Overview

The Aerospace Engineering stream covers the analysis, design and operation of aircraft and spacecraft. Graduates work mainly on the design and manufacture of flight vehicles, their operation with major or satellite airlines and research for civil and military aerospace organisations. Owing to the international nature of aerospace industry, the topics studied cover a similar area and, in general, to the same depth of understanding as professional training programs in aerospace in other industrial countries. The aerospace industry is one of Australia's major exporters of high value added manufactured goods.
Faculty
Faculty of Engineering

School
School of Mechanical and Manufacturing Engineering

Study Level
Undergraduate

Minimum Units of Credit
168

Specialisation Type
Honours
Available in Program(s)

Program(s) in which this honours is available

Bachelor of Engineering (Honours) - BE (Hons)
3707 Engineering (Honours)
Faculty: Faculty of Engineering
Campus: Kensington
Units of Credit: 192
Typical Duration: 4 Years
**Specialisation Structure**

Students must complete 168 UOC.

**Level 1 Core Courses**

Students must take 42 UOC of the following courses.

**ELEC1111 | 6 UOC**
Electrical and Telecommunications Engineering

**ENGG1000 | 6 UOC**
Introduction to Engineering Design and Innovation

**ENGG1300 | 6 UOC**
Engineering Mechanics

One of the following:

**MATH1131 | 6 UOC**
Mathematics 1A

**MATH1141 | 6 UOC**
Higher Mathematics 1A

One of the following:

**MATH1231 | 6 UOC**
Mathematics 1B

**MATH1241 | 6 UOC**
Higher Mathematics 1B

One of the following:

**PHYS1121 | 6 UOC**
Physics 1A

**PHYS1131 | 6 UOC**
Higher Physics 1A

One of the following:
Level 2 Core Courses

Students must take 48 UOC of the following courses.

DESN2000  |  6 UOC
Engineering Design and Professional Practice

ENGG2400  |  6 UOC
Mechanics of Solids 1

ENGG2500  |  6 UOC
Fluid Mechanics for Engineers

MATH2019  |  6 UOC
Engineering Mathematics 2E

MATH2089  |  6 UOC
Numerical Methods and Statistics

MMAN2130  |  6 UOC
Design and Manufacturing

MMAN2300  |  6 UOC
Engineering Mechanics 2

MMAN2700  |  6 UOC
Thermodynamics
Level 3 Core Courses

Students must take 36 UOC of the following courses.

AERO3110 | 6 UOC
Aerospace Design 1

AERO3410 | 6 UOC
Aerospace Structures

AERO3630 | 6 UOC
Aerodynamics

AERO3660 | 6 UOC
Flight Performance and Propulsion

MMAN3000 | 6 UOC
Professional Engineering and Communication

MMAN3200 | 6 UOC
Linear Systems and Control

Level 4 Core Courses

Students must take 12 UOC of the following courses.

AERO4110 | 6 UOC
Aerospace Design 2

AERO4620 | 6 UOC
Dynamics of Aerospace Vehicles, Systems and Avionics

THESIS COURSES

Students must take 12 UOC of thesis courses.
NOTE: For further details about the practice or research thesis courses, please check the Thesis information page on the school website.

MMAN4010 | 6 UOC
Thesis A

MMAN4020 | 6 UOC
Thesis B

MMAN4951 | 4 UOC
Research Thesis A

MMAN4952 | 4 UOC
Research Thesis B

MMAN4953 | 4 UOC
Research Thesis C

**Disciplinary Electives**

Students must take at least 6 UOC of the following courses.

**NOTE:**
- A maximum of 2 disciplinary electives can be taken from outside the School subject to approval of the Head of School.
- At most 1 other course in the School may be substituted for a disciplinary elective if it is both outside the AEROAH stream and at Level 3 or higher.

AERO9610 | 6 UOC
The Space Segment

AERO9660 | 6 UOC
Advanced Aerospace Propulsion

ENGG3060 | 3 UOC
Maker Games

MECH4305 | 6 UOC
Fundamental and Advanced Vibration Analysis

MECH4320 | 6 UOC
Engineering Mechanics 3
MECH4900 | 6 UOC
Mechanics of Fracture and Fatigue

MECH9420 | 6 UOC
Composite Materials and Mechanics

MMAN4200 | 6 UOC
Additive Manufacturing

MMAN4400 | 6 UOC
Engineering Management

One of the following:
AERO9500 | 6 UOC
Space Systems Architectures and Orbits

MECH4620 | 6 UOC
Computational Fluid Dynamics

MMAN4410 | 6 UOC
Finite Element Methods

**Level 1 Prescribed Electives**

Students can take up to a maximum of 12 UOC of the following courses.

**NOTE:**
- Students take ENGG1300 and ELEC1111 as Level 1 Core and are not required to take further Level 1 electives and may choose to substitute L1 electives for higher level electives later in the program.
- ENGG1300 excludes CVEN1300, MINE1300, and MMAN1300.
- CHEM1031 and CHEM1041 will only be available to students enrolled in a program which has a Chemistry major.
- Students without any prior Chemistry should choose CHEM1001. Other students with HSC Chemistry who wish to study Chemistry in more depth should choose CHEM1011.

BABS1201 | 6 UOC
Molecules, Cells and Genes
<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Course</th>
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<tr>
<td>BIOM1010</td>
<td>6</td>
<td>Engineering in Medicine and Biology</td>
</tr>
<tr>
<td>BIOS1301</td>
<td>6</td>
<td>Ecology, Sustainability and Environmental Science</td>
</tr>
<tr>
<td>CEIC1000</td>
<td>6</td>
<td>Sustainable Product Engineering and Design</td>
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<td>CHEM1011</td>
<td>6</td>
<td>Chemistry 1A: Atoms, Molecules and Energy</td>
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<tr>
<td>CHEM1021</td>
<td>6</td>
<td>Chemistry 1B: Elements, Compounds and Life</td>
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<td>CHEM1031</td>
<td>6</td>
<td>Higher Chemistry 1A: Atoms, Molecules and Energy</td>
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<td>CHEM1041</td>
<td>6</td>
<td>Higher Chemistry 1B: Elements, Compounds and Life</td>
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<td>Engineering Chemistry 1A</td>
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<td>CHEM1821</td>
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<td>COMP1521</td>
<td>6</td>
<td>Computer Systems Fundamentals</td>
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<td>COMP1531</td>
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<td>Software Engineering Fundamentals</td>
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<td>CVEN1701</td>
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<td>Environmental Principles and Systems</td>
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<td>ELEC1111</td>
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<td>GEOS1111</td>
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<td>GMAT1110</td>
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<td>MATH1081</td>
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<td>MATS1101</td>
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<td>Engineering Materials and Chemistry</td>
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<td>Introduction to Materials for Engineering Applications</td>
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<td>MINE1010</td>
<td>6</td>
<td>Mineral Resources Engineering</td>
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<td>PHYS1231</td>
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Enrolment Disclaimer

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179