplines like Town Planning, Building and Architecture. Many Engineering graduates go on to careers in management.