

Aerospace Systems

General senior subject

Aerospace Systems provides opportunities for students to learn about the fundamentals, history and future of the aerospace industry. They gain knowledge of aeronautics, aerospace operations, human factors, safety management and systems thinking that enable them to solve real-world aerospace problems using the problem-solving process in Aerospace Systems.

Students learn to understand and interpret the relationships between and within connected systems and their component parts. They identify patterns in problematic aerospace systems situations and propose solutions.

Students develop and use skills that include analysis, decision-making, justification, recognition, comprehension and evaluation to develop solutions to aerospace problem situations. Students become self-directed learners and develop beneficial collaboration and management skills as they solve aerospace systems problems.

Pathways

A course of study in Aerospace Systems can establish a basis for further education and employment in the fields of aviation management, flying streams, engineering and aerospace technical disciplines. The study of Aerospace Systems will also benefit students wishing to pursue post-school pathways in diploma and advanced diploma courses in the technical and paraprofessional areas of customer relationship management, workplace health and safety, engineering, human resource management, systems analysis and technology-related areas.

Objectives

By the conclusion of the course of study, students will:

- recognise and describe aerospace systems problems, knowledge, concepts and principles
- symbolise and explain ideas, solutions and relationships
- analyse problems and information
- determine solution success criteria for aerospace problems
- synthesise information and ideas to propose possible solutions
- generate solutions to provide data to assess the feasibility of proposals
- evaluate and refine ideas and solutions to make justified recommendations
- make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

Structure

Unit 1	Unit 2	Unit 3	Unit 4
Introduction to aerospace systems and structures <ul style="list-style-type: none"> • Solving aerospace problems • The evolving aerospace industry • Introduction to aerodynamics • Introduction to aircraft systems • Introduction to aviation weather systems 	Emerging aerospace technologies <ul style="list-style-type: none"> • Operational assets • Operational environments • Operational control systems • Future applications 	Aerospace operational systems <ul style="list-style-type: none"> • International and national operational and safety systems • Airspace management • Safety management systems • Operational accident and incident investigation processes • Airport and airline operation systems 	Aircraft performance systems and human factors <ul style="list-style-type: none"> • Aircraft performance • Aircraft navigation • Advanced navigation and radio communication technologies • Human performance and limitations

Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1 (IA1):		Summative internal assessment 3 (IA3):	
• Project — folio		• Project — folio	
Summative internal assessment 2 (IA2):		Summative external assessment (EA):	25%
• Examination		• Examination	

Recommendations: C or better in English, Core Maths and Science