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#### Program structure

This is a five-year program with electives commencing in the second year. The final year contains the two-semester Research Project capstone course. Students may follow study plans specifying electives to complete a 24-unit Major and/or a 12-unit Minor within the program. Successful completion of the Program with a Major requires completion of all courses specified in that Major's study plan. All Majors consist of the same number of units and fill available electives slots, with one remaining to be chosen by the student.

#### Alternative courses

There are a small number of alternative course offerings that are not indicated in the study plans. TECH 1006 may be taken as a semester 2 alternative to CEME 1004. CEME 2001 may be taken as a semester 1 alternative to MECH ENG 2002. ENG 3004 and ENG 3005 may be taken in either semester. The consecutive pair ENG 4001A and ENG 4001B may commence in either semester.

#### Hands on Training

All Mechanical Engineering students are required to complete the ECMS Hands-On Training courses, information regarding this will be communicated via email to students.

#### Internships

All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies. Internships are self-sourced and further information can be found on the Engineering Internships web page: <https://ecms.adelaide.edu.au/study-with-us/student-support/internships/engineering>.

#### Science

Science Electives may be chosen from courses listed in the Program Rules for the degree of Bachelor of Science. Students must complete a major in accordance with the Program Rules for the Bachelor of Science: <https://calendar.adelaide.edu.au/faculty/sciences>

#### General Electives

How to choose an elective course in your area of interest?

Please refer to the steps via the link: <https://ecms.adelaide.edu.au/study-with-us/student-support/enrolment>

#### Program Rules

For academic program rules please refer to the following website: <https://calendar.adelaide.edu.au/faculty/ecms>

#### Information and Enrolment Advice

Ask ECMS

Email: [askecms@adelaide.edu.au](mailto:askecms@adelaide.edu.au)

Website: <https://ecms.adelaide.edu.au/study-with-us/student-support>

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science — Semester 1 Start

No Major

Year 1				
S 1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S 2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S 1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S 2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S 1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	Major course / Elective Year 2 (see elective table) <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S 2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S 1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	Major course / Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S 2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	Major course / Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S 1	ENG 4001A Research Project Part A <input type="checkbox"/>	Major course / Elective Year 4 (see elective table) <input type="checkbox"/>	Major course / Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S 2	ENG 4100B Research Project Part B <input type="checkbox"/>	Major course / Elective Year 4 (see elective table) <input type="checkbox"/>	Major course / Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major Course / Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science – Semester 1 Start

### Aerospace Engineering Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	MECH ENG 2020 Materials & Manufacturing <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	MECH ENG 3100 Aeronautical Engineering <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	MECH ENG 3101 Applied Aerodynamics <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	MECH ENG 4106 Aerospace Propulsion <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	MECH ENG 4108 Aircraft Design <input type="checkbox"/>	MECH ENG 3104 Space Vehicle Design <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science — Semester 1 Start

### Defence Systems Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	MECH ENG 2020 Materials & Manufacturing <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	MECH ENG 3026 Advanced Mechanics of Materials <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	ENG 3305 Human Factors for Decision Making <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	POLIS 1104 Introduction to Comparative Politics <input type="checkbox"/>	ENG 4010 Defence Leadership <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	ENG 4020 Complex Systems Engineering <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science – Semester 1 Start

### Mechanical Engineering Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	MECH ENG 2020 Materials & Manufacturing <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	MECH ENG 3026 Advanced Mechanics of Materials <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	MECH ENG 3101 Applied Aerodynamics <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	MECH ENG 4118 Finite Element Analysis of Structures <input type="checkbox"/>	MECH ENG 4111 CFD for Engineering Applications <input type="checkbox"/>	MECH ENG 4121 Materials Selection & Failure Analysis <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science – Semester 1 Start

### Mechatronics and Robotics Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	ELEC ENG 2105 Electronic Circuits M <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	MECH ENG 3106 Mechatronics II <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	MECH ENG 3032 Micro-Controller Programming <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	MECH ENG 4124 Robotics M <input type="checkbox"/>	MECH ENG 4080 Modern Control Systems <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	MECH ENG 4102 Advanced PID Control <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science — Semester 1 Start

### Medical Technologies Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	ANAT SC 1102 Human Anatomy and Physiology IA <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	ENG 3101 Introduction to Medical Technologies <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	ELEC ENG 3113 Principles of Medical Imaging <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	PHYSIOL 2510 Physiology IIA: Heart, Lung & Neuromuscular Systems <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	MECH ENG 4101 Biomechanical Engineering <input type="checkbox"/>	ELEC ENG 4115 Biomedical Instrumentation <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science — Semester 1 Start

### Renewable Energy Major

Year 1				
S 1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S 2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S 1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S 2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S 1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	MECH ENG 2020 Materials & Manufacturing <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S 2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S 1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	ENTREP 3006 Energy Management, Economics & Policy <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S 2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	CHEM ENG 4048 Biofuels, Biomass and Wastes <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S 1	ENG 4001A Research Project Part A <input type="checkbox"/>	MECH ENG 4064 Renewable Power Technologies <input type="checkbox"/>	MECH ENG 4112 Combustion Technologies & High Temperature Processes <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S 2	ENG 4100B Research Project Part B <input type="checkbox"/>	ELEC ENG 4111 Distributed Generation Technologies <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science — Semester 1 Start

