

Bachelor of Engineering (Honours) and Master of Engineering

Mechanical and Materials Engineering

Undergraduate Program - Consists of 80 units

Suggested Study Plans from 2025 Commencement Onwards



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OF QUEENSLAND
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Program and Course requirements

For the **Bachelor of Engineering (Honours) and Master of Engineering** full program and course requirements, [click here](#). Make sure to check your program's rules to ensure you are compliant with requirements.

Prerequisite Courses

Students are expected to be aware if a course has prerequisites and must have successfully completed any required prerequisites before enrolling. A prerequisite course provides the foundational knowledge needed to progress to the next course and may be high school subjects or university-level study/courses.

Prerequisites are listed on the course profile and the course page on the [Programs and Courses website](#).

Electives

Depending on your program, you may need to complete compulsory and elective courses.

Electives are courses you can choose, while compulsory courses are mandatory courses that you must study. You must successfully complete all the required units of elective and compulsory courses to meet the program requirements. Your program rules outline how many electives you can study and the types of electives you can choose from.

Search [Programs and Courses website](#) for your program to confirm program rules and elective options.

Academic Advice

Academic advisors provide specialist help in course selection and can look at your individual study history to make personalised recommendations on your study plan.

If you need assistance with your program, you can [seek Academic Advice](#).

Additional Information

Course profiles are underlined and hyperlinked to their relevant course page which can be accessed by clicking the underlined text.

Students must follow the [program rules and requirements](#) listed on the my.UQ website. Future course offerings are subject to change. [Seek academic advice](#) if you are undertaking a dual degree, have any questions or if you fail any courses.

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Suggested Study Plan from Semester 1, 2025 Commencement Onwards

The following is a colour reference guide, including notes around course offerings and units:

Core Courses	Field of Study	Program Electives
General Electives		



Course offered in both Semester 1 & 2



This course does not consist of 2 units

YEAR 1				
Sem 1 Feb	ENGG1100 Professional Engineering	MATH1051 Calculus and Linear Algebra I	ENGG1300 Introduction to Electrical Systems	ENGG1500 Thermodynamics: Energy and the Environment
Sem 2 July	ENGG1001 Programming for Engineers	MATH1052 Multivariate Calc & Ordinary Differential Equations	ENGG1700 Statics and Materials	GENERAL ELECTIVE OR PROGRAM ELECTIVE
YEAR 2				
Sem 1 Feb	MATH2010 ¹ STAT2201 ¹	MECH2300 Structures and Materials	MECH2305 Introduction to Engineering Design and Manufacturing	MECH2410 Fundamentals of Fluid Mechanics
Sem 2 July	MECH2100 Machine Element Design	MECH2210 Intermediate Mechanical and Space Dynamics	MECH2310 Science and Engineering of Metals	MECH2700 Computational Engineering and Data Analysis
YEAR 3				
Sem 1 Feb	MATH2001 Calculus & Linear Algebra II	MECH3400 Thermodynamics and Heat Transfer	MECH3610 Systems Engineering Principles	MECH3780 Computational Mechanics
Sem 2 July	MECH3100 Mechanical Systems Design	MECH3200 Advanced Dynamics and Vibrations	MECH3301 Materials Selection	MECH3410 Fluid Mechanics
YEAR 4				
Sem 1 Feb	ENGG4901 Professional Practice and the Business Environment A	CHEE3301 Polymer Engineering	METR4201 Control Engineering 1	GENERAL ELECTIVE OR PROGRAM ELECTIVE
Sem 2 July	ENGG7292 Engineering Placement B			
YEAR 5				
Sem 1 Feb	MECH4304 Net Shape Manufacturing	MATE7013 Advanced Manufacturing	MATE7016 Materials for Energy Conversion and Storage	GENERAL ELECTIVE OR PROGRAM ELECTIVE
Sem 2 July	AERO4300 Aerospace Composites	MATE4302 Electrochemistry and Corrosion	MATE7014 Advanced Materials Characterization	MATE7015 Additive Manufacturing

NOTES

¹ MATH2010: Analysis of Ordinary Differential Equations, STAT2201: Analysis of Engineering & Scientific Data

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Suggested Study Plan from Semester 2, 2025 Commencement Onwards

The following is a colour reference guide, including notes around course offerings and units:

Core Courses	Field of Study	Program Electives
General Electives		



Course offered in both Semester 1 & 2



This course does not consist of 2 units

YEAR 1				
Sem 2 July	ENGG1100 Professional Engineering	MATH1051 Calculus and Linear Algebra I	ENGG1300 Introduction to Electrical Systems	ENGG1500 Thermodynamics: Energy and the Environment
Sem 1 Feb	ENGG1001 Programming for Engineers	MATH1052 Multivariate Calc & Ordinary Differential Equations	ENGG1700 Statics and Materials	GENERAL ELECTIVE OR PROGRAM ELECTIVE
YEAR 2				
Sem 2 July	MECH2210 Intermediate Mechanical and Space Dynamics	MECH2310 Science and Engineering of Metals	MECH2700 Computational Engineering and Data Analysis	MECH3301 Materials Selection
Sem 1 Feb	MATH2010 ¹ 1 unit STAT2201 ¹ 1 unit	MECH2300 Structures and Materials	MECH2305 Introduction to Engineering Design and Manufacturing	MECH2410 Fundamentals of Fluid Mechanics
YEAR 3				
Sem 2 July	MECH2100 Machine Element Design	MECH3100 Mechanical Systems Design	MECH3200 Advanced Dynamics and Vibrations	MECH3410 Fluid Mechanics
Sem 1 Feb	MATH2001 Calculus & Linear Algebra II	MECH3400 Thermodynamics and Heat Transfer	MECH3610 Systems Engineering Principles	MECH3780 Computational Mechanics
YEAR 4				
Sem 2 July	AERO4300 Aerospace Composites	MATE4302 Electrochemistry and Corrosion	MATE7014 Advanced Materials Characterization	MATE7015 Additive Manufacturing
Sem 1 Feb	ENGG4901 Professional Practice and the Business Environment A	CHEE3301 Polymer Engineering	METR4201 Control Engineering 1	GENERAL ELECTIVE OR PROGRAM ELECTIVE
YEAR 5				
Sem 2 July	ENGG7292 Engineering Placement B			8 units
Sem 1 Feb	MECH4304 Net Shape Manufacturing	MATE7013 Advanced Manufacturing	MATE7016 Materials for Energy Conversion and Storage	GENERAL ELECTIVE OR PROGRAM ELECTIVE

NOTES

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