

VCE Systems Engineering

A system is an assembly of components that act together in an organised way to produce a specific outcome. This study encourages students to learn about and engage with systems from a practical perspective. Technological principles and associated mathematics are incorporated as some of the essential tools necessary for design, modification and production. This subject can provide students studying physics and computing with an opportunity to apply their theoretical knowledge to the design and manufacture of practical applications.

Unit 1 & 2	Unit 3 & 4
<p>In Unit 1 & 2 you will:</p> <ul style="list-style-type: none">• Learn the function and operation of mechanical components• Investigate the stages of the systems engineering process• Develop knowledge with OH&S requirements for safe tool operation• Develop knowledge of electric power sources• Test, diagnose, evaluate and report on systems• Find faults in systems, subsystems and components	<p>In Unit 3 & 4 you will:</p> <ul style="list-style-type: none">• Explore and apply mechanical and electrical engineering principals• Use mathematics to describe features of a variety of systems• Apply the systems engineering process to design and create integrated controlled systems• Describe forms of non-renewable and renewable energy sources• Investigate new and emerging technologies
Types of assessment	Class Activities
<ul style="list-style-type: none">• Written tests• Completion of practical tasks• Design folio• Research reports• Examination	<ul style="list-style-type: none">• Design and model machines• Plan and build machines• Test and evaluate machines• Train with workshop equipment• Written reports on individual projects

Careers that may link to this subject area

Auto Electrician
Electrical Engineer
Motor Mechanic

Automotive Parts Interpreter
Electrician
Robotics

Computer Repair Technician
Mechanical Engineer

Electrical Appliance Repairer
Mechatronics