### Smart Technologies Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	COMP SCI 1102 Object Oriented Programming <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	COMP SCI 2103 Algorithm Design & Data Structures <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	MECH ENG 3032 Micro-Controller Programming <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	COMP SCI 3001 Computer Networks & Applications <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	ELEC ENG 4107 Autonomous Systems <input type="checkbox"/>	COMP SCI 3012 Distributed Systems <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

# 2022 Study Plan

## Bachelor of Engineering (Honours) (Mechanical) with Bachelor of Science – Semester 1 Start

### Sports Engineering Major

Year 1				
S1	MATHS 1011 Mathematics IA <input type="checkbox"/>	<sup>^</sup> ENG 1001 Introduction to Engineering <input type="checkbox"/>	CEME 1004 Engineering Mechanics-Statics <input type="checkbox"/>	ELEC ENG 1101 Electronic Systems <input type="checkbox"/>
S2	MATHS 1012 Mathematics IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	CHEM ENG 1009 Materials I <input type="checkbox"/>	MECH ENG 1007 Engineering Mechanics – Dynamics <input type="checkbox"/>
Year 2				
S1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	MECH ENG 2100 Design Practice <input type="checkbox"/>	MECH ENG 2021 Thermo-Fluids I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
S2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	MECH ENG 2002 Stress Analysis & Design <input type="checkbox"/>	MECH ENG 2019 Dynamics & Control I <input type="checkbox"/>	Science Level I Elective <input type="checkbox"/>
Year 3				
S1	MECH ENG 3102 Heat Transfer & Thermodynamics <input type="checkbox"/>	ANAT SC 1102 Human Anatomy and Physiology IA <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
S2	MECH ENG 2101 Mechatronics IM <input type="checkbox"/>	MECH ENG 3111 Acoustics and Vibrations <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>	Science Level II Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of <a href="#">internship</a> during the course of their studies – see note on page 2.				
Year 4				
S1	ENG 3005 Research Method & Project Management <input type="checkbox"/>	MECH ENG 3026 Advanced Mechanics of Materials <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 3004 Systems Engineering & Industry Practice <input type="checkbox"/>	MECH ENG 3101 Applied Aerodynamics <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
Year 5				
S1	ENG 4001A Research Project Part A <input type="checkbox"/>	MECH ENG 3112 Sports Engineering <input type="checkbox"/>	MECH ENG 4104 Advanced Topics in Fluid Mechanics <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>
S2	ENG 4100B Research Project Part B <input type="checkbox"/>	MECH ENG 4101 Biomechanical Engineering <input type="checkbox"/>	Elective Year 4 (see elective table) <input type="checkbox"/>	Science Level III Elective <input type="checkbox"/>

Core Course	Major course	Elective (see table)	Double Degree Courses
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<sup>^</sup> Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering.

### Mechanical Engineering Electives

Not all Majors and Double Degrees permit electives in every semester slot.

Year 2					
<b>S1</b>	MECH ENG 2020	Materials & Manufacturing			
Year 3					
<b>S1</b>	MECH ENG 3026 MECH ENG 3100 MECH ENG 3103 MECH ENG 3106 MECH ENG 3112	Advanced Mechanics of Materials Aeronautical Engineering Advanced Manufacturing Systems Mechatronics II Sports Engineering	<b>S2</b>	MECH ENG 3032 MECH ENG 3101 MECH ENG 3104 ELEC ENG 2106 ELEC ENG 3112 ENG 3305 ENTREP 3900	Micro-Controller Programming Applied Aerodynamics Space Vehicle Design Vector Calculus & Electromagnetics Electric Drive Systems M Human Factors for Decision Making eChallenge
<b>WIN</b>	PROJMGNT 3030	Project Logistics and Supply Chains			
Year 4					
<b>S1</b>	MECH ENG 4064 MECH ENG 4080 MECH ENG 4104 MECH ENG 4106 MECH ENG 4111 MECH ENG 4112 MECH ENG 4118 MECH ENG 4121 MECH ENG 4124	Renewable Power Technologies Modern Control Systems Advanced Topics in Fluid Mechanics Aerospace Propulsion CFD for Engineering Applications Combustion Technologies & High Temperature Processes Finite Element Analysis of Structures Materials Selection & Failure Analysis Robotics M	<b>S2</b>	MECH ENG 4100 MECH ENG 4101 MECH ENG 4102 MECH ENG 4105 MECH ENG 4107 MECH ENG 4108 <del>MECH ENG 4123</del> ENG 3201 ENG 4020	Advanced Topics in Aerospace Engineering Biomechanical Engineering Advanced PID Control Advanced Vibrations Air conditioning Aircraft Design <del>Advanced Digital Control (not running in 2022)</del> Essentials of Humanitarian Practice Complex Systems Engineering
<b>SUM</b>	MECH ENG 4115 MECH ENG 4126	Engineering Acoustics Topics in Welded Structures			